Chapter 5

FINDINGS AND IMPLICATIONS

The previous four chapters have described the detailed methodology followed by the investigator in conducting the study. The theoretical and research context of the problem under investigation has been discussed in Chapter 1, and the research problem is precisely defined in Chapter 2. The descriptions of characteristics of the population, the technique of sampling and tools used have been discussed in Chapter 3. Also, the techniques of data analysis, which are complex, have been discussed in Chapter 4. After interpreting the result of analysis, the investigator came out with certain findings, which are being presented in this chapter. The implications of these findings for theory and practice of education, and for further researches in this area have also been discussed.

This study led to the following findings:

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

1. 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. It is evident that the two ranges are disjoint which shows that mean scores of the two populations of teacher trainees on this factor are different. This conclusion also corroborates with the findings of t-test for comparing the two sample means (Table 4.5, page 96) on Factor A. The overall conclusion is that DE mode teacher trainees were more warm, outgoing, good-natured and emotionally expressive than those under face-to-face mode.

However, the use of ANOVA (Table 4.25, page 123) showed that the male teacher trainees were more good-natured than the female trainees. Married and unmarried trainees were equally cool or warm. It also showed that 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.

Majority of teacher trainees under DE mode are mature in-service teachers with minimum experience of two years in teaching which makes them more warm, outgoing, good-natured and emotionally expressive than teacher trainees under face-to-face mode. Thus, for developing qualities related to factor A, DE is more appropriate than face-to-face mode of training.

2. 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. As evident from the figures the two intervals overlap but the area of overlapping is very small. However, the t-test used to compare the two means on factor B (Table 4.6, page 98) shows that face-to-face teacher trainees were more intelligent than their counterparts in the distance mode. The regular trainees were quicker to grasp ideas and fast learner as compared to distance trainees.

However, the use of ANOVA (Table 4.31, page 127) showed that 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.

The overall conclusion is that face-to-face mode attracts more intelligent teacher trainees in comparison to DE mode.

3. 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. It is evident that the two ranges are disjoint which shows that mean scores of the two populations of teacher trainees on this factor are different. This conclusion also corroborates with
the findings of t-test for comparing the two sample means (Table 4.7, page 99) on Factor C. The overall conclusion is that face-to-face teacher trainees were emotionally more stable, mature and realistic about life than the distance teacher trainees.

The findings of ANOVA (Table 4.37, page 131) also corroborated the finding of t-test. It also revealed that 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.

Regular interaction and discussions with colleagues and teachers bring desirable changes in behavior and make an individual more realistic about life. Thus, for developing qualities related to factor C, face-to-face mode is more appropriate than DE mode of training.

4. 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. In this case, the two confidence intervals slightly overlap showing that there is marginal difference in factor E of trainees under the two modes of training, the face-to-face mode teacher trainees being more assertive, aggressive and dominant than the DE mode trainees. This result has also been confirmed by t-test for comparing the mean scores on factor E for the two sample groups (Table 4.8, page 100). This shows that the Face-to-Face mode enrolled more aggressive and dominant teacher trainees than the DE mode.

The ANOVA (Table 4.43, page 135) conducted on above samples revealed that 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.

5. 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. These confidence intervals are disjoint showing that DE mode teacher trainees were more enthusiastic and expressive than teacher trainees under face-to-face mode. The t-test used to compare the mean scores on factor F for the two groups also showed (Table 4.9, page 102) that teacher trainees under DE mode were significantly more enthusiastic and spontaneous than those under face-to-face mode.

However, the findings of ANOVA (Table 4.49, page 139) revealed that male trainees possessed more spontaneous behavior than female trainees. Married and unmarried trainees were equally sober or enthusiastic. The use of ANOVA also showed that training mode and gender interact significantly in determining scores on factor F. 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.

DE mode teacher trainees especially males are involved in various activities related to their job and family which makes them comparatively more enthusiastic and spontaneous than their regular counterparts. Female teacher trainees become more talkative and expressive due to their exposure after marriage. Thus, for developing qualities related to factor F, DE is more appropriate than face-to-face mode of training.

6. 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. It is evident that the two ranges are disjoint which shows that mean scores of the two populations of teacher trainees on this factor are different. This conclusion also corroborates with the
findings of t-test for comparing the two sample means (Table 4.10, page 103) on Factor G. The overall conclusion is that face-to-face mode teacher trainees were more conforming and moralistic than their distance counterparts.

However, the use of ANOVA (Table 4.55, page 143) showed that there was no influence of gender and marital status on factor G. 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.

Face-to-Face mode of education promotes friendly and social learning environment which improves human relationships, group cohesiveness and make the students more conforming and moralistic than DE mode students. Thus, for developing qualities related to factor G, DE is more appropriate than face-to-face mode of training.

7. 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. As evident from the figures the two intervals overlap and are equal for both face-to-face and DE mode trainees. The t-test used to compare the two means on factor H for the two groups also showed (Table 4.11, page 104) that the trainees under face-to-face mode and DE mode did not differ significantly. Both the groups were equally shy/ bold.

However, the ANOVA (Table 4.61, page 147) showed that 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.
Bold and venturesome behavior of DE female trainees may be due to their continuous interaction in their jobs and also majority of DE trainees are married and older in age than face-to-face trainees.

8. 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. In this case, the two confidence intervals are disjoint (non-over-lapping) showing that there is marked difference in factor I of trainees under the two modes of training, the mean score of DE mode trainees being more than the face-to-face trainees. This result has also been confirmed by t-test for comparing the mean scores on factor I for the two sample groups (Table 4.12, page 105). This shows that **DE mode teacher trainees were more tender-minded and emotionally sensitive than the face-to-face teacher trainees.**

It was confirmed from the findings of ANOVA (Table 4.67, page 151) that 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.

Thus, for developing qualities related to Factor I, DE is more appropriate than face-to-face mode of training.

9. 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. These confidence intervals are disjoint which shows that mean scores of the two populations of teacher trainees on this factor are different. Thus, **DE mode teacher trainees were more suspicious and doubtful than those under face-to-face mode trainees.** The t-test used to compare the mean score on factor L for the two groups also showed (Table 4.13, page 106) that scores on factor L of DE mode trainees were significantly higher than those under face-to-face mode.
The findings of ANOVA (Table 4.73, page 155) also showed that 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.

DE programmes have been used to train teachers with differing backgrounds at a variety of different levels and for different purposes. Under DE mode, methods of teaching depends on course material and limited contact programmes which may make them more suspicious and doubtful regarding their educational programmes. Thus, for developing qualities related to factor L, face-to-face is more appropriate than DE mode of training.

10. 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. In this case, the two confidence intervals are disjoint (non-overlapping) showing that there is marked difference in trainees under the two modes of training with respect to factor M. **DE mode teacher trainees were more imaginative and absent minded than those under face-to-face mode.** This result has also been confirmed by t-test for comparing the mean scores on factor M for the two sample groups (Table 4.14, page 107).

The findings of ANOVA (Table 4.79, page 159) revealed that 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.
Though, teaching practice is a common feature of teacher training course, it is poorly conceived, inadequately organized and under resourced in many DE programmes (Dove, 1986). It makes DE mode trainees more imaginative and absent-minded than the face-to-face trainees. Thus, face-to-face mode is a better option to make teacher trainees more practical rather than imaginative.

11. 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. It is evident that the two ranges are disjoint which shows that mean scores of the two populations of teacher trainees on this factor are different. This conclusion also corroborates with the findings on t-test for comparing the two sample means (Table 4.15, page 108) on Factor N. The overall conclusion is that face-to-face mode teacher trainees were more shrewd and socially aware than those under DE mode.

However, the use of ANOVA (Table 4.85, page 164) showed that 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.

It leads to the conclusion that face-to-face mode is a better choice than DE mode as far as social awareness is concerned.

12. The 95% confidence interval for mean scores on factor O (Self-assured vs. Apprehensive) 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. These confidence intervals are disjoint showing that DE mode teacher trainees had higher mean score on factor O than face-to-face mode trainees. The t-test used to compare the mean score on factor O for the two groups also showed (Table 4.16, page 109) that face-to-face mode teacher trainees were more apprehensive and insecure than their distance counterparts.

However, the findings of ANOVA (Table 4.91, page 168) revealed that there was no influence of gender and marital status on factor O. 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.

13. 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. In this case, the two confidence intervals are disjoint (non-overlapping) showing that there is marked difference in factor Q1 of trainees under the two modes of training, the mean score on factor Q1 of face-to-face teacher trainees being higher than the DE mode trainees. This result has also been confirmed by t-test for comparing the mean scores on factor Q1 for the two sample groups (Table 4.17, page 111). This shows that the face-to-face mode teacher trainees were more experimenting than the DE mode teacher trainees.

The findings of ANOVA (Table 4.97, page 172) showed that the face-to-face mode teacher trainees were more experimenting than the DE mode teacher trainees but, the difference was appreciable between the male trainees of both the modes. 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.

The level of instructor involvement is perhaps one of the most defining differences between face-to-face and DE mode. In face-to-face mode, the instructor generally delivers the content live and interacts with the students both in and outside class meeting whereas in DE programme the level of instructor involvement is very low. This may be the reason for more experimenting nature of face-to-face trainees in comparison to DE mode trainees.

14. 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. It is evident that the two ranges are disjoint which shows that mean scores of the two populations of
teacher trainees on this factor are different. This conclusion also corroborates with the findings of t-test for comparing the two sample means (Table 4.18, page 112) on Factor Q2. The overall conclusion is that **face-to-face teacher trainees were more self-sufficient and resourceful in comparison to DE mode teacher trainees.**

However, the use of ANOVA (Table 4.103, page 176) showed that the 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.

Teacher trainees under face-to-face mode interact frequently with their colleagues and instructors. They attend various seminars, lectures and learn different ways to enhance their teaching skills which make them more self-sufficient and resourceful than DE mode trainees. Thus, for developing qualities related to factor Q2, face-to-face is more appropriate than DE mode of training.

15. 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. It is evident that the two ranges are disjoint which shows that mean scores of the two populations of teacher trainees on this factor are different. This conclusion also corroborates with the findings on t-test for comparing the two sample means (Table 4.19, page 113) on Factor Q3. The overall conclusion is that **face-to-face mode teacher trainees were socially more precise and have strong control of their emotions than their distance counterparts.**

However, the use of ANOVA (Table 4.109, page 180) showed that the 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.
Majority of teacher trainees under face-to-face mode come from lower age group than DE mode trainees. Regular trainees are generally, not involved in familial and social obligations which make them socially precise and strong control on their emotions. Thus, for developing qualities related to factor Q3, face-to-face is more appropriate than DE mode of training.

16. 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. In this case, the two confidence intervals are disjoint (non-overlapping) showing that there is marked difference in factor Q4 of trainees under the two modes of training. This result has also been confirmed by t-test for comparing the mean scores on factor Q4 for the two sample groups (Table 4.20, page 115). This shows that **DE mode teacher trainees were more tense and frustrated than face-to-face mode teacher trainees.**

However, the use of ANOVA (Table 4.115, page 184) showed that the 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.

Majority of DE mode trainees are married and involved in service/jobs. They encountered various problems related to job, social and personal life which make them more tense and frustrated. Thus, for developing qualities related to factor Q4, face-to-face is more appropriate than DE mode of training.

5.2 **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. In this case, the two confidence intervals are disjoint (non-over-lapping) showing that there is marked difference in intelligence level of trainees under the two modes of training, the intelligence level of face-to-face teacher trainees being higher than the DE mode trainees. This result has also been confirmed
by t-test for comparing the mean intelligence scores for the two sample groups (Table 4.21, page 116). This shows that the **Face-to-Face mode attracts brighter students than the DE mode students as far as intelligence level is concerned.**

Main effect of training mode on intelligence level also supported the above finding. ANOVA (Table 4.121, page 189) showed that 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.

The difference in the intelligence level of face-to-face teacher trainees and their counterparts in distance education is understandable. It may be due to the reason that face-to-face trainees come from continuous courses whereas DE mode trainees have reassumed their studies after an interval. Married and unmarried trainees may differ in their intelligence level due to their social-personal activities and family obligations. However, **Singh and Chaturvedi (1996) reported that off-campus students scored higher on intelligence test than their on-campus counterparts.**

5.3 **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. As evident from the figures the two intervals overlap and the one for face-to-face mode is wider (less reliable) than that for DE mode trainees. However, the t-test used to compare the two means on professional attitude (Table 4.22, page 117) shows that **face-to-face mode of training develops a more favourable attitude towards teaching than the DE mode.**

The main effect of training mode also showed that regular trainees develop more favourable attitude in comparison to their counterparts. Professional attitude of
female and male teacher trainees was same. Married and unmarried trainees did not differ significantly on professional attitude. However, the use of ANOVA (Table 4.127, page 193) showed that 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.

The attitudinal difference towards teaching profession between face-to-face and DE mode teacher trainees may be due to the fact that during the B.Ed course, face-to-face trainees have a regular association and interaction with the teacher-educators who keep on developing their attitudes towards teaching on day to day basis but DE mode trainees depend mainly on their course material and have comparatively less interactions with their teachers and colleagues. In consonance with the results of the present study, in the earlier studies also, Garg and Gakhar (2011) and Ramchandran (1991) found that face-to-face teacher trainees have more favorable attitude towards teaching than the DE mode trainees.

5.4 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. These confidence intervals are disjoint showing that DE mode teacher trainees had a better/higher socio-economic background than face-to-face mode trainees. The t-test used to compare the mean score on SES for the two groups also showed (Table 4.23, page 119) that socio-economic background of trainees under DE mode was significantly higher than those under face-to-face mode.

The main effects of ANOVA (Table 4.133, page 198) revealed that 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 ANOVA leads 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 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.

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 face-to-face trainees being full-time learners are dependent on their guardians. However, Garg and Gakhar (2011) found no significant difference in the socio-economic background of teacher trainees under both the modes.

5.5 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. These confidence intervals are disjoint showing that face-to-face mode teacher trainees had a better/higher academic background than DE mode teacher trainees. The t-test used to compare the mean scores on academic background for the two groups of trainees also showed (Table 4.24, page 120) that 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.

However, the use of ANOVA (Table 4.139, page 202) showed that the 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.

5.6 Educational Implications

Researches of all kinds are directed towards the goal of discovering new knowledge about nature which might be utilized for making the human living more comfortable.
A research study can be considered relevant and meaningful if the findings of it are useful to solve that particular problem and also helpful in solving related problems. In the context of distance mode of education nearly all research investigations are directed towards generating new knowledge which might be helpful in improving teaching learning practices, teacher trainees related problems, admission procedures, curriculum etc.

A research study must help in this objective by providing innovative theories related to distance mode of education. In the present study, the investigator has made an attempt to study certain selected variables of teacher trainees under face-to-face and distance mode of education. Although the investigator does not claim to have made an exhaustive study of the problem in question, yet it is emphasized that various aspects of the problem have been examined as extensively and deeply as possible. 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) *It is seen in previous chapter that DE mode teacher trainees are more warm, good-natured, enthusiastic and tender-minded than the face-to-face teacher trainees.* It may be due to the fact, that DE mode teacher trainees are already in teaching profession and have certain duties and responsibilities towards their profession which brings positive change in their behavior. Teaching job reshapes 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) *Another related finding is that teacher trainees under DE mode are more suspicious, impractical, tense and frustrated than the teacher trainees under face-to-face mode.* Regular trainees give more time and attention to their subjects. Their contact with teachers is frequent, sharing of knowledge in classroom is on regular basis so they have
very clear concepts of different subjects. But, DE trainees get meager
time to have a contact with their tutors. Therefore, their vision and
understanding of subjects is very limited. One possible explanation of
this finding is the background of DE mode teacher trainees. 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) *It is reported in findings that face-to-face teacher trainees are more
assertive, moralistic and rule-bound than their distance counterparts.*
Environment of the institution plays a significant role in inculcating
various qualities in an individual. Face-to-face trainees are in regular
contact with their teachers and are bound to follow the norms of the
institution. 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 also necessary to get
effective and meaningful communication for revising the structure and
effectiveness of distance education.

(iv) *While comparing the trainees under the two modes on personality
factors, it was found that regular trainees are more experimenting,
apprehensive and diplomatic than their distance counterparts.* 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 PCP centres. It will make DE
program more effective, interactive, and even more attractive.
(v)  **Teacher trainees under the two modes of training are compared on personality factors. It is found that distance mode teacher trainees are more imaginative and absent-minded than regular trainees.** 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. Institutions should have a proper networking for wide and rapid delivery of materials. This can be done by optimum utilization of postal networks, modern and indigenous technologies, proper selection of time to broadcast/telecast of the programme, awareness campaigns, advertisements and collaborating with local agencies.

(vi)  **It is seen in previous chapter that face-to-face teacher trainees are more intelligent and have favourable attitude towards teaching in comparison to distance mode teacher trainees.** Since academically poor 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. It may be possible that certain type of learning objectives may not be amenable to satisfactory level of achievement through distance mode. 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.

(vii)  **It is also reported in earlier findings that face-to-face teacher trainees are more self-sufficient and resourceful than DE mode trainees.** As many evaluations acknowledge, large number of DE trainees on programmes are studying while working, with little local face-to-face support or supervision. Other local level difficulties are: delays in delivering study materials, difficulties in recruiting appropriate local tutors and teaching practice supervisors, low participation in tutorial sessions which make them comparatively less sufficient and resourceful than face-to-face trainees. By overcoming above difficulties, DE can lead to active learning, learner-centered approaches, the growth and personal development of individual learners rather than the transmission of information alone.

(viii) **An important finding is that the DE mode trainees have significantly better socio-economic background than the teacher trainees of face-to-face mode.** 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.

(ix)  **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. If academic and physical inputs are sufficient and the state needs more trained teachers, number of seats can be increased.
Male teacher trainees, on one hand, are more easy-going, spontaneous, bold and refined than the female teacher trainees but, on the other hand, they are more tense and frustrated than their female counterparts. Another finding leads to the result that female trainees are more absorbed in thought, have more ego strength, more polished, competitive and distrustful behavior than the male teacher trainees. 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.

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.

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.

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.
In some countries DE is being given a coherent, recognized and supported role within government policies in education and communications. The dramatic expansion in the use of new information and communication technologies has brought DE centre-stage. DE has been used to provide appreciable programmes in teacher education: initial teacher education, continuing professional development, to reorient teachers for curriculum reforms and to support career development.

Distance Education is a helping hand to conventional mode in teacher education as it:

- provides formal and non-formal programmes and activities extending teachers’ knowledge, skills and expertise throughout a teacher’s working life.
- reorients teachers to new teaching strategies and the use of information technology.
- conducts programmes to extend the careers of qualified teachers.
- raises awareness, understanding and interest among teachers and other educators in the community.

**Implications for Further Research**

Although suggestions for further research have been adequately reflected above while discussing the educational implications of the conclusions drawn in the study, still an attempt has been made to suggest areas/topics for further research related to the theme of this research:

(i) Due to limitation of time and certain other factors only one University of Distance mode and one of Conventional mode was taken by researcher for comparing students trained through distance and conventional mode. Hence, the results of this study may not 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.