RE-SEARCHING SECONDARY TEACHER TRAINEES IN DISTANCE EDUCATION AND FACE-TO-FACE MODE: Study of Their Background Variables, Personal Characteristics and Academic Performance

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ABSTRACT

The present investigation was conducted to describe and compare the background variables, personal characteristics and academic performance of secondary teacher trainees in distance education and face-to-face mode. The results indicated that teacher trainees in distance education differed from their counterparts in age, marital status, sex and socio-economic status. Distance trainees outperformed the on-campus trainees on their preference for left-hemispheric styles of learning and thinking, budgeting time, learning motivation, overall study habits, academic motivation, attitude towards education, work methods, interpersonal relations, and on their perception about relevance of course content of theory papers in B.Ed., but on-campus trainees outperformed distance trainees on preference for right-hemispheric learning styles, need for achievement, motivation for sports, attitude towards teaching profession, child-centered practices, teachers, overall attitude towards teaching along with their perception for development of teaching skills and attitude, personality development during B.Ed. course.

In academic performance distance trainees lag behind the on-campus trainee in their marks in theory papers, skills in teaching and in aggregate.

Keywords: **Teacher Education, Distance Education, Secondary Teacher Trainees, learning styles, achievement motivation, study habits, attitude towards teaching, academic performance**

INTRODUCTION

Enlightened, emancipated and empowered teachers lead communities and nations in their march towards better and higher quality of life. They reveal and elaborate the secrets of attaining higher values in life and nurture empathy for the fellow beings.

Teachers are the torch bearers in creating social cohesion, national integration and a learning society. They not only disseminate knowledge but also create and generate new knowledge.

They are responsible for acculturating role of education. No nation can even marginally slacken its efforts in giving necessary professional inputs to its teachers and along with that due status to their stature and profession (Rajput, 2006).Thus, Teacher, the key factor in all educational development, needs to be professionally equipped with teaching competencies, commitment and determination to perform at their best. The quality of education is a direct consequence and outcome of the quality of teachers and teacher education system.

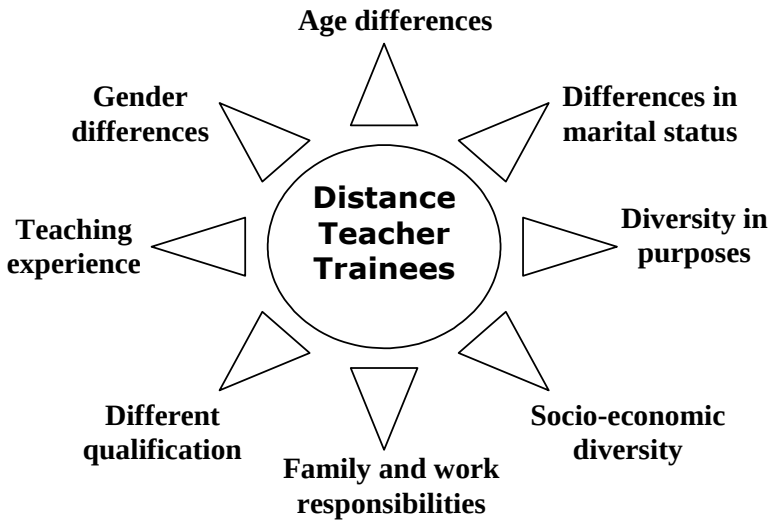
Teacher preparation must not lose sight of this basic thrust so as to empower teachers to inculcate the same among the students. With the expansion of education, the world needs more teachers, better teachers and more committed teachers. In spite of a large number of formal teacher training institutes, all the teachers catering the needs of expanding education in India are not technically trained. Inadequate supply of trained teachers has made educationist to work out alternatives to face-to-face learning in teacher education. Thus distance mode emerged as an alternative to the face-to-face mode because of the large numbers desiring education. A large number of candidates, for various reasons, are not able to enter educational institutions on a full-time basis and therefore prefer the distance mode of education.

The teacher education through distance mode is for in-service teachers who are either untrained or have degree in primary level teaching. The recipients are treated at par with the regular students to entitle themselves as degree holders. Distance education is also used for catering the needs of teachers who want to improve their qualifications while remaining in the job. It is a cheap and accessible way for the teachers who do not want to fall behind time (Martinez, 2002). Thus Distance education provides a solution for generating more and more trained human resource and has taken the education to even unreachable. In order to provide quality teachers, this alternative system needs to be enriched and strengthened through applications of research based findings.

Distance learning, like any kind of learning, can serve different ends, but it appears mainly to serve those who cannot or do not want to make use of regular classroom teaching. Demanding professional commitments and family responsibilities of many adults often make attending a conventional, full-time, face-to-face course with fixed timetables a rather unrealistic proposition, and the reasons why adults choose distance education are primarily "the convenience, flexibility and adaptability of this mode of education to suit individual students' needs" (Holmberg, 1989, p. 24). Distance education helps lots of adults without discriminating between countries or cities, the young or the old, and the rich or the poor, which other educational systems fail to fulfill. Through increasing access to distance education, students can meet their needs appropriately regardless of the present limitations and border lines (Verduin and Clark, 1994, p.7).

In secondary teacher training course, both distance and on-campus learners take the same course content, are taught by almost the same lecturers, write similar tests and assignments, and sit for the same final examinations.

The major difference lies in their learning mode (mode of course delivery) and background characteristic, that is, all distance teacher trainees are in-service teachers with a teaching experience of two years. The trainees in two modes of education may have their own specific characteristics and these characteristics may affect their academic performance. Every trainee in secondary teacher training programme in distance education like any distance learner brings with him or her, a profile which may be similar or different with other trainees. Holmberg (1995) points out that there is "no evidence to indicate that distance learners should be regarded as a homogeneous group; however as indicated by Gibson (1998:p.10) "...distance learners do share broad demographic and situational similarities that have often provided the basis for profiles of the "typical" distance learner in higher education." This need to be further investigated.



Learning at a distance is different from learning in the conventional classrooms. In a Distance education setting, the process of student learning may be even more complex than the conventional 'face to face' setting because perceived obstacles encountered by the learners may be different from one distance learner to another with varying degrees of complexity (Dazarkia, Razak, Mohammed, 2004). To make the distance learning a success and a powerful alternative to face-to-face mode, the characteristics of the distance learners need to be studied and compared with those in the regular mode.

Generally, there is the belief that adult distance learners are achievement oriented, highly motivated, and relatively independent with special needs for flexible schedules and instruction appropriate for their developmental level (Benshoff and Lewis, 1992; Cross, 1980).

Adults seem to prefer more active approaches to learning and value opportunities to integrate academic learning with their life and work experiences in the context of financial and family concerns. MacBrayne (1995) reported that students who choose to enroll in Distance Education courses are motivated adults, age 18-40, mostly females, who because of their family and work commitments, lack time to participate in on-campus studies.

Most of them opined that lack of time and money, followed by concerns about poor academic preparation, distance required traveling to college courses, and family responsibilities were the barrier in pursuing on-campus education. In Houle's (as cited in Cross, 1980) logical three-category system, distance education learners are classified as;

- **goal-oriented learners, those who use learning to gain specific objectives, such as learning to deal with particular family problems, or learning better business practices, or following an interest,**
- **activity-oriented learners, those who participate primarily for the sake of the activity itself, or to join a group, or to escape an unhappy situation, and (3) learning-oriented learners, those who pursue learning for its own sake, the lifelong learners.**

The differences between distance learners and face-to-face learners in secondary teacher training course may not only exist in respect of their background characteristics, problems in study management but may also exist with respect to their learning styles.

The knowledge of specific learning styles which are preferred by the distance teacher trainees in comparison to their counterparts in face-to-face mode holds important strategic information for everyone interested in student success. If there are no differences in learning styles, the faculty can transfer the same types of teaching/learning activities that have been successful for them in the traditional environment, into the distance setting with similar success.

But if there are differences in learning styles between groups of students, faculty must use learning style information for planning and preparation for instructional strategies. Sarasin (1998) noted that instructors should be willing to change their teaching strategies and techniques based on an appreciation of the variety of student learning styles. Teachers should try to ensure that their methods, materials, and resources fit the ways in which their students learn maximally.

In order to do so, there is a need to examine the learning styles of distance trainees through vigorous researches.

Likewise, information about the trainees' perception about their course of study, their achievement motivation and attitude towards teaching is to be explored to ascertain in what way these characteristics relate to the success of teacher trainees in distance education.

It seems to be logical to think that these variables are important for learning and success/academic performance of distance learners who have a reduced level of contact with the instructor and course-mates, and who have to rely more on the self in terms of motivation, attitudinal and perceptual development and momentum for continuing the class (Moore, 1989).

Researches therefore need to focus on identification of these characteristics and problems perceived by the distance learners involving comparisons between learners studying at a distance and those studying campus based courses so as to evolve suitable approaches to study for learners in distance education. Whatever evidence (Richardson, 1994; Wong, 1992; Morgan, Gibbs and Taylor, 1980) is available appears to be inconclusive.

Harper and Kember (1986) found no significant difference between distance and campus based learners studying similar subjects. However, some studies have found differences in approach between distance and campus based learners (Thang, 2005, Argon et al, 2001). Moreover, researches into the possible association between the suitability of the approaches and the success of distance teacher trainees are scanty. The comparison of these characteristics between teacher trainees in distance and face-to-face mode may provide an insight into the learners' profiles and perceptions so as to strengthen the teacher education programme through distance mode.

PURPOSE OF THE STUDY

The present investigation has been designed to study the background variables, personal characteristics and academic performance of secondary teacher trainees in distance education and then to compare these with those of their counterparts teacher trainees in face-to-face education. The purpose of this study was to make descriptions of:

- **four Background Variables, namely, age, sex, marital status and socio-economic status;**
- **five Personal Characteristics, namely, styles of learning and thinking (ten learning styles and thinking styles each, related to right and left hemispheres), study habits with its eight areas, achievement motivation and its fifteen factors, attitude towards teaching along with its six areas and perception about B.Ed. course with its seven sub-measures; and**
- **three variables of Academic Performance of secondary teacher trainees in distance education and also to compare them on these variables with their counterpart teacher trainees in face-to-face education.**

It was thought that these descriptions would result in getting a specific profile of the chosen population of distance teacher trainees and further, the comparison between two groups of trainees on each of these variables could help to locate the similarities as well as differences/disparities among the two groups of teacher trainees, which may help when decisions on improvement in distance teacher training programme.

METHODOLOGY

Suited to the nature of the study, the investigation was advanced by using descriptive survey method. This method provides scope for description and interpretation of what exists presently. A sample of 200 distance teacher trainees was extracted from those enrolled in B.Ed. At University School of Open Learning, Panjab University (PU), Chandigarh and 200 on-campus trainees were selected from the three colleges of education affiliated to PU, Chandigarh. Random sampling technique was adopted for selection of the sample.

The instruments used for this study included Socio Economic Status Scale (Bhardwaj, 2001), Styles of Learning & Thinking- SOLAT tool (Venkataraman,1993), Deo-Mohan Achievement Motivation (n-Ach) Scale (Deo and Mohan, 1985), Study Habit Inventory (Palsane and Sharma, 1995), Teacher Attitude Inventory (Ahluwalia, 1978) and Perception about B.Ed. Course Scale developed and standardized by the investigator.

RESULTS

Suited to the nature of the data, t-tests have been used for variables yielding scores that is continuous in nature, and chi-squares were computed out for the variables which were discrete in nature in order to compare the trainees in distance and face-to-face education on these variables.

Age

88% of secondary teacher trainees in distance education were of age 25 years or above. In case of teacher trainees in face-to-face education, only 13% trainees were of age 25 years or above and remaining 87% of them had age less than 25 years.

Table: 1
Comparison in Age of Secondary Teacher Trainees in Distance and Face-to-Face mode

Secondary Teacher Trainees	Mean	S.D.	$S.E_D$	t-value
Distance Mode (N= 200)	27.59	3.53	.789	6.70**
Face to Face Mode (N=200)	22.13	2.13		

Entries in Table: 1 reveal that the average Age (27.59 years) of the secondary teacher trainees in distance education is higher than the average age (22.13 years) of teacher trainees in regular B.Ed. programme (t=6.70, p=<.01).

Sex

Table: 2
Ψ^2 values for Significance of Difference in Number of Males and Females Trainee in Distance and Face-to-Face B.Ed. Course

Secondary Teacher Trainees	No. of Males	No. of Females	Total	Ψ^2
Distance Mode (N=200)	49 (24.5%)	151(75.5%)	200	7.31**
Face to Face Mode (N=200)	74 (37%)	126 (63%)	200	
Total	123	277	400	

Table: 2 shows the sample of secondary teacher trainees in distance education included 75.5% of females and 24.5% males similar trend was found among on-campus B.Ed. trainees wherein 63% were females and 37% were males.

These differences on the variable of sex were found to be significant (Ψ^2=7.31, p=<.01).

Marital Status

Table: 3
Ψ^2 values for Significance of Difference in Number of Married and Unmarried Secondary Teacher Trainees in Distance and Face-to-Face Education

Secondary Teacher Trainees	No. of Married Trainees	No. of Unmarried Trainees	Total (B)	Ψ^2 value
Distance Mode	124 (62%)	76 (38%)	200	95.52**
Face to Face education	29 (14.5%)	171 (85.5%)	200	
Total (A)	153	247	400	

62% of distance teacher trainees were married and 38% were unmarried. In case of face-to-face teacher trainees, it was found that percentage of married trainees was low (14.5%) as compared to unmarried trainees (85.5%). The value of Ψ^2 which came out to be 95.52 (vide Table 3) is significant at .01 level. Thus it can be stated that secondary teacher trainees in distance and face-to-face education differ significantly on their marital status.

SOCIO-ECONOMIC STATUS

Socio-Economic Status Scale (Bhardwaj, 2001) determines two types of social and economic statuses as 'Ascribed' which means status inherited from/of parents and 'Achieved' that indicates the status attained by the individual due to his/her own efforts. In the present study, scores on four type of status, namely;

- **Ascribed Social status**
- **Ascribed Economic Status;**
- **Achieved Social Status and**
- **Achieved Economic Status were obtained.**

Further, for each type, score were classified under upper, middle and low status categories. The results have been summarized in Table: 4,

Table: 4
Percentage of Secondary Teacher Trainees belonging to different categories of Social and Economic Statuses

Secondary Teacher Trainees	Ascribed Social Status			Ascribed Economic Status			Achieved Social Status			Achieve S
	UP	M	L	UP	M	L	UP	M	L	UP
Distance Mode	21	78.5	0.5	13	86.5	0.5	18.5	81.5	0	10.5
Face to FaceMode	17.5	82.5	0	16.5	83.5	0	1	96.5	2.5	0

UP= Upper class, M= Middle class, L= Low class

Table: 5

Areas	Type of status	Trainee in Distance mode		Trainees in Face-to-Face Mode		$S.E_D$	t-alue
		Mean	S.D.	Mean	S.D.		
Social Status	Ascribed	175.68	32.44	179.31	26.05	2.94	.23
	Achieved	83.6	12.63	71. 31	13.56	1.31	8**
Economic Status	Ascribed	7.82	3.12	7.78	2.98	.306	.31
	Achieved	3.7	1.99	.42	.83	.152	58**
Socio-Economic Status as a Whole	Ascribed	183.50	35.79	187.09	26.76	3.16	.14
	Achieved	87.3	13.71	71.73	15.57	1.47	59**
Overall Socio-Economic Status	Ascribed +Achieved	272.5	44.57	258.67	35.03	4.01	5**

t-values for Significance of Differences between Means on Socio-Economic Status of Secondary Teacher Trainees in Distance and Face-to-Face Education

The results depicted in Table 4 indicates that most of teacher trainees in distance education were in middle class with regards to Achieved social status (81.5%) as well as Achieved economic status (65%).

Likewise most of the distance teacher trainees were in middle class category for their Ascribed social status (78.5%) and Ascribed economic status (86.5%).

Most of the teacher trainees in face-to-face education fell in middle class category on the Ascribed social (82.5%) and economic status (83.5%) and also on Achieved social status (96.5%) but in terms of their Achieved economic status, they are in low class category (92.5%).

Entries in Table 5 revealed that the distance trainees have significantly higher overall socio-economic status (ascribed + achieved) than on-campus teacher trainees (t=3.45, p=<.01, M_1=272.5 and M_2=258.67 respectively).

They were also significantly higher in respect to Achieved socio-economic status than their counterparts in face-to-face education (t=10.59, p=<.01). No significant difference was reported between these two groups of trainees on Ascribed socio-economic status (t=1.14, p=>.05).

STYLES OF LEARNING AND THINKING

The learning styles as well as thinking styles of the secondary teacher trainees in distance and face-to-face education were studied with regards dominance of right (R) and left-hemisphere (L) in five dimensions.

Table: 6
Comparison on learning styles between secondary teacher trainees in distance and face-to-face mode in relation to hemispheric dominance

Dimensions of Learning	Hemispheric Dominance	Distance Trainees		Face-to-Face Trainees		$S.E._D$	t-value
		Mean	S.D.	Mean	S.D.		
Verbal Learning	Non Verbal (R)	1.61	.99	1.92	.87	.092	3.37**
	Verbal(L)	2.53	.89	1.96	.78	.083	6.87**
Content Preference	Open-ended learning(R)	1.65	.76	1.95	.88	.082	3.66**
	Structured learning (L)	2.69	.69	2.16	.98	.084	6.31**
Class Preference	Concrete (R)	2.39	.95	2.30	.991	.097	.928
	Abstract(L)	2.25	.972	2.13	.881	.118	.99
Learning Preference	Divergent (R)	3.06	1.02	3.23	1.03	.131	1.29
	Convergent	1.7	.91	1.42	.94	.118	2.41**
Interest	Inventive (R)	2.73	1.22	2.99	1.76	.152	1.71
	Improvisation	1.38	1.20	1.04	1.00	.139	2.42*
Overall Learning Styles	Right	11.39	2.89	12.36	3.42	.405	2.39*
	Left Hemispheric	10.49	2.78	8.71	2.76	.353	5.04**

Table: 9
Comparison on thinking styles between secondary teacher trainees in distance and face-to-face mode in relation to hemispheric dominance

Dimensions of Thinking Styles	Hemispheric Dominance	Distance Teacher Trainees		Face-to-Face Teacher Trainees		$S.E._D$	t-values
		Mean	S.D.	Mean	S.D.		
Logical/ Fractional	Holistic	2.95	1.15	2.91	1.17	.148	.27
	Fractional	1.42	1.05	1.1	.994	.094	3.40**
Divergent/ Convergent	Divergent	2.61	1.24	3.01	1.27	.161	2.48*
	Convergent	1.85	1.16	1.39	1.13	.148	3.11**
Creativity	Creative	3.04	1.15	2.68	1.18	.151	2.38*
	Intellectual	1.59	1.05	1.46	1.15	.142	.92
Problem Solving	Optimistic	2.91	1.17	3.31	.945	.135	2.96**
	Pessimistic	1.7	1.07	1.37	.844	.122	2.68**
Imagination	Imaginary	2.49	1.18	2.55	1.19	.153	.39
	Analytic	1.96	1.15	1.57	1.09	.141	2.76**
Overall Thinking Styles	Right-hemispheric	14.01	3.38	14.46	3.64	.453	.99
	Left-hemispheric	8.52	2.84	6.9	2.95	2.89	5.60**

As to the overall learning styles, the secondary teacher trainees in face-to-face education exhibited a greater preference for right hemisphere (t=2.39, p=<.05) and lesser preference for left-hemisphere as compared to the trainees in distance education (t=5.04, p<.01).

On overall thinking styles, the teacher trainees in distance education exhibit significantly higher dominance of left-hemisphere as compared to trainees in face-to-face education (t=5.60, p=<.01). The distance teacher trainees were found to have significantly higher preference for verbal, structured, convergent, and improvised styles of learning and fractional, convergent, pessimistic and analytical styles of thinking as compared to face-to-face trainee. Whereas, for non-verbal and open-ended styles of learning and divergent and optimistic styles of thinking, on-campus trainees exhibited more preference than distance trainees.

STUDY HABITS

Table: 8
t-values for Significance of Difference between Means on Study Habits of Secondary Teacher Trainees in Distance and Face-to-Face education

Areas of Study Habits	Teacher Trainees in Distance Education		Teacher Trainees in Face-to-Face education		$S.E_D$	t-value
	Mean	SD	Mean	SD		
Budgeting Time	8.084	1.22	7.272	1.75	.151	5.38**
Conditions for study	7.891	1.53	8.079	1.5	.152	1.24
Reading ability	11.23	1.79	11.037	2.38	.210	.92
Notes Taking	3.832	1.36	3.956	1.6	.148	.838
Learning Motivation	10.151	1.39	9.123	1.71	.156	6.59**
Memory	5.45	1.06	5.284	1.29	.118	1.44
Taking Examination	13.34	2.14	13.465	2.29	.222	.56
Healthy Habits	4.185	0.873	4.193	1.05	.096	.083
Overall Study Habits	64.16	6.28	61.74	8.19	.729	2.40*

As far as the Study Habits are concerned the distance teacher trainees were found to possess significantly better study habits (overall) than their counterparts in face-to-face education (t=2.40, p=<.05, M_1= 64.16 and M_2=61.74 respectively). Out of the eight sub-measures of the study habits, the significant differences were noticed on two measures, viz. budgeting time (t=5.38, p=<.01) and learning motivation (t=6.59, p=<.01) between teacher trainees in distance and face-to-face education.

On both of these sub-measures distance teacher trainees (M=8.08 & 10.15) outperformed the on-campus trainees (M=7.27 & 9.12).

On remaining six sub-measures, namely, conditions for study, reading ability, notes-taking, memory, taking examination and healthy habits, trainees of two groups did not differ significantly.

The results lead to conclusion that teacher trainees in distance education are characterized by better study habits, have higher learning motivation and possess the skills of budgeting time better than on-campus teacher trainees.

ACHIEVEMENT MOTIVATION

Table: 9
t-values for Significance of Difference between Means on Achievement Motivation of Secondary Teacher Trainees in Distance education and Face-to-Face mode

Factors of Achievement Motivation	Trainees in Distance Education		Trainees in Face-to-Face education		$S.E_D$	t-value
	Mean	SD	Mean	SD		
Academic motivation	13.0	2.41	12.34	2.62	.252	2.62**
Need for Achievement	11.96	3.0	12.9	2.81	.291	3.23**
Academic Challenge	12.33	2.98	11.83	2.25	.264	1.89
Achievement Anxiety	1.91	1.07	2.05	.99	.102	1.36
Importance of Grades	6.37	1.79	6.64	1.59	.169	1.51
Meaningfulness of Task	12.06	2.92	11.59	3.07	.299	1.57
Relevance of College for Future Goals	5.23	1.57	5.42	1.05	.133	1.45
Attitude towards Education	12.19	2.27	11.11	2.11	.219	4.93**
Work Methods	17.02	2.95	15.25	3.86	.343	5.16**
Attitude towards Teachers	10.11	2.16	10.19	1.55	.187	.42
Interpersonal Relations	12.47	3.01	11.62	1.87	.250	3.4**
Individual Concerns	6.23	1.89	6.5	1.64	.177	1.52
General Interest	11.77	2.77	11.92	2.99	.288	.521
Dramatics	5.77	1.23	5.89	1.68	.147	.816
Sports	13.89	3.67	14.79	3.83	.375	2.14*
Overall Achievement Motivation	151.81	10.13	150.54	9.34	.974	1.30

In overall Achievement Motivation, the secondary teacher trainees in two mode of education did not exhibit any significant difference (t=1.30, p=>.05). The analytical picture obtained through the comparisons on the fifteen factors of achievement motivation, between two groups of trainees revealed that significant differences existed on six factors. Out of these six factors, the means were in favor of distance teacher trainees on four factors, namely, academic motivation (M_1=13.0, M_2=12.34, t=2.62, p=<.05), attitude towards education(M_1= 12.19, M_2= 11.11, t=4.93, p=<.01), work methods (M_1= 17.02, M_2= 15.25, t=5.16, p=<.01), and interpersonal relations (M_1= 12.47, M_2=11.62, t=3.40, p=<.01), whereas trainees in face-to-face education were found superior to their counterparts in distance education on two factors, namely, need for achievement (t=3.23, p=<.01) and motivation to participate in sports (t= 2.14, p=<.05). (c) Non-significant differences were observed between two groups of teacher trainees on the remaining nine factors of

Achievement Motivation, namely, academic challenge, achievement anxiety, importance of grades, meaningfulness of task, relevance of colleges for future goals, attitude towards teachers, individual concerns, general interests and dramatics.

ATTITUDE TOWARDS TEACHING

Table: 10
t-values for Significance of Difference between
Means on Attitude towards Teaching of Secondary teacher trainees
in Distance Education and Face-to-Face mode

Aspects of Attitude towards Teaching	Trainees in Distance Education		Trainees in Face-to-Face mode		$S.E._D$	t-value
	Mean	S.D.	Mean	S.D.		
Teaching Profession	41.94	6.13	43.89	6.84	.648	3.01**
Classroom Teaching	38.46	5.86	39.61		.647	1.78
Child-centered Practices	40.89	7.64	43.48	7.55	.759	3.41**
Educational Process	38.32	5.59	38.55	7.46	.658	0.5
Pupils	41.49	6.87	42.58	8.44	.769	1.53
Teachers	41.29	5.14	44.02	5.53	.534	5.11**
Overall Attitude towards Teaching	242.4	30.79	252.13	40.41	3.59	2.71**

Secondary teacher trainees in face-to-face and distance education differed significantly on the overall score of the variable of Attitude towards Teaching (t=2.71, p=<.05).

The on-campus trainees (M=252.13) depicted more favorable attitude towards teaching than trainees in distance education (M=242.4).

The teacher trainees in face-to-face education also exhibited more favorable attitude than distance trainees on three sub-areas of Attitude towards Teaching, namely, teaching profession (t=3.01, p=<.01), child-centered practices (t=3.41, p=<.01), and teachers (t=5.11, p=<.01).

On the basis of these results, it can be inferred that on-campus B.Ed. students are more favorably inclined to the teaching as a profession, to the child-centered practices which focus on the need, interest and development of the child in learning and also to the teacher as a leader of the class than the distance education trainees.

PERCEPTION ABOUT B.ED. COURSE

Table: 11
t-values for significance of difference between means on perception about B.Ed. course of secondary teacher trainees in distance and face-to-face education

Areas of Perception about B.Ed. course	Teacher Trainees in Distance Education		Teacher Trainees in face-to-face mode			
	Mean	S.D.	Mean	S.D.	$S.E._D$	t-value
Relevance of Course content of Theory papers	43.56	6.85	41.23	5.54	.623	3.73**
Curriculum Transaction	47.31	7.02	46.61	6.93	.697	1.00
Development of Teaching skills and attitude	31.32	4.79	33.62	4.65	.472	4.87**
Teachers' Behavior	33.91	5.62	34.19	5.21	.542	.517
Relevance of School Experience Programme/ Practical work	25.4	3.91	26.09	4.34	.413	1.67
Evaluation Procedure	21.42	4.11	21.22	3.86	.399	.526
Personality Development	18.53	3.97	19.34	3.76	.387	2.09*
Overall Perception	221.46	16.82	223.3	19.01	1.79	1.02

On the variable of Perception about B.Ed. Course, non-significant difference was reported between secondary teacher trainees in distance and face-to-face education on the overall score of Perception about B.Ed. course (t=1.20, p=>.05). (b) The two groups of trainees differed significantly on three sub-measure of Perception about B.Ed. course, out of which distance teacher trainees had more favorable perception on one sub-measure, i.e. relevance of course content of theory papers as compared to on-campus trainees (t=3.75, p=<.01).

The latter group of trainees had significantly superior perception to the former group of trainees on two sub-measures, namely, development of teaching skills & attitude (t=4.87, p=<.01) and personality (t=2.09, p=<.05).

ACADEMIC PERFORMANCE

The academic performance of the trainees was taken on three criteria: first, marks obtained in theory papers, second, marks in skills in teaching and third, overall academic performance in terms of aggregate marks secured in B.Ed. final examination.

Results are presented in Table 12 and 13: Table: 12 Academic Performance (in terms of %age of marks) of Secondary Teacher Trainees in Distance and Face-to-Face Education:The calculated values of t in the Table 13 depict that there exist significant differences between secondary teacher trainees in distance and face-to-face education on all the three aspects of academic performance, namely theory papers (t=11.99, p<.01), skills in teaching (t=14.08, p<.01) and overall academic performance (t=18.63, p<.01).

In all these three areas, the performance of face-to-face trainees is significantly higher than the trainees in distance education.

Table: 12
Academic Performance (in terms of %age of marks) of Secondary Teacher Trainees in Distance and Face-to-Face Education:

Secondary Teacher Trainees	Theory			Skills in Teaching			Aggregate		
	< 60%	60%-69.9%	> 70%	< 60%	60%-69.9%	> 70%	< 60%	60%-69.9%	> 70%
Distance Education	97	101	2	9	100	91	55	140	05
Face-to-Face education	13	137	50	1	18	181	03	119	88

Table: 13
Comparison on Academic Performance between Secondary Teacher Trainees in Distance and Face-to-Face Education

Academic Performance	Trainees in Distance Education		Trainees in Face-to-Face mode			
	Mean	S.D.	Mean	S.D.	$S.E_D$	t-value
Theory Papers	359.30	34.68	402.36	37.07	3.59	11.99**
Skills in Teaching	137.69	10.4	150.66	7.85	.921	14.08**
Overall Performance	616.89	38.77	686.19	38.39	3.86	18.63**

On the basis of these results, it can easily be stated that the regular B.Ed. trainees outperformed the distance trainees not only in their knowledge of pedagogical bases such as philosophical, psychological, teaching learning process, school management and theoretical knowledge of the teaching subjects but do so in their pedagogic practices which include preparing micro and macro lesson plans, observations of lessons, critical evaluation of question papers, delivering of discussion lessons etc.

DISCUSSION OF RESULTS

The results pertaining to the difference in age of trainees in two formats of teacher training are understandable in view of the fact that the trainees in distance education are in-service teachers having a teaching experience of at least two years and some trainees had experience of even more than 20 years, as compared to their counterparts in face-to-face education, wherein most of them have joined the course just after completing their graduation or post-graduation.

These results are consistent with the previous studies on distance and face-to-face learners conducted by MacBrayne (1995), Wallace (1996), Gillard (1997), Guernsey (1998), Diaz and Cartnal (1999) Smith (2001), and Ashby (2002) have shown that the age of distance learners is significantly higher than their counterparts in face-to-face education. Halsane and Gatta (2002) found that 55.8% of distance learners have age more than 25 years whereas only 20% of face-to-face learners were found to be having age more than 25 years.

The findings of the present studies about more female learners than males in the distance as well as in face-to-face teacher education programmes clearly lead to the inference that the teaching profession is more preferred by females than males. In India, the common practice of selecting occupations by women has a consideration of timings of the job. Teaching is also considered to be the safest job for females as it does not require much travelling and out of home assignments.

Result of the present study in respect of the variable of sex are in agreement with the finding of studies by Diaz and Cartnal (1999), Swan and Jackman (2000), and Halsane and Gatta (2002) who found the significant differences in the number of male and female learners in distance and face-to-face education.

The number of females joining the distance education was reported to be higher than the males by Dille and Mezak (1991), Hezel and Dirr, (1991), Owen (1992), and Robinson (1992) in their respective studies.

The findings are related to marital status, when viewed in the light of age, are easy to understand. Most of the secondary teacher trainees in distance education have age more than the marriageable age of 25 years, and in India most of the girls often get marry at age even slightly less than 25 years. Secondly, these trainees are in-service teachers and are professionally settled. The results fall in line with those in earlier studies on distance learners.

Gibson and Graff (1992) and Eastmond (1995) reported 75% of married distance learners. Fjortofts (1996) also reported that majority of distance learners in his study were married, Kumar (1999) indicated that there was an equal number of married and unmarried distance learners in his study. The findings of Ashby (2002), and Qureshi et al (2002) also indicate more learners in distance education as married than the face-to-face learners.

The results of significant differences between the two groups of trainees on Achieved socio-economic status as well as overall socio-economic status, may be due to the fact that all the distance trainees are in job, so have higher achieved economic status; their overall socio-economic status also seems to reflect their income from other members of the family (for example husbands/wives as the case may be) as most of them are married and have families, while B.Ed. regular trainees being a full-time learners are dependent on their parents/ guardians. Jansen and Bruinsma (2005) reported that older students use deep information processing strategies (left-brain attribute) more than the younger students. Deep information processing strategies can also be seen as something that goes together with maturation. Van der Jagt et al (2003) reported that preferred hemispheric processing modes among pre-service teachers, trainees from urban areas preferred right hemispheric processing while those from suburban and rural areas preferred left hemispheric processing.

The difference in the overall study habits in distance teacher trainees and their counterparts in the face-to-face education is understandable. It may be due to the reason that distance trainees have reassumed the studies after an interval so they have to be cautious and more careful about their studies to compete with the regular trainees.

It is their high motivation for learning which enables them to have clear goals. Yet they have developed time management skills, some of which they might have learnt as a product of their full-time employment responsibilities. The trainees in face-to-face education have enough time for their studies (with faculty always available to them for guidance), thus may not need to budget their time so strictly. The budgeting of time is very crucial for distance teacher trainees as they have to manage their own studies along with other responsibilities whether at home or at work place (i.e. schools). Their high learning motivation is self explanatory as even after being employed as teachers, they want to improve their academic qualifications and possibly want to become better teachers. The very fact that these distance teacher trainees, inspite of their jobs and family responsibilities (as most of them are married) have chosen to enter into the higher learning and want to be further trained, itself is an indicator of their high learning motivation. Without high degree of motivation to learn, these trainees could have remained satisfied with their existing qualification and job.

According to McKenzie and Schweitzer (2001), part-time students with full-time employment responsibilities are highly motivated to study and have clear career goals. They may have also well developed time management skills as a product of their full-time employment responsibilities which may benefit them in their university studies. In the results of the present study are consonance with finding of Thang (2005) who reported that distance learners have comparatively good study habits and have good time management. Gilliard (1997) opined that distance learners are highly motivated, regular, and mature, disciplined and have good study schedule.

Feasley (1983) observed that distance education students mostly seek to satisfy specific life goals, for example, job-related training, as well as their own intellectual curiosity. It entails that the trainees in distance education employ better techniques or scheme to utilize their efforts and have more liking for social associations, connections, or affiliations with their fellowbeings and teachers than regular trainees. As the distance trainees are mature and have richer experience of life, this may be the reason for their better work methods and their interpersonal relationships. Moreover, the distance trainees come in contact with faculty and peers for a short duration i.e. during personal contact programme, so this may also encourage them to establish good relations with others so that they may get required information from each other after PCPs.

Ostlund (2005) states that the distance learners for the most part of the course suffer from stress and disruption due to the pressure of study requirements combined with obligations in their family life and jobs. Besides that, many of them express that their lack of study experience is a hindering factor. It has an impact on the time they can spend on their studies. He reported that the learners in his study supported each other in private situations as well as in situations directly linked to their studies.

As need for achievement refers to an individual's desire for significant accomplishment, mastering of skills, control, or high standards, or excellence in the chosen field, it implies that the regular trainees have stronger desire to be successful and achieve higher grades in their B.Ed. course than trainees in distance mode.

This is understandable in the light of the fact that these would-be teachers have yet to face the employment market for getting into the job, which would be possible if they achieve high and could compete with others in respect of academic achievement which carries a maximum weightage in the job interview. Whereas the distance trainees though have the higher academic motivation because of which they have entered in to B.Ed. course, but they are not in dire need of achieving higher marks in B.Ed. as they are already employed and thus may be more in need of a degree than grades. Higher motivation of on-campus trainees for Sports than the trainees in distance education (is understandable because these on-campus trainees get a lot of chances to participate and compete in intra and inter college sports competitions which is a regular annual feature in College of Education. Such an opportunity is provided only for a meager period to correspondence students just to give them a feeling of participation in co-curricular activities during PCPs.

The attitudinal differences among face-to-face and distance teacher trainees may be due to the fact that during the B.Ed. course, on-campus trainees have a regular associations and interaction with the teacher-educators who keep on developing their attitudes towards teaching on day to day basis. Even if one agrees that the teaching as a profession has certain constraints and is generally rated lower in economic status as compared to some other professions, these trainees yet have not experienced these factors personally.

In contrast to this, the B.Ed. students of distance mode themselves are teachers and thus well-versed with the strengths and weakness of teaching as a profession and as reflected by the results of the present study, they do not seem to as favorably inclined to the teaching profession as those who have yet to enter in this profession. In consonance with the results of present study, in the earlier studies also, Sidhu, 1983; Som, 1984; Patil, 1985; Dhawan, 1996; Gultekin; 2006 and Richardson and Watt, 2006 found that the prospective teachers have a favorable attitude towards teaching. Ramachandran (1991) reported that regular teacher trainees have significantly more favorable attitude towards teaching than the teacher trainees in correspondence courses.

Perception of distance trainees about the relevance of course content of theory papers than on-campus trainees is better than on-campus trainees, possibly because in-service teachers can relate the theory with practice in respect of their first hand experience in teaching whereas on-campus trainees are still not well-versed with the real teaching situations, therefore may not be able to relate the theory taught during B.Ed. course to actual teaching thus have lesser positive perception of relevance of theory. Moreover, Personal Contact Programmes for distance trainees focus primarily on theory papers which are taught by the best of the experts in their respective fields. Exposure to other aspects is not as strong as on theory papers. Wang (2007) stated that learning among adult learners is relevancy-oriented.

In other words, adult learners tend to focus on learning that can be applied to their work and lives. Adult learners may not be willing to learn anything new if their instructors fail to demonstrate a relationship between coursework and "real life (Bash, 2003). In other words, adult learners want their instructors to address relevancy to learning.

Adult learners may not be interested in knowledge for its own sake. Instead, they focus on the aspects of a lesson most useful to them in their work or personal life. Secondly, the B.Ed. course in terms of the development of teaching skills and attitude aspects have been perceived better by on-campus trainees than distance trainees. As already stated that during regular B.Ed., teachers have the opportunity for interaction with trainees over the year and they consistently and persistently put great emphasis on developing favorable attitudes and skills of teaching in and outside classroom by organizing different activities like daily classes for skills in teaching, special lectures for developing teaching skills, various teaching competitions etc along with their usual efforts of teachers to develop attitude in classrooms. Contrary to this, in case of B.Ed. through correspondence, trainees come in contact with their teachers only for short duration (i.e. PCP), within this period it is not possible to organize such activities and also teachers are more concerned with completing the syllabi. The differences in the third area of perception about the B.Ed. course between the two groups of trainees is in relation to the scope for personality development wherein also B.Ed. regular students submitted better scores than the distance trainees. This may be understood in view of the fact that regular B.Ed. trainees participate in a variety of co-curricular activities that are organized throughout their course along with the classroom teaching that go a long way in development of the personality of the on-campus trainees as a person and as a teacher. These opportunities generally are provided to distance trainees in a very meager form.

The results of academic performance of teacher trainees in the present study as stated above lead one to seek manifold plausible explanations and also confront a few questions such as if the curriculum is same, is it then the mode of transaction of the curriculum in distance education which does not deliver as good as in the face-to-face mode? Or is it the differences in learning styles, learning motivation, attitude towards teaching or perceptions of the trainees about their course? Probably, the reasons may be located in each of these separately and also collectively.

Taking the modes as the first plausible explanation, it can be said that the difference in the academic performance of teacher trainees in two format of education may owe to the fact that the two programmes operate in distinct, different teaching/learning environments. While the on-campus trainees do have their with academic orientations and exposures regularly and for a longer period in a formal educational environment, but their counterparts in distance education have such an exposure only in PCPs that are of very short duration. Thus, teacher-student interaction emerges as a powerful factor which can not be ignored.

Secondly, those who have opted for distance education system have their home and job responsibilities, because of that may not find much time to study whereas on-campus trainees have more quality time to study. Moreover in face-to-face education a continuous feedback is given to the trainees, which in turn is likely to improve their performance, a part of which is lacking in distance education who were examined only at the end of the session (i.e. during second PCP) for internal assessment. Further, the on-campus trainees have more access to library facilities and have more quality time to study than distance trainees, which may enable them to perform better than off-campus teacher trainees.

It can also be recalled that the regular students in the present study were found to have greater need for achievement that is desire to excel, than distance education trainees. These results also are suggestive for the need to strengthen the distance education system along with Personal Contact Programmes.

CONCLUSION

The findings of the present investigation demonstrated that the secondary teacher trainees in distance education are different in many respects from their counterparts from the regular stream (face-to-face education). The results of the study point towards the need to rethink the activities that are to be promoted during personal contact programmes. As the trainees in distance education have high motivation for academic challenges, distance trainees may be encouraged for active participation in activities during PCP by providing the well-organized interactive classroom teaching session, with orientation for practical work and involvement in co-curricular activities. The practice teaching components also needs to be flexible as per the needs of these trainees and they may be provided with full opportunities to exhibit their experiences in the field of teaching.

In view of the results of attitude towards teaching profession as being a potent predictor of academic performance, some kind of seminars, group discussions, workshops need to be organized to nurture the favorable attitude of distance trainees towards teaching.

Attempt may also be made to bring attitudinal changes, if so required. The findings that budgeting time, conditions for study and interpersonal relations serve as strong predictors of success in teacher training may be considered both by the teacher educators and guidance workers in the field to enable the distance trainees to restructure their physical environment whether at home or elsewhere for study rather than to wait for the availability of conducive environment.

They also need to be oriented in the time management skills. Their ability of establishing interpersonal relations can be utilized in building up strong networking with faculty and co-learners.

These efforts may help the mature learners to obtain basic skills and knowledge they need to become rigorous students. The interactivity between the distance learners and faculty could also be strengthened by providing them access to the facilities available at the nodal centers. This will also enable the distance teacher trainees to learn how to access 'on-campus' facilities such as library and laboratories at the study centers.

To conclude, as the Teacher Training course like any other course through Distance mode is here to stay, there is a dire need to redefine the various parameters of the learning environment through distance mode as per the needs, background and personal characteristics and attitudinal requirements of distance teacher trainees.

The teacher educators, counselors and the administration must be equipped to help these trainees to achieve success at par with teacher trainees in face-to-face education.

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APPENDIXES

PROFILE OF SECONDARY TEACHER TRAINEES IN FACE-TO-FACE EDUCATION

CHAPTER-VI

PROFILE OF SECONDARY TEACHER TRAINEES IN DISTANCE EDUCATION

Background Characteristics

- ✓ Average Age 27.59 years (88% with age 25 years or more)
- ✓ 75.5 % females and 24.5% males
- ✓ 62% married and 38% unmarried
- ✓ Most of them are Middle Class in SES

Personal Characteristics

- ✓ Prefer verbal, structured, divergent and artistic learning styles.
- ✓ Predominantly employ Right-brained in styles of thinking.
- ✓ Most of them are holistic, divergent, creative, optimistic and imaginary in their thinking styles
- ✓ Have good study habits
- ✓ High achievement motivation
- ✓ Favorable attitude towards teaching
- ✓ Have good perception about the secondary teacher training programme i.e. B.Ed. course.
- ✓ Have significantly higher left sidedness for styles of learning and thinking than face-to-face trainees
- ✓ Significantly better Study habits than face-to-face trainees
- ✓ Equal in achievement motivation to face-to-face trainees
- ✓ Less favorable attitude towards teaching than counterparts in face-to-face education
- ✓ Equal in their Perception about B.Ed. course to the on-campus trainees

Academic Performance

- ✓ Good performance in theory, school experience programme and aggregate marks in B.Ed. examination (most of them obtained between 60-69.9%).
- ✓ Obtained lower grades than face-to-face trainees in theory, skills in teaching and in aggregate.

PROFILE OF SECONDARY TEACHER TRAINEES IN FACE-TO-FACE EDUCATION

Background Characteristics

- ✓ **Average Age 22.13 years (87% are of age less than 25 years)**
- ✓ **63% females and 37% males**
- ✓ **14.5% married and 85.5% unmarried**
- ✓ **Middle Class in SES**

Personal Characteristics

- ✓ **Right-sided in styles of learning as well as thinking**
- ✓ **Favor divergent and inventive learning**
- ✓ **Prefer holistic, deductive, creative, optimistic and imaginary in their thinking styles**
- ✓ **Most of them have good study habits**
- ✓ **have high achievement motivation**
- ✓ **Favorable attitude towards teaching,**
- ✓ **Display good Perception about B.Ed. course**
- ✓ **Have significantly higher right sidedness for styles of learning and thinking than distance trainees**
- ✓ **Study habits not as good as in distance trainees.**
- ✓ **Equal in achievement motivation to distance trainees.**
- ✓ **Have more favorable attitude towards teaching than counterparts in distance education**
- ✓ **Are similar to distance trainees in their Perception about B.Ed. course**

Academic Performance

- ✓ **Very good performance in theory, school experience programme and aggregate marks in B.Ed. examination (most of them obtained more than 70%)**
- ✓ **Obtain higher marks than distance teacher trainees in theory, skills in teaching and in aggregate.**