ABSTRACT

INTRODUCTION

The Indian constitution provides free and compulsory school education opportunities for all. However, achievement of the goals envisaged in terms of overall coverage, equitable distribution and quality of education, is still a long way off. The Government of India has committed itself to promote education in a planned manner. The task, however, is daunting. Society needs educational systems that transcend the limits of the formal system to satisfy the learners’ immediate and long term needs. Distance Education (DE) provides a solution and thus has a prominent role to play in human resource development (Kumar, 1996). In India, for the first time, Distance Education was introduced in 1962 at higher education level (Rathore, 1991). Since the Distance education mode was flexible in terms of the time and place of studies, it became very popular in India. There has been phenomenal expansion of school education in India during the last 60 years since independence. The government of India, for fulfilling the constitutional promise (Art. 45) of providing free and compulsory education for all children aged 6-14 years, made the large scale expansion which was inevitable. As the school system expanded it required more and more teachers. The situation was so compelling that government started thinking of providing teacher education programmes through DE mode. In 1964, the Kothari Education Commission recommended the use of distance mode for training the backlog of a large number of untrained teachers. The NCERT took the initiative and lead by launching B.Ed (Bachelor of Education) course at its four Regional Colleges of Education through distance mode. But due to the uncontrolled growth of the population and growing aspirations of the people for education and access rapidly, our conventional mode of education is not enough to cater to the needs of teacher education and therefore DE is looked upon a potential mode in the forthcoming era of teacher education. These days distance education mode has been accepted as an alternative to formal face-to-face training programmes. Many universities have started B.Ed and M.Ed (Master of Education) programmes through distance education system. More than 20 universities in India, including Indira Gandhi National Open University (IGNOU) and other state open universities, are offering B.Ed and M.Ed courses through Distance Education mode.
Distance Education is a form of educational activity in which learners are physically apart from the teacher or the teaching institution for much of the teaching and learning process (Rumble 1989). The first Open University was established in UK, through the Royal Charter 1969. While distance education is emerging as a discipline in its own right, attracting the attention of educational researchers in countries such as the United Kingdom, Canada and Australia and also now in various Asian countries including India, relatively little research has been devoted to exploring the factors that predict success in distance learning (Cookson 1989) and compare it with the regular mode. A review of the studies conducted in this area reveals that very few studies have been conducted in India to enable us to draw any meaningful inference about the comparative effectiveness of the two modes of teacher training. The study by Prahlad (1978) reveals the suitability of programmed learning material for training of English teachers, the study by Kumar (1986) found that the B.Ed distant learners were highly motivated to become teachers. Farha (2000) found no significant differences on comparing the teaching competency of two learners. With regard to studies conducted in foreign settings, the studies by Brophy and Dudley (1983) and others reveal that both the modes are comparable.

There is a general impression among the public that the training imparted by distance education is inferior in quality compared to the one imparted through face-to-face mode. A few studies on comparison of teaching effectiveness have been conducted but no study has considered the variables like personality, intelligence, professional attitude, socio-economic and academic backgrounds of the trainees undergoing training through face-to-face and distance education mode. On going through all above literature the investigator feels the need to carry out a comparative study of teacher trainees under two modes in order to know the reasons of above results. The significant differences may be contributed to the independent variables as personality factors, professional attitude, socio-economic and academic background.

**STATEMENT OF THE PROBLEM**

The problem investigated in this study was given the following formal title:

“A comparative study of certain personality factors, general intelligence, professional attitude, socio-economic and academic backgrounds of teacher trainees under face-to-face and distance education mode”.
OBJECTIVES OF THE STUDY

Every research study deals with solving a problem of human interest. Therefore, the researcher had a definite purpose in mind. She had certain specific goals to achieve through her research work. Such specific goals or purposes are technically termed as ‘objectives’. Every research study must have some objectives to achieve without which no research can be fruitful. The entire research process is guided by objectives, which have to be explicitly and precisely spelled out by the investigator in advance. The present study is aimed at achieving following objectives:

(i) To study the personality factors, general intelligence, professional attitude, socio-economic and academic backgrounds of teacher trainees under face-to-face mode of education.

(ii) To study the personality factors, general intelligence, professional attitude, socio-economic and academic backgrounds of teacher trainees under distance education mode.

(iii) To compare the personality factors, general intelligence, professional attitude, socio-economic and academic backgrounds of teacher trainees under face-to-face and distance education mode.

(iv) To study the gender differences on the above variables between teacher trainees of both the modes.

(v) To study the interaction of training mode, gender and marital status on the personality factors, general intelligence, professional attitude, socio-economic and academic backgrounds of teacher trainees.

THE HYPOTHESES

In order to achieve the objectives of this study, an investigator formulates hypotheses. Hypothesis may be defined as an intelligent guess or tentative solution for a research problem.

We already know that the teaching experience, maturity level and age of the teacher trainees pursuing DE are at a higher level. Accordingly, following research hypotheses were framed and empirically verified:
(i) The teacher trainees under face-to-face and distance mode of training differ significantly on personality factors.

(ii) The teacher trainees under face-to-face and distance mode of training differ significantly on the level of general intelligence.

(iii) The teacher trainees under face-to-face and distance mode of training differ significantly on the professional attitude.

(iv) The teacher trainees under face-to-face and distance mode of training differ significantly on the socio-economic background.

(v) The teacher trainees under face-to-face and distance mode of training differ significantly on the academic background.

(vi) Male and female teacher trainees of face-to-face and distance mode of training differ significantly on personality factors. This hypothesis was tested in terms of four sub-hypotheses:

(a) Face-to-face and Distance mode teacher trainees differ significantly on personality factors when gender and marital status are controlled.

(b) Male and female teacher trainees differ significantly on personality factors when marital status and training mode are controlled.

(c) Married and unmarried teacher trainees differ significantly on personality factors when training mode and gender are controlled.

(d) There are significant interactions of training mode, gender and marital status on personality factors of teacher trainees.

(vii) Male and female teacher trainees of face-to-face and distance mode of training differ significantly on the level of general intelligence. This hypothesis was tested in terms of four sub-hypotheses:

(a) Face-to-face and Distance mode teacher trainees differ significantly on the level of general intelligence when gender and marital status are controlled.

(b) Male and female teacher trainees differ significantly on the level of general intelligence when marital status and training mode are controlled.
(c) Married and unmarried teacher trainees differ significantly on the level of general intelligence when training mode and gender are controlled.

(d) There are significant interactions of training mode, gender and marital status on the level of general intelligence of teacher trainees.

(viii) Male and female teacher trainees of face-to-face and distance mode of training differ significantly on professional attitude. This hypothesis was tested in terms of four sub-hypotheses:

(a) Face-to-face and Distance mode teacher trainees differ significantly on professional attitude when gender and marital status are controlled.

(b) Male and female teacher trainees differ significantly on professional attitude when marital status and training mode are controlled.

(c) Married and unmarried teacher trainees differ significantly on professional attitude when training mode and gender are controlled.

(d) There are significant interactions of training mode, gender and marital status on professional attitude of teacher trainees.

(ix) Male and female teacher trainees of face-to-face and distance mode of training differ significantly on socio-economic background. This hypothesis was tested in terms of four sub-hypotheses:

(a) Face-to-face and Distance mode teacher trainees differ significantly on socio-economic background when gender and marital status are controlled.

(b) Male and female teacher trainees differ significantly on socio-economic background when marital status and training mode are controlled.

(c) Married and unmarried teacher trainees differ significantly on socio-economic background when training mode and gender are controlled.

(d) There are significant interactions of training mode, gender and marital status on socio-economic background of teacher trainees.
Male and female teacher trainees of face-to-face and distance mode of training differ significantly on academic background. This hypothesis was tested in terms of four sub-hypotheses:

(a) Face-to-face and Distance mode teacher trainees differ significantly on academic background when gender and marital status are controlled.

(b) Male and female teacher trainees differ significantly on academic background when marital status and training mode are controlled.

(c) Married and unmarried teacher trainees differ significantly on academic background when training mode and gender are controlled.

DELIMITATIONS

Every research study is delimited in several ways, because generally it is not possible to study the entire mass of variables associated with a given problem in a single study. The long list of relevant variables cannot be exhausted by a single study. It has to be delimited in terms of population covered, sample selected, scope of generalizations of findings and so on. Therefore, the present study is no exception in this regard and has delimitations which are as follows:

(i) Out of the array of factors affecting students’ choice of learning mode only personality factors, professional attitude, socio-economic and academic backgrounds were selected for investigation in the present study.

(ii) Though, about 14 Open Universities and 130 dual mode institutions are offering DE courses in India, the investigator selected the students of Uttar Pradesh Rajarishi Tondon Open University located at Allahabad, which has its jurisdiction spread over the entire state of Uttar Pradesh (U.P). The sample of DE students was selected from four study centres of Agra, Bulandshahar, Kanpur and Moradabad.

(iii) Out of various Central and State Universities in India, offering B.Ed courses through faced-to-face mode only, students enrolled in affiliated colleges of Dr. Bhim Rao Ambedkar University, Agra, Uttar Pradesh,
were taken up for study. Therefore, its findings may not be generalized to any other university’s students.

This study was conducted with the above delimitations and constraints in mind. Any generalization should be made keeping in view these delimitations.

**PROCEDURE**

**SAMPLE**

The present investigation was based on comparison of two populations one of teacher trainees pursuing the Bachelor of Education course under the face to face mode from Dr. Bhim Rao Ambedkar University, Agra, and the other teacher trainees pursuing the Bachelor of Education course, under the distance education mode from the Uttar Pradesh Rajarishi Tondon Open University (UPRTOU), Allahabad. Thus, the present study compares two populations of teacher trainees on a few relevant variables.

The teacher trainees of face to face mode were selected from colleges located at Aligarh, Mathura and Agra which are affiliated to Dr. Bhim Rao Ambedkar University, Agra. The cluster sampling technique was used. The distance mode teacher trainees were approached at the study centers of UPRTOU located at the cities of Kanpur, Moradabad, Agra and Bulandshahar in the state of Uttar Pradesh. A sample of 252 teacher trainees was selected from the population of trainees pursuing studies under DE mode, and a sample of 259 teacher trainees was selected from the population of those undergoing training under face-to-face mode. Thus, in all 511 teacher trainees were involved in the study.

**TOOLS**

Dependability of research findings is not only determined by planning, methodology, data analysis and interpretation, but also by quality of tools used. This study involved the study of teacher trainees’ choice of mode of learning in relation to certain personality factors, general intelligence, professional attitude, socio-economic and academic backgrounds of teacher trainees. So, in order to obtain required information for the study, the following research tools were used by the investigator:

4. Personal Data Sheet seeking information about socio-economic and academic backgrounds (developed by the investigator).

COLLECTION OF DATA
In order to collect the data of Distance Mode Teacher Trainees, the investigator obtained a list of study centres of B.Ed. program of Uttar Pradesh Rajarishi Tondon Open University. She reached the selected study centers during the personal contact programs and requested heads of institutions to accord permission to collect data from teacher trainees. After receiving permission of the heads of the institutions the investigator approached the concerned teacher trainees and administered to them all the four tools in the same sitting.

During this process the investigator assured the students that the informations given by them were for research work only and would be kept confidential. It is a matter of great pleasure that this assurance along with the importance of this research work was highly convincing and proved to be very useful in obtaining relevant and genuine data. The investigator administered all the four tools, Cattell’s 16 PF questionnaire, Raven’s Progressive Matrices, Teacher Attitude Scale by J.C. Goyal and Personal Data Sheet seeking information about academic and socio-economic backgrounds to the students one by one after giving necessary instructions.

ANALYSIS AND INTERPRETATION
The main statistical techniques used for the data analysis are mean, standard deviation, t-test and ANOVA followed by 2X2X2 factorial design.
FINDINGS

Findings related to distribution of scores on 16 PF scale in the populations of trainees under Face-to-Face and DE mode

(i) The 95% confidence intervals for the mean scores on Factor A (Cool vs. Warm) in respect of population of trainees under face-to-face and DE modes were from 4.09 to 4.53 and from 4.77 to 5.77 respectively. **DE mode teacher trainees were more warm, outgoing, good-natured and emotionally expressive than those under face-to-face mode.** Male teacher trainees were more good-natured than the female trainees. Married and unmarried trainees were equally cool or warm. Training mode and gender interact significantly in determining scores on factor A. The male teacher trainees under face-to-face and distance mode were more warm, good-natured and easy-going than their female counterparts under face-to-face and distance mode. The interaction effect of gender and marital status was significant. Married female trainees were more warm, easygoing and adaptable than unmarried female trainees. Three-Way Interaction of the variables training mode, gender and marital status in relation to factor A was not significant.

(ii) The 95% confidence intervals for mean scores on Factor B (Concrete thinking vs. Abstract thinking) in respect of face-to-face and DE mode trainees were respectively from 4.37 to 4.91 and from 3.91 to 4.39. **Face-to-Face teacher trainees were more intelligent than their counterparts in the distance mode.** The regular trainees were more quick to grasp ideas and fast learner as compared to distance trainees. Female and male teacher trainees were of equal intelligence. Married and unmarried trainees were also equal on abstract and concrete thinking. Interaction of Training Mode X Gender and Gender X Marital Status were not significant but training mode and marital status interact significantly in determining scores on factor B. Married trainees under DE mode were more intelligent than unmarried trainees but the converse was true for face-to-face trainees. Three-Way Interaction of the variables training mode, gender and marital status in relation to factor B was not significant.
(iii) The 95% confidence intervals for the mean scores on Factor C (Affected by feelings vs. Emotionally stable) in respect of population of trainees under face-to-face and DE modes were from 4.68 to 5.12 and from 3.76 to 4.42 respectively. **Face-to-face teacher trainees were emotionally more stable, mature and realistic about life than the distance teacher trainees.** Female teacher trainees possessed more ego strength than male teacher trainees. Married and unmarried trainees were equally affected by feelings irrespective of their training mode and gender. Interactions of Training Mode X Gender and Gender X Marital Status were not significant but training mode and marital status interact significantly with respect to factor C. Unmarried trainees under DE mode were emotionally more stable than married trainees but under face-to-face mode married teacher trainees were emotionally more stable than unmarried trainees. Three-Way Interaction of the variables training mode, gender and marital status in relation to factor C was not significant.

(iv) The evidence shows that 95% confidence limits for the mean scores on factor E (Submissive vs. Dominant) for face-to-face and DE mode trainees were from 4.94 to 5.34 and from 4.47 to 4.95 respectively. **Face-to-Face mode enrolled more aggressive and dominant teacher trainees than the DE mode.** Female teacher trainees were more competitive than male teacher trainees. Married and unmarried trainees irrespective of training mode and gender were equally submissive or dominant. Interactions of Training Mode X Gender, Training Mode X Marital Status and Gender X Marital Status were not significant. Three-Way Interaction of the variables training mode, gender and marital status in relation to factor E was not significant.

(v) The 95% confidence interval for mean scores on factor F (Sober vs. Enthusiastic) in respect of face-to-face and DE mode trainees were found to be from 3.29 to 3.65 and from 4.05 to 4.53 respectively. **Teacher trainees under DE mode were significantly more enthusiastic and spontaneous than those under face-to-face mode.** Male trainees possessed more spontaneous behavior than female trainees. Married and unmarried trainees were equally sober or
enthusiastic. DE mode teacher trainees were more enthusiastic and cheerful than face-to-face mode teacher trainees, but this difference was more pronounced between male trainees of both the modes. Moreover, the interaction of gender and marital status showed that female married trainees were more talkative, heedless and expressive than unmarried female trainees whereas unmarried male trainees were more active and carefree than married male trainees. Three-Way Interaction of the variables training mode, gender and marital status in relation to Factor F was not significant.

(vi) The 95% confidence intervals for the mean scores on Factor G (Expedient vs. Conscientious) in respect of population of trainees under face-to-face and DE modes were from 5.70 to 6.10 and from 3.83 to 4.31 respectively. **Face-to-face mode teacher trainees were more conforming and moralistic than their distance counterparts.** Both female and male teacher trainees under face-to-face mode were more conscientious, conforming, moralistic and rule-bound than the female and male teacher trainees under the distance mode. Three-Way Interaction of the variables training mode, gender and marital status in relation to factor G was not significant. Thus, for developing morals and respect towards rules, face-to-face mode is more appropriate than DE mode of training.

(vii) The 95% confidence intervals for mean scores on factor H (Shy vs. Bold) in respect of face-to-face and DE mode trainees were respectively from 5.00 to 5.36 and from 5.21 to 5.57.. **Both the groups were equally shy/bold.** Male teacher trainees were more bold and venturesome than female teacher trainees but married and unmarried teacher trainees were equally shy or bold. It also showed that training mode and gender interact significantly in determining scores on factor H. DE mode female trainees were more bold and venturesome than face-to-face female trainees but male trainees under face-to-face mode were more bold and venturesome than DE male trainees. Three-Way Interaction of the variables training mode, gender and marital status in relation to factor H (Shy vs. Bold) was not significant.
The evidence shows that 95% confidence limits for the mean scores on factor I (Tough-minded vs. Tender-minded) for face-to-face and DE mode trainees were found to be from 3.57 to 4.11 and from 4.72 to 5.20 respectively. **DE mode teacher trainees were more tender-minded and emotionally sensitive than the face-to-face teacher trainees.** Male teacher trainees were more intuitive and refined than female teacher trainees. Married and unmarried trainees were equally tough-minded or tender-minded. However, training mode and gender interact significantly in determining scores on factor I. While DE mode teacher trainees were more sensitive than face-to-face trainees, but the difference was more noticeable in case of female trainees. The difference between the male trainees under both the modes was marginal. Three-Way Interaction of the variables training mode, gender and marital status in relation to factor I of was not significant.

The 95% confidence interval for mean scores on factor L (Trusting vs. Suspicious) in respect of face-to-face and DE mode trainees were found to be from 3.84 to 4.38 and from 5.48 to 5.92 respectively. **DE mode teacher trainees were more suspicious and doubtful than those under face-to-face mode trainees.** Female teacher trainees possessed more distrustful behavior than male trainees. Married and unmarried trainees irrespective of their training mode and gender were equally trusting or suspicious. However, interaction of Training mode X Gender and Training Mode X Marital Status were not significant but Gender and Marital Status interact significantly. Married female and male trainees were more suspicious than unmarried female and male trainees. Three-Way Interaction of the variables training mode, gender and marital status in relation to factor L was not significant.

The evidence shows that 95% confidence limits for the mean scores on factor M (Practical vs. Imaginative) for face-to-face and DE mode trainees were found to be from 3.65 to 4.31 and from 4.56 to 4.96 respectively. **DE mode teacher trainees were more imaginative and absent minded than those under face-to-face mode.** Female teacher trainees were more absorbed in thought than male teacher trainees. Female teacher trainees under face-to-face mode were more
imaginative and impractical than distance female trainees whereas male teacher trainees under distance mode were more absent-minded than face-to-face male trainees. Unmarried trainees were more imaginative than married trainees under distance mode whereas married teacher trainees under face-to-face mode were more imaginative than unmarried trainees under the same mode. Three-Way Interaction of the variables training mode, gender and marital status in relation to factor M was not significant.

(xi) The 95% confidence intervals for the mean scores on Factor N (Forthright vs. Shrewd) in respect of population of trainees under face-to-face and DE modes were from 5.88 to 6.42 and from 4.77 to 5.17 respectively. *Face-to-face mode teacher trainees were more shrewd and socially aware than those under DE mode.* Female teacher trainees possessed more polished behavior than male trainees. Unmarried teacher trainees, in general, were less sentimental than their married counterparts. Interaction of Training Mode X Gender, Training Mode X Marital Status and Gender X Marital Status in respect of factor N were not significant. Three-Way Interaction of the variables training mode, gender and marital status in relation to factor N was not significant.

(xii) The 95% confidence interval for mean scores on factor O (Self-assured vs. Apprehensive vs. Shrewd) in respect of face-to-face and DE mode trainees were found to be from 5.73 to 6.17 and from 4.80 to 5.28 respectively. *Face-to-face mode teacher trainees were more apprehensive and insecure than their distance counterparts.* Interaction of Training Mode X Gender, Training Mode X Marital Status and Gender X Marital Status in respect of factor O were not significant. Three-Way Interaction of the variables training mode, gender and marital status in relation to factor O was not significant.

(xiii) The evidence shows that 95% confidence limits for the mean scores on factor Q₁ (Conservative vs. Experimenting) for face-to-face and DE mode trainees were found to be from 6.08 to 6.52 and from 5.20 to 5.68 respectively. *Face-to-face mode teacher trainees were more experimenting than the DE mode teacher trainees.* Female teacher
trainees were more liberal and open to change in comparison to male teacher trainees irrespective of their training mode. Married and unmarried teacher trainees were equally conservative or experimenting. Interaction of Training Mode X Gender, Training Mode X Marital Status and Gender X Marital Status in respect of factor Q1 were not significant. Three-Way Interaction of the variables training mode, gender and marital status in relation to factor Q1 was not significant.

(xiv) The 95% confidence intervals for the mean scores on Factor Q2 (Group-oriented vs. Self-sufficient) in respect of population of trainees under face-to-face and DE modes were from 4.09 to 4.53 and from 4.77 to 5.77 respectively. **Face-to-face teacher trainees were more self-sufficient and resourceful in comparison to DE mode teacher trainees.** Female trainees possessed more resourceful behavior than male trainees. Married and unmarried trainees were equally group-oriented or self-sufficient. Interaction of Training Mode X Gender, Training Mode X Marital Status and Gender X Marital Status in respect of factor Q2 were not significant. Three-Way Interaction of the variables training mode, gender and marital status in relation to factor Q2 was not significant.

(xv) The 95% confidence intervals for the mean scores on Factor Q3 (Undisciplined Self-conflict vs. Following Self-Image) in respect of population of trainees under face-to-face and DE modes were from 4.78 to 5.18 and from 4.02 to 4.50 respectively. **Face-to-face mode teacher trainees were socially more precise and have strong control of their emotions than their distance counterparts.** Face-to-face mode teacher trainees were socially more precise than their distance counterparts but the difference was more noticeable between male trainees of two modes. Unmarried teacher trainees were found to have stronger control of their emotions than their married counterparts. Three-Way Interaction of the variables training mode, gender and marital status in relation to factor Q3 was not significant.

(xvi) The evidence shows that 95% confidence limits for the mean scores on factor Q4 (Relaxed vs. Tense) for face-to-face and DE mode trainees
were found to be from 4.76 to 5.12 and from 5.12 to 5.60 respectively.

**DE mode teacher trainees were more tense and frustrated than face-to-face mode teacher trainees.** Teacher trainees under two modes did not differ significantly. But, it was found that male teacher trainees were more tense and frustrated than female trainees. Married trainees under distance mode were more restless and impatient than unmarried trainees whereas unmarried teacher trainees under face-to-face mode were more tense and frustrated. Married female and male teacher trainees were more tense and frustrated than unmarried female and male trainees.

**Findings related to distribution of Intelligence scores in the populations of trainees under Face-to-Face and DE mode**

The evidence shows that 95% confidence limits for the mean intelligence scores for face-to-face and DE mode trainees were found to be from 41.89 to 43.41 and from 34.58 to 37.42 respectively. **Face-to-Face mode attracts brighter students than the DE mode students as far as intelligence level is concerned.** Intelligence level of female and male teacher trainees was equal but unmarried trainees were found to have higher intelligence level than the married trainees irrespective of their training mode and gender. Interactions of Training Mode X Gender and Gender X Marital Status were not significant but Training Mode X Marital Status interact significantly in determining scores on intelligence. Unmarried trainees under both the modes were found to have higher intelligence level than the married trainees but this difference was more noticeable between married and unmarried trainees under DE mode. Three-Way Interaction of the variables training mode, gender and marital status in relation to the general intelligence level was not significant.

**Findings related to distribution of Professional Attitude scores in the populations of trainees under Face-to-Face and DE mode**

The 95% confidence intervals for mean scores on professional attitude in respect of face-to-face and DE mode trainees were respectively from 3.59 to 5.24 and from 4.51 to 4.71. Face-to-face mode of training develops a more favourable attitude towards teaching than the DE mode. Professional attitude of female and male teacher trainees was same. Married and unmarried trainees did not differ significantly on professional
attitude. However, the interaction of Training Mode X Gender, Training Mode X Marital Status and Gender X Marital Status was not significant. Three-Way Interaction of the variables training mode, gender and marital status in relation to the teaching attitude was also not significant.

**Findings related to distribution of Socio-Economic Background scores in the populations of trainees under Face-to-Face and DE mode**

The 95% confidence interval for mean scores on socio-economic background in respect of face-to-face and DE mode trainees were found to be from 16.15 to 17.71 and from 18.54 to 20.66 respectively. *Socio-economic background of trainees under DE mode was significantly higher than those under face-to-face mode.* Female trainees come from more well-to-do families than the male teacher trainees. Unmarried trainees come from better socio-economic background the married trainees. However, the interactions of lead to the conclusion that under face-to-face mode, male teacher trainees come from better socio-economic background than female trainees, while in the DE mode female trainees come from better family background than the male trainees. The face-to-face mode mostly attracts unmarried candidate for training while in the DE mode this effect is marginal. Three-Way Interaction of the variables training mode, gender and marital status in relation to the socio-economic background of teacher trainees was not significant.

**Findings related to distribution of Academic Background scores in the populations of trainees under Face-to-Face and DE mode**

The 95% confidence interval for mean scores on academic background in respect of face-to-face and DE mode trainees were found to be from 8.82 to 9.26 and from 7.67 to 8.15 respectively. *Academic background of teacher trainees under face-to-face mode was significantly better than those under DE mode.* Female teachers were found to have better academic background than male trainees. Interaction of Training Mode X Gender and Gender X Marital Status was not significant but training mode and marital status interact significantly. Under DE mode, unmarried candidate had better academic background than married ones but under face-to-face mode married candidate had better academic background than unmarried candidates.
Educational Implications

The findings of this study have some important implication for distance mode teacher trainees in general, in curriculum planning, admission procedures etc. The findings also have some implication for further research in this field.

Some of the findings listed in the previous section are of extraordinary importance which call for some immediate measures to be taken for the distance mode teacher trainees.

(i) Teaching job reshapess the attitudes, remodels the habits and reconstitutes the personality of teacher. Measures should be taken to inculcate better habits among face-to-face students by including some relevant social activities in their curriculum.

(ii) Mostly DE trainees are older in age, employed, in-charge of families, home-bound and ready to take responsibilities for outcomes. Understandably, the needs of these adult learners are significantly different from those of traditional teenage students, thus it indicates the need for high flexibility in terms of learning ‘anytime’ and ‘everywhere’ contact component may be enhanced.

(iii) As far as intelligence level is concerned, regular trainees are more intelligent than their distance counterparts. Therefore, efforts should be made for DE mode teacher trainees to update their knowledge through regular intervals. It is necessary to get effective and meaningful communication for revising the structure and effectiveness of distance education.

(iv) It is possible that knowledge and skills can be taught more effectively in DE but the development of an idea or experiment may need more discussions and interactions with the instructor and other students. So, one needs to eliminate these communication barriers by increasing the ability of Internet access, student to student interactions, student to instructor interactions and student/instructor motivations. There should be an effective monitoring and evaluation mechanism to ensure the smooth working of study centres and (Personal Contact Programme Centres) PCP centres. It will make DE program more effective, interactive, and even more attractive.
There is a need to have faculty of education for ensuring professional inputs and quality maintenance. B.Ed programme being a professional programme, it should emphasise development of skills and competencies through practical activities. Continuous and comprehensive evaluation is needed for practical work like school-based practicals and practice teaching. The practice teaching is to be organized throughout the academic year, so that it can provide complete and comprehensive school based experiences. Moreover, teachers should be encouraged for maximum utilization of modern technology to make their lecture more effective and also emphasize the students to utilize these aids for their presentations.

Since academically weaker students are coming to the distance mode B.Ed course, the major implication for the practice is that adequate course content should be added in the distance mode course for the inculcation of more positive attitude. This also implies that the course content and material for the two modes of training should not be the same, because the two courses differ widely in terms of the delivery.

The quality of a distance-education programme is likely to depend on arrangements for teaching practice and its assessment where it forms part of the curriculum. Therefore, an appropriate system of assessment and the use of combination of teaching media is necessary to inculcate teaching attitude among DE trainees.

The result of significant difference between the two groups of trainees on socio-economic status may be due to the fact that all the distance trainees are in job and also have income from other members of the family as most of them are married, while B.Ed regular trainees being a full-time learners are dependent on their guardians.

It is clear from the previous findings that students with better academic background opt face-to-face mode in comparison to distance mode. Admission criteria to B.Ed programme should be followed strictly and consistently which means that if the B.Ed programme is to be designed for in-service teacher with minimum of 2 years experience, it should be strictly followed while admitting students. The enrollment of students should be limited keeping in view the organizational capacity for
programme delivery of institutes and the Open Universities where the enrollment on mass scale affects the quality of teachers education programmes.

(x) Due to prevailing traditional environment and gender discrimination, most of the women are unable to continue their studies through conventional courses in India. Infact, women attracted towards DE are either highly burdened housewives, employed individuals or other neglected who wish to continue their education. Hence, to promote DE among women students, DE must also pay attention to the personal problems of women.

(xi) Another important finding is that there is no significant difference in the intelligence level of male and female teacher trainees. It can be an indication that female trainees are no way inferior to male trainees in respect of cognitive abilities and are getting better with the changing era of education. Government should work for the upliftment of women candidates and consequently to increase their enrollment in distance as well as face-to-face mode.

(xii) Professional attitude of male and female teacher trainees is same irrespective of their training mode. It indicates that there should not be any gender discrimination in respect of teaching jobs. It also highlights that DE is a boon for women who can benefit from these education systems and succeed in this male dominated society.

(xiii) One more important finding is that female teacher trainees have better socio-economic and academic background than male teacher trainees irrespective of their training mode. Female candidates appear to be ready to cope with the problems with them to make their leaning goes on smoothly and leads to the goal that they have set for themselves. Thus, DE can really act as a boon for all those female candidates who have thirst for furthering their higher education but missed it for a variety of personal, social or cultural factor.
**Implications for Further Research**

(i) Due to limitation of time and certain other factors only one University was taken by researcher for comparing students trained through distance and conventional mode. Hence, the results of this study cannot be generalized over the entire prospective teachers which are being trained through distance education mode. Thus, there is a need to replicate this study on a national level to corroborate the findings of the study.

(ii) In this study, students in the two mode of teacher training were compared only in relation to five dependent variables which were personality factors, general intelligence, professional attitude, socio-economic and academic background. Further research should compare the classroom behavior (which is very important aspect of teacher training programme) of the teachers trained through distance mode and traditional mode must be undertaken.

(iii) It can be safely said from the conclusions of this study that if the distance mode of training teachers is to be continued for the training of in-service teachers there is a serious and urgent need to revisit and rethink about the course content and delivery modes of courses, so as to make the them more effective for training quality teachers.

(iv) Since the significant sex relationship was observed in development of certain personality factors, further research should be attempt to clarify sex related issues in both modes of teacher education.

(v) Those aspects and factors which favour or disfavour the development of favourable attitude and personality factors in B.Ed students of rural and urban background should be studied through further research.