Chapter-5

RESULTS AND DISCUSSION
CHAPTER - 5

RESULTS AND DISCUSSION

The analysis of data and discussion of results has been accomplished in order to test various hypotheses as formulated earlier in chapter 1. Data have been analysed through analysis of variance followed by 't'-ratios wherever necessary. For the purpose of examining the effectiveness of competency based and commitment oriented curriculum (CBCO) in the present chapter (CBCO Curriculum) the traditional syllabus and method of its teaching have been compared on four criterion variables, namely, teacher trainees' (a) achievement in School Organisation, (b) Skill-in-teaching, (c) Community work, and (d) their attitude towards teaching profession.

The first criterion variable i.e., achievement in School Organisation was included in the study in view of the fact that academic achievement remains at top priority while assessing the teaching learning process in the colleges of education. The criterion variables of Skill-in teaching and Community work are important sub parts of CBCO Curriculum as also do contribute to the overall certification of the B.Ed. degree. The importance of attitude towards teaching as a criterion variable for examining effectiveness of innovative curriculum/ teaching strategies etc. has been frequently taken up in research studies by Natrajan (1984), Dutta (1990), Gupta (1991), Gor (1992)... Singh (2005).

The data were in the form of marks obtained by the experimental group and the control group in the examination in the theory paper of School Organisation conducted by Guru Nanak Dev University, Amritsar, (b) marks in the skill-in-teaching examination conducted by the same university, (c) marks obtained internally their performance on various
aspects relating to the community work during the academic session in which this study was carried out, and (d) attitude scores on Ahluwalia Teacher Attitude Inventory (TAI 1978) administered at the end of the treatment to both the groups that is the experimental and the control group.

In order to test various hypotheses, discussion of results has been taken up along with the description of results under four sub-headings, namely (1) competency based and commitment oriented curriculum achievement in School Organisation, (2) Skill-in-teaching and CBCO Curriculum, (3) Community work and CBCO Curriculum and (4) Attitudes. While discussing results, the code CBCOC has been quite often used for competency based and commitment oriented curriculum which is inclusive of both content and methodology.

CODES OF TERMS USED IN THE PRESENT STUDY

<table>
<thead>
<tr>
<th>Term code</th>
<th>Name of the Term</th>
</tr>
</thead>
<tbody>
<tr>
<td>CBCO</td>
<td>Competency based and commitment oriented</td>
</tr>
<tr>
<td>SO</td>
<td>School Organisation</td>
</tr>
<tr>
<td>CG</td>
<td>Control Group</td>
</tr>
<tr>
<td>EG</td>
<td>Experimental Group</td>
</tr>
</tbody>
</table>

Table 5.0

5.1 CBCO Curriculum and achievement in School Organisation (Theory)

Marks of the subjects in the paper of School Organisation in which prospective teachers appeared at the time of annual examinations held by the Guru Nanak Dev University, Amritsar were taken as the relevant data pertaining to the first hypothesis of the study, i.e., :

The academic achievement of teacher trainees taught through Competency Based and Commitment Oriented Curriculum of school organisation is
significantly greater than the achievement of their counterparts taught through traditional curriculum.

The data were submitted to calculation of mean and SD of scores in the paper of school organization of both the categories of subjects - experimental group and the control group. In case of the Experimental Group of subjects the Mean was found to be 24.47 and the Standard Deviation was 2.53. In the case of Control Group the Mean score was found to be 22.47 with Standard Deviation equal to 2.60. Then t-test was applied in order to see whether the difference in the two means was significant or not. The statistical significance of the t-ratio arrived at was seen in terms of at least 0.05 level of significance.

**SCHOOL ORGANISATION**

<table>
<thead>
<tr>
<th>Groups</th>
<th>Number</th>
<th>Mean</th>
<th>S.D.</th>
<th>t-ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experimental</td>
<td>73</td>
<td>24.47</td>
<td>2.53</td>
<td>3.82</td>
</tr>
<tr>
<td>Control</td>
<td>36</td>
<td>22.47</td>
<td>2.60</td>
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</tr>
</tbody>
</table>

**TABLE - 5.1**

Value significant at .05 level (*) = 1.98.

Value significant at .01 level (**) = 2.62.

Results are entered in Table 5.1. The application of the t-test revealed the value of ‘t’ equal to 3.82, which is significant at .01 level of significance.

It needs to be stated here that for the Experimental Group the curriculum of the School Organisation was converted into Competency Based and Commitment Oriented mould and the group was taught accordingly.
through self-learning instructional materials. The control group was taught
the subject of School Organisation in accordance with traditional syllabus
(assumed to be non-competency based and non commitment oriented). By
using the traditional approach (Lecture method) as in vogue in the
traditional classroom teaching.

The comparison of the values of mean shows that difference in the Mean
scores on achievement in School Organisation of the two groups of
subjects is in favour of the Experimental Group which further clearly
reveals the effectiveness of the CBCO curriculum in respect of
achievement (theory) in the School Organisation subject. The Group
taught by the Modular approach envisaged in the CBCO Curriculum
focussing on competencies and commitments performed significantly
better than the control group taught through traditional approach.

Results do indicate that if the objectives of curriculum transaction are
pursued through integration of competencies and commitments in the
syllabus. The outcome of the pursuit is significantly higher than when
efforts are made to achieve the same objective by the adoption of
traditional approach of teaching. It is recognized that the use of CBCO
approach in teaching provides for greater activity and involvement of
students for carrying out their learning activities than the use of the
traditional approach. These opportunities to carry out their learning
activities continuously on the CBCO lines, in all probability generates
higher level of motivation than the levels among the learners in traditional
method wherein classroom activities are kept geared around the teacher
and the content. Other things being equal, the higher the motivation, the
higher the achievement.

In the present study other things were presumed to be equal because all the
teacher trainees stood almost fully equated in terms of their earlier
academic merit. In the present experimental study, the noteworthy
functional difference between the two groups of subjects related to the use
of CBCO approach in teaching the subject of school organisation. Perhaps
it can be safely asserted that the higher achievement of the experimental group in the theory examination relating to the paper of school organisation was due to the focussed attempt on inculcating the content competencies, competencies related to other educational activities, management competencies and a sense of professional commitment carrying out of the teaching learning activities on the CBCO lines throughout the academic session.

The competencies and commitments a well-integrated in the curriculum of School Organization encompassed different types and levels of knowledge, skills and attitudes and behaviour patterns as means of transmission of what was desirable both for the prospective teachers as well as the society. To achieve these objectives the modular curriculum represented a systematic collection of desirable experiences, knowledge, skills and values. Pre-service teachers actively participated in the self-study, group activities, mass activities and programmes, individual activities, social work, dramatics, role play, writing articles for magazine, exhibitions etc. Self-searching and self-learning helped the prospective teachers in their achievement while appearing in the annual examination.

The CBCO curriculum broke the routine and drudgery of lecture method through a shift from 'content' to the 'process' of learning and attempted the prospective teachers with a focal point that Indian children who will be a part of the society of tomorrow and will fight for national reconstruction with commitment, pride, dedication and readiness for sacrifice are to be taught with competency and commitment to the learner, commitment to the profession, commitment to the society, commitment to achieve excellence and commitment to basic human values. In the light of these hypotheses stands accepted.

(1989), Sinha (1990), Pandya (1991), Sharma (2000) are in line with the findings of the present study.

![School Organisation](image)

Figure 5.1

5.2 **CBCO Curriculum and achievement in Skill-in-teaching**

The second hypothesis of study was tested on the basis of marks obtained by the experimental group and the control group in the skill-in-teaching examination.

The competency based and commitment-oriented curriculum is more effective than the traditional curricular approach of teaching in skill-in-teaching examination.

Mean and S.Ds of both the scores obtained by Experimental Group and the Control Group in Skill-in-teaching were worked out along with calculations of t-ratios in order to ascertain how far the difference in two means was significant. Table 5.2 shows these results.
SKILL IN TEACHING

<table>
<thead>
<tr>
<th>Groups</th>
<th>Number</th>
<th>Mean</th>
<th>S.D.</th>
<th>t-ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experimental</td>
<td>73</td>
<td>134.18</td>
<td>7.61</td>
<td>11.01</td>
</tr>
<tr>
<td>Control</td>
<td>36</td>
<td>120.75</td>
<td>5.00</td>
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</table>

Value significant at .05 level (*) = 1.98.
Value significant at .01 level (**) = 2.62.

The application of the t test submitted $t = 11.01$ which is significant at 0.01 level of significance. In case of the Experimental Group of subjects the Mean was found to be 134.18 (S.D. = 7.61) and whereas for the Control Group the Mean score was found to be 120.75 (S.D. = 5.00). Further the values of mean show that these results are clearly in favour of the experimental group.

In other words the CBCO Curriculum of School Organization directed towards the development of teacher competencies and commitments, not only increased the marks in theory paper but also facilitated various skills of teaching such as questioning, motivating, initiating, discussing, demonstrating, developing, illustrating, Black Board writing and sketching. Recapitulating and revising in the teaching learning process in the subject of School Organization on CBCO lines was not only more productive in terms of academic achievement but also in Skill-in-teaching than the use of traditional approach of instruction. Active self-learning focused on competencies and commitments, thus can have positive cascading effect over other areas of learning with which pupils may be
concerned. It would not perhaps be wrong to assert that teaching-learning on CBCO lines is not simply a process of self-learning but is also a process of self-teaching which is transferred to the classroom teaching by the prospective teachers. It also needs to be clearly stated here that the competencies and the commitments that a teacher trainee is expected to have for her functional efficiency and professional excellence in the skill-in-teaching are adequately and comprehensively emphasized in the CBCO Curriculum which incorporated competencies.

The CBCO approach included abilities to manage resources – productively allocate time and material work with others – cooperate with team, lead and teach others, organise and manage information, work with a variety of technologies. Similarly in order to improve effectiveness of pre-service teachers Basic Skills – reading, writing, reasoning, listening and speaking are also taken care of in CBCO Curriculum with modular approach. Thinking Skills – creative thinking, decision-making, problem solving and seeing things in the mind’s eye, knowing how to learn and reasoning also find a place in the curriculum. Competencies such as Personal Qualities – individual responsibility, self-esteem, sociability, self-management and integrity, foundation skills such as creative thinking, working in groups and integration of technologies and tools which have seldom been a part of traditional classroom work were refreshing. Thus the hypothesis prove to be true.

5.3 CBCO Curriculum and Achievement in Community Work

Scores obtained by subjects of experimental and controlled group on the basis of their performance relating to the community work in internal examination held during the academic session 2000-2001 were taken as the relevant data in connection with the third hypothesis of the study.

The mean scores of both the groups of subjects were computed along with respective standard deviations. t-test was applied to discover how far the difference means of the two groups of subjects (Experimental group and the Control group) was significant in respect of the criterion of a performance in community work.

The application of the test revealed a value of 3.22 as the 't' ratio, this was significant at 0.01 level of significance. Results entered in table no.5.3 show that in case of the Experimental Group of subjects the Mean was found to be 44.29 with Standard Deviation equal to (3.55), Mean score of the control group was found to be 41.97 with Standard Deviation equal to (3.54).
COMMUNITY WORK

<table>
<thead>
<tr>
<th>Groups</th>
<th>Number</th>
<th>Mean</th>
<th>S.D.</th>
<th>t-ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experimental</td>
<td>73</td>
<td>44.29</td>
<td>3.55</td>
<td>3.22</td>
</tr>
<tr>
<td>Control</td>
<td>36</td>
<td>41.97</td>
<td>3.54</td>
<td></td>
</tr>
</tbody>
</table>

**TABLE - 5.3**

Value significant at .05 level (*) = 1.98.
Value significant at .01 level (**) = 2.62.

Thus the value of mean achievements in community work is in favour of the experimental group.

The process of teaching learning of experimental group was carried out with the help of CBCO Curriculum characterised by integration of competencies such as - competencies related to activities other than educational, management competencies, competencies related to working with community and other agencies and commitments such as - commitment to the society, commitment to achieve excellence and commitment to basic human values. This seems to have generated lot of motivation, commitment and zeal for the community work.

As one critically goes through the contents of theory paper and the nature of operations prescribed for undertaking the Community work at B.Ed. level such as participation in college functions, co-curricular activities, cleanliness and beautification of campus, scouting, girl-guiding, N.S.S., helping the disabled, donating blood and social service in hospitals, health centres etc., one is reasonably convinced to infer that the various types of
commitments and competencies integrated into the curriculum and taught through self-learning modules are more in tune with the activity oriented items of the syllabus in question than with the abstract items in the traditional approach. This difference seems to have led to the difference in achievement of the two groups in the assessment of their Community Work.

Commitment towards basic values means commitment to open-mindedness, objectivity, impartiality, hardwork, cooperation and collegiality. Commitments can be developed provided the appropriate strategies and mechanisms are used. The Noble Prize Winner Sir John Eccles has said that, like language learning values can also be learned and this applies well to commitment (Jareonseltasin 2000). Most of pre-service teacher education programme concentrate on teaching of theoretical concepts relating to learning, instruction, motivation, group processes, evaluation, statistics etc. As a matter of fact there is a lop-sided emphasis on the theory component, with almost a total neglect to commitment. Programmes relating to community participation undertaken by pre-service teachers require commitment towards basic value of sharing, tolerance, respect for other point of view, co-operation, objectivity, regularity, punctuality etc. These values were inculcated in the pre-service teachers of the experimental group by CBCO curriculum.

Co-curricular activities become an important tool to develop commitment with imaginative planning. Organisation of co-curricular activities was done in the teaching learning of many lessons in the area of professional commitment through competency based and commitment oriented curriculum of School Organisation. The experimental group passed through the experience of observing these values. While doing so the teacher educator that is the researcher herself with synergetic efforts implemented the competency based and commitment oriented curriculum of School Organisation. The findings of the studies of Pal (1981), Satrusalhya (1991) are also close to the results obtained in the present study.
In the light of these results, the third hypothesis, "Competency Based and Commitment Oriented Curriculum approach as compared to the traditional approach is significantly more effective in transacting the knowledge and skills in working with the community as reflected in the achievement of prospective teachers in the field of Community Work," stands accepted.

![Figure 5.3](image)

5.4 CBCO Curriculum and Attitude towards Teaching

The relevant data for testing the fourth hypothesis of the study consisted of the attitude scores of both experimental group and control group of subjects on the Teacher Attitude Inventory (TAI) at the end of the treatment period.

To test the bearing of the data on the said hypothesis, the means and SDs of the scores of experimental and control group on the attitude towards teaching were computed. In case of the experimental group of subjects the mean was found to be 276.77 with S.D of 16.43 and Control Group's mean score was 274.39 with a value of 14.65 as S.D. Value of t ratio is equal to
0.76 which is not significant at any statistical level. These results are entered in table no.5.4 below:

### ATTITUDE TOWARDS TEACHING

<table>
<thead>
<tr>
<th>Groups</th>
<th>Number</th>
<th>Mean</th>
<th>S.D.</th>
<th>t-ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experimental</td>
<td>73</td>
<td>276.77</td>
<td>16.43</td>
<td>0.76</td>
</tr>
<tr>
<td>Control</td>
<td>36</td>
<td>274.39</td>
<td>14.65</td>
<td></td>
</tr>
</tbody>
</table>

Value not significant at any level.

**TABLE - 5.4**

Results show that no significant differences between the experimental and control Group of subjects prevail. The overall trend however, shows that the Experimental Group had more favourable attitude as measured by the Teacher Attitude Inventory (TAI 1978).

Attitude towards any profession is determined by a number of complex and interwoven factors such as one’s environment, experiences, interests, exposure to various situations, family background, values, personality etc. that is through a variety of curricular and co-curricular activities designed for development of competencies, commitments and positive attitude with special emphasis on innovation and initiative. Results of the study are indicative of that attitudinal changes cannot be promoted through a single course of instruction in a limited time. These should form an integral part of all programmes and activities throughout the academic course of pre-service teachers in a college of education to enable the prospective teachers to see and find out which of dimensions of attitude need change or modification. Secondly, the teacher-trainees in the college, where this experimental study was carried out, were admitted on the basis of their
merit in the entrance test, which was held for admission to all colleges in
the state of Punjab. This test is inclusive of teaching potential part. It
stands to reason to hold that those admitted to the said colleges would not
have done so if they had been negatively inclined towards the teaching
profession. Their mean scores when matched with the percentile score
given in the manual of Teacher Attitude Inventory (TAI, 1978) by
Ahluwalia show a fairly high favourable attitude towards the teaching
profession.

This logically leads to the conclusion that the teaching of the contents of
only one paper of the School Organisation even in the competency based
and commitment oriented mould made only negligible difference so far as
the attitude towards teaching profession was concerned. As already stated
attitude formation in human beings is influenced by numerous factors, a
few of which perhaps are always difficult to visualize. Attitude formation
and change takes considerably long time. In the setting of this
experimental study, all the factors influencing the teacher-trainees were by
and large the same. The only exception was the experience of the members
of the experimental group in carrying out their learning activities on
CBCO lines and that experience too was limited to one theory paper for
one academic session in question. And significant variation between the
two groups of the subjects with regard to their attitude towards the
teaching profession failed to materialise during this period particularly
when the attitude towards teaching happens to be a criterion in their
selection for both the groups. Hence, there is a need to integrate the
attitudinal dimension in all the curricular and co-curricular activities of the
profession training given to the prospective teachers throughout the
session.

The researcher could not lay her hands on any other study the result of
which can be deemed to be directly in harmony with the findings of this
study. Results are reported by Natrajan (1984), Dutta (1990), Gupta (1991)
and Gor (1992) in their studies incorporating various innovative strategies
do not fall in line with the findings of the present study.
However, studies of Purohit (1987), Asija (1990) indicate similarly of results with those of the present study. Thus the fourth hypothesis that, "As compared to Traditional curriculum, the Competency Based and Commitment Oriented Curriculum is significantly more effective in the development of favourable attitude towards teaching profession," stands accepted.

![Attitude Towards Teaching](image)

Figure 5.4

In the light of results and discussion as submitted above the following conclusions can be drawn.

### 5.5 Conclusions of the study

Competencies namely content competency, competency related to educational activities, management competency, competency related to community contact and competency related to parental contact and cooperation can be successfully and effectively integrated into the School Organisation content of the curriculum through self instructional materials.

The syllabus of School Organisation for B.Ed. Class can be made more effective by including the inputs of commitments that is commitment to the learner, commitment to the society, commitment to the profession,
commitment to achieve excellence and commitment to basic human values.

CBCO approach of teaching learning is more favourable and effective in respect of the mean achievement on three of the four criterion variables, namely, academic achievement, Skill-in-teaching community work and community work.

Facilitating positive attitude towards teaching needs more intensive and extensive treatment of integrating various competencies and commitments in the curriculum of the B.Ed. particularly when prospective teachers are admitted on the basis of entrance test containing their achievement in teaching potentials.

On all the three out of four criterion variables, that is academic achievement, Skill-in-teaching, and community work the group taught by the CBCO curriculum consistently out performed the control group, which was taught by the traditional method.

Lastly, in respect of attitude towards teacher although the result trend of mean scores shows that the experimental group taught by CBCO curriculum developed more positive attitude as compared to the control group of teacher trainees, these results suggest that CBCO approach produces most beneficial results among pre-service teacher trainees.