

**FACILITIES AVAILABLE TO STUDENTS AND  
TEACHERS FOR STUDY AND WORK IN  
HIGHER SECONDARY SCHOOLS  
OF WEST BENGAL**

**AN EDUCATIONAL SURVEY**

**PRELIMINARY REPORT No. 1  
Calcutta and 24-Parganas**

**P. K. BOSE AND P. K. BANERJEE**



**DEPARTMENT OF STATISTICS  
UNIVERSITY OF CALCUTTA**

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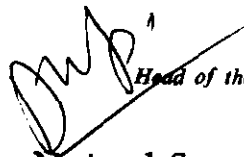
## FOREWORD

Recently important changes have taken place in the systems of education prevailing in schools and colleges through the introduction of multipurpose higher secondary programme of studies in schools and three year degree course in colleges. A reasonably rapid and smooth replacement of the old courses by the new ones involves many difficulties. And it will be of great value to study the extent to which requisite facilities for study and work have been made available to the student and the teacher, both in the school and in the college. It is for this reason the department of Statistics, Calcutta University, initiated in August 1960 a statistical enquiry into the existing facilities for teaching in the higher secondary schools of West Bengal.

With a small grant from the Calcutta University a humble start was made; more than two districts could not be covered in the first round and a comprehensive study could not be made. With the publication of the present report we complete the first of a series of reports on our investigation. This report gives the findings of the survey in Calcutta and 24-Parganas. Field-work is complete for three more districts and is gradually progressing in other districts. It is hoped to cover the schools in all the districts of West Bengal and then to extend the enquiry to the colleges in the state.

The entire planning and execution of the survey as well as the preparation of the report were done by the members of the staff and the students of the department of Statistics with the technical assistance of Shri S. P. Mukherjee, a research fellow.

UNIVERSITY OF CALCUTTA  
September, 1961

  
P. K. Bose  
Head of the Department of Statistics

**Sub. National Systems Unit,  
National Institute of Educational  
Planning and Administration  
17-B, SriAurobindo Marg, New Delhi-110016**  
DOC. No. R-6505  
Date.....11-3-92

# FACILITIES OF TEACHING IN HIGHER SECONDARY SCHOOLS IN WEST BENGAL

## *Calcutta and 24-Parganas*

The problems of education in general and secondary education in particular have in recent years come to the forefront in our country. There is clear evidence of keen interest

**Introduction** being shown by the people all over the country in educational reforms. The system of secondary education that was prevalent for many decades was a 'single track' one leading only to universities without catering for the vocational needs of the students and for a long time there were strong criticisms against it. The question of providing various types of courses of studies at the secondary stage for students with different aims and capabilities and also making the secondary stage 'more practical and complete in itself' was under the careful consideration of the central and state governments, different universities and boards of secondary education in different states. In 1952 the Government of India appointed the Secondary Education Commission 'to examine the prevailing system of secondary education in the country and suggest measures for its reorganization and improvement.'<sup>1</sup> The Commission in its report suggested a number of recommendations for change and improvement of the system of secondary education. On the basis of these recommendations important changes are taking place in the field of education. Recently it has been decided to change over from the old unilateral system of secondary education to one (higher secondary course) that will provide diversified courses of studies at the secondary stage and to introduce three year degree course in colleges. The existing high schools in West Bengal are being gradually converted into (higher secondary) multipurpose type since 1957 and necessary changes are also being introduced in the colleges.

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<sup>1</sup> Report of the Secondary Education Commission, *Government of India, Ministry of Education*, p. 1.

Replacement of the old system of courses by the new one involves great difficulties for the authorities concerned. Arrangements have to be made for teaching science and technological subjects for which well equipped laboratories and workshops should be set up. Small museums are to be established in schools. Efficient teachers are to be appointed (and not on a disappointing scale of pay). Tutorial classes and periodical examinations are to be held regularly. Library facilities have to be improved and further extended and many other innovations are to be introduced. All these pose difficult problems before the educational institutions. It is not possible to convert all the existing high schools to higher secondary schools simultaneously. But it is needless to emphasize that this change of system should take place as quickly and as smoothly as possible.

It will be useful, if it is possible to find the extent to which the newly upgraded higher secondary schools are extending facilities for study and work to their teachers and students. It is for this reason that in August 1960 the Department of Statistics, Calcutta University, initiated with the approval of the Board of Secondary Education, West Bengal, a fact-finding survey to study the facilities available to students and teachers for study and work in the higher secondary schools of West Bengal.

There were 563 higher secondary (Class XI) schools and 1296 high (Class X) schools in West Bengal, when the survey was started. It is expected that in the course of the next few years a large number of high (Class X) schools will be upgraded to higher secondary schools. The present survey which is expected to be completed by 1963 will be confined to the existing higher secondary schools and to the schools that will be upgraded during the period of the survey.

After necessary preliminaries the field investigation started in August 1960 and was carried out by the post-graduate students of the Department of Statistics. The investigators collected information by interviewing the heads or some responsible members of the staff of the institutions selected for the purpose of the survey. Information collected so far relate to 26 boys' schools and 23 girls' schools

selected at random from the respective totals of 44 boys' schools and 39 girls' schools in Calcutta and to 40 boys' schools and 15 girls' schools selected at random from the totals of 67 boys' schools and 24 girls' schools respectively in the district of 24-Parganas. Barring two exceptions one in Calcutta and the other in 24-Parganas—all the schools included in the sample furnished information sought, although lacking completeness in some of the cases. The discussions in the present report, which is an interim one, are based on the data collected from these 104 schools in Calcutta and 24-Parganas.

In this connection it may be noted that when the data were collected there were 94 and 65 high schools for boys and girls respectively in Calcutta, numbers of high schools for boys and girls in 24-Parganas being 223 and 78 respectively. Of these, 20 boys' and 8 girls' schools in Calcutta, and 37 boys' and 9 girls' schools in 24-Parganas have been recently upgraded to higher secondary schools.

Collection of data was made possible by the help and co-operation extended to the investigators by the heads of the institutions surveyed. To all of them the authors express their sincere thanks. The authors are grateful to the Administrator, the Secretary and the senior officers of the Board of Secondary Education, West Bengal for their valuable suggestions and constant encouragement and for issuing a circular letter to the heads of the institutions requesting them to co-operate with the investigators. They take this opportunity to thank the students of the Department of Statistics, Calcutta University for the voluntary service rendered by them in field investigation. Thanks are due to Shri B. Das, Shri A. Sett, Shrimati D. Roy, Shri S. P. Mukherjee and Shri S. Ganguly for their help and assistance in arranging the field work and analysing the data. The authors also acknowledge with thanks the great help they have received from their colleague Prof. H. K. Nandi in all stages of the survey.

The schools from which data were collected were selected in a stratified random manner. The schools in each district were classed into two groups—boys' schools and girls' schools.

**Sampling Design** From each such group (stratum) about 60% of schools were selected as shown in Table 1. The total numbers of higher secondary schools for girls in 24-Parganas and

in Calcutta are respectively 24 and 39. The total numbers of boys' schools in 24-Parganas and in Calcutta are respectively 67 and 44.

TABLE 1 : *Number of Schools in Different Strata and Number in the Sample.*

| Stratum           | Total number of schools | Number in the sample | Sampling fraction |
|-------------------|-------------------------|----------------------|-------------------|
| Calcutta Boys     | 44                      | 27                   | 0.61              |
| Calcutta Girls    | 39                      | 23                   | 0.59              |
| 24-Parganas Boys  | 67                      | 41                   | 0.61              |
| 24-Parganas Girls | 24                      | 15                   | 0.63              |
| Total             | 174                     | 106                  |                   |

*N. B.* Of the 106 schools in the sample, data could not be collected from two schools : one from Calcutta Boys' Schools and another from 24-Parganas Boys' Schools. Complete information could not be collected from some of the remaining schools.

Prior to the middle of the thirties, English was the medium of instruction in higher classes of schools in most of the states and the students had to answer in English in non-language subjects at the final examination. Students who did not possess special aptitude for languages faced great difficulties in their studies. The importance of mother-tongue, the natural medium of instruction at this stage need not be emphasized. The medium of instruction at present is generally the mother-tongue and nearly all the students now answer in their mother-tongue at the final examination. But in exceptional circumstances English or Hindi is the medium of instruction in some schools. The data of the present survey reveal that Bengali is the medium of instruction in all the schools selected in 24-Parganas. But there are some schools in Calcutta with Hindi or English as the medium of instruction. This is quite natural in view of the cosmopolitan character of Calcutta. Calcutta is a great centre of commerce and industry. People from different parts of India come to the city and a large proportion with their families. Students belonging to such families may have difficulty in taking to Bengali, the regional language. The percentage of boys' schools in Calcutta where Bengali is the only medium of instruction is 69.2, while in 19.2% of boys' schools in Calcutta Hindi is the only medium of instruction (Table 2). The corresponding

percentages for girls' schools in Calcutta are 60.9 and 4.3. In 4.3% of girls' schools Bengali or Hindi is the medium of instruction. English is used as the only or as an alternative medium of instruction in 11.6% of boys' schools while the percentage is as high as 30.3 among girls' schools.

TABLE 2 : *Medium of Instruction*

| Medium of instruction     | Number of schools |           |             |            | Total      |
|---------------------------|-------------------|-----------|-------------|------------|------------|
|                           | Calcutta          |           | 24-Parganas |            |            |
|                           | Boys              | Girls     | Boys        | Girls      |            |
| Bengali                   | 18 (69.2)         | 14 (60.9) | 40 (100.0)  | 15 (100.0) | 87 (83.7)  |
| Hindi                     | 5 (19.2)          | 1 ( 4.3)  | 0           | 0          | 6 ( 5.8)   |
| English                   | 2 ( 7.7)          | 3 (13.0)  | 0           | 0          | 5 ( 4.8)   |
| Bengali and Hindi         | 0                 | 1 ( 4.3)  | 0           | 0          | 1 ( 1.0)   |
| Bengali and English       | 0                 | 2 ( 8.7)  | 0           | 0          | 2 ( 1.9)   |
| Hindi and English         | 1 ( 3.9)          | 1 ( 4.3)  | 0           | 0          | 2 ( 1.9)   |
| Bengali, English and Urdu | 0                 | 1 ( 4.3)  | 0           | 0          | 1 ( 1.0)   |
| <b>Total</b>              | <b>26</b>         | <b>23</b> | <b>40</b>   | <b>15</b>  | <b>104</b> |

*N. B.* Figures in parentheses indicate percentages in all tables.

Curriculum in secondary schools was the subject of criticism for a long time. Recently important changes have been made in the curriculum of secondary education. The curriculum followed in higher secondary schools in West Bengal consists of :

**The New Curriculum**

(a) (i) *First Language*—One to be chosen from Bengali, English, Hindi, Nepali or Urdu or a composite course of a recognized language and elementary Hindi.<sup>2</sup>

<sup>2</sup> Details about the first language are given in Curriculum and Syllabuses for the Higher Secondary Course, *Board of Secondary Education, West Bengal*, p. 1.



(ii) *Second Language*—English ( for students who do not offer English as first language ) or Bengali ( for students offering English as first language).

(iii) *Third Language*\*—One to be chosen from Hindi, Bengali or a recognised classical language.<sup>3</sup>

(b)\* (i) Social studies.

(ii) General Science.

(iii) Elementary Mathematics.

(c)\* One craft.<sup>4</sup>

(d) Three elective subjects belonging to any one of the following groups<sup>5</sup>—Humanities, Science, Technical, Commerce, Agriculture, Fine Arts and Home Science.

Table 3 gives information about languages taught. In 24-Paragnas Bengali is the first language and English is the second language in all the schools selected for this survey. But **Languages Taught in Secondary Schools** Hindi, Urdu or English is either the only or the alternative first language in 23.1% of boys' schools and in 30.3% of girls' schools in Calcutta. This is what one expects in Calcutta. In 76.9% of boys' schools and 69.6% of girls' schools Bengali is the only first language, the corresponding percentages for Hindi being 19.2 and 8.7. English is taught as the only first language in 4.3% of girls' schools in Calcutta. Hindi or Bengali is the first language in 3.9% of boys' schools and 13.0% of girls' schools. In 4.3% of girls' schools Bengali or Urdu is the first language. English is the second language in all the boys' schools in Calcutta selected for the survey. In 4.3% of girls' schools in Calcutta Bengali is the second language and English is the first language. In the remaining girls' schools (95.7%) in Calcutta English is the second language. In most of the

\* Students are not examined at the final examination in these subjects.

<sup>3</sup>, <sup>4</sup> and <sup>5</sup>. Details about the third language, crafts that may be introduced in a school and subjects provided for under the different elective groups are given in Curriculum and Syllabuses for the Higher Secondary Course, *Board of Secondary Education, West Bengal*. pp. 1-4.

TABLE 3 : *Languages Taught in Schools.*

| Language                   | Number of schools |           |             |            | Total       |           |
|----------------------------|-------------------|-----------|-------------|------------|-------------|-----------|
|                            | Calcutta          |           | 24-Parganas |            |             |           |
|                            | Boys              | Girls     | Boys        | Girls      |             |           |
| First Language             | English           | 0         | 1 ( 4.3)    | 0          | 0           | 1 ( 1.0)  |
|                            | Bengali           | 20 (76.9) | 16 (69.6)   | 40 (100.0) | 15 (1000.0) | 91 (87.5) |
|                            | Hindi             | 5 (19.2)  | 2 ( 8.7)    | 0          | 0           | 7 ( 6.7)  |
|                            | Hindi and Bengali | 1 ( 3.9)  | 3 (13.0)    | 0          | 0           | 4 ( 3.8)  |
|                            | Bengali and Urdu  | 0         | 1 ( 4.3)    | 0          | 0           | 1 (0.96)  |
|                            | Total             | 26        | 23          | 40         | 15          | 104       |
|                            | Third Language    | Bengali   | 0           | 2 ( 8.7)   | 0           | 0         |
| Hindi                      |                   | 6 (23.1)  | 3 (13.0)    | 2 ( 5.0)   | 1 ( 6.7)    | 12 (11.5) |
| Sanskrit                   |                   | 13 (50.1) | 11 (47.8)   | 23 (57.5)  | 14 (93.3)   | 61 (58.6) |
| Persian and Sanskrit       |                   | 1 ( 3.8)  | 0           | 1 ( 2.5)   | 0           | 2 ( 1.9)  |
| Pali and Sanskrit          |                   | 2 ( 7.7)  | 0           | 0          | 0           | 2 ( 1.9)  |
| Bengali and Sanskrit       |                   | 1 ( 3.8)  | 0           | 0          | 0           | 1 ( 1.0)  |
| Hindi and Sanskrit         |                   | 3 (11.5)  | 6 (26.1)    | 8 (20.0)   | 0           | 17 (16.3) |
| Arabic and Sanskrit        |                   | 0         | 0           | 5 (12.5)   | 0           | 5 ( 4.8)  |
| Hindi, Arabic and Sanskrit |                   | 0         | 0           | 1 ( 2.5)   | 0           | 1 ( 1.0)  |
| Bengali and Hindi          |                   | 0         | 1 ( 4.3)    | 0          | 0           | 1 ( 1.0)  |
| Total                      | 26                | 23        | 40          | 15         | 104         |           |

schools Sanskrit is taught as a third language. Sanskrit is taught as the only or as an alternative third language in 76.9% of boys' schools in Calcutta. The corresponding percentages for girls' schools in Calcutta and boys' and girls' schools in 24-Parganas are 73.9, 95.0 and 93.3 respectively. Hindi is taught as the only or as an alternative third language in 34.6% of boys' schools and in 43.4% of girls' schools in Calcutta. The corresponding figures for boys' and girls' schools in 24-Paraganas are respectively 27.5%

and 6.7%. In a small proportion of boys' schools Persian, Arabic or Pali is taught as an alternative third language.

Due to the recent change in curriculum in secondary schools every student has to take one craft. Some emphasis has been placed on providing training in craft in secondary

**Facilities for** schools by the Secondary Education Commission  
**Training in Craft** appointed by the Government of India. The view of the Commission on this subject is

as follows : 'We consider it necessary that at this stage, every student should devote some time to work with the hands and attain a reasonably high standard of proficiency in one particular craft, so that, if necessary, he may support himself by pursuing it. But it is not on economic grounds only that we make this recommendation. By working with the hands the adolescent learns the dignity of labour and experiences the joy of doing constructive work. There is no greater educative medium than making with efficiency and integrity, things of utility and beauty. It trains practical aptitudes, facilitates clarity of thinking, gives chance for co-operative work and thus enriches the entire personality.<sup>6</sup> In order that training in craft may be carried out successfully, schools should appoint efficient craft-instructors and provide separate craft rooms and workshops where students will learn to work with tools and to fashion different kinds of materials into form. It is difficult to get teachers who are skilled in the craft as well as competent to teach the craft. So it is natural that the facilities available for training in craft may not be satisfactory at the initial stages. Table 4 gives in a summary form the nature of such facilities. It is found that in a small proportion of schools there is no arrangement for training in craft. It is also noticed that a very large percentage of schools provide training in only one craft, percentages of schools providing training in only one craft being respectively 69.2 and 60.9 for boys' and girls' schools in Calcutta, and 77.5 and 73.3 for boys' and girls' schools in 24-Parganas.

From an examination of the crafts introduced in the schools from which data were collected it is found that none of these schools provide training in 'Printing technology' and 'Radio'. The provision for training in 'Workshop Practice' is restricted to only

<sup>6</sup> Report of the Secondary Education Commission, *Government of India, Ministry of Education*, p. 90.

7.7% of boys' schools in Calcutta (Table 5). In this connection it may be mentioned that 18.5% and 2.5% of boys' schools

TABLE 4 : *Facilities for Training in Craft*

| Categories                                   | Number of schools |           |             |           |
|--|-------------------|-----------|-------------|-----------|
|  | Calcutta          |           | 24-Parganas |           |
|  | Boys              | Girls     | Boys        | Girls     |
| 1. Number of crafts introduced :             |                   |           |             |           |
| 0  | 2 ( 7.7)          | 1 ( 4.3)  | 4 (10.0)    | 0         |
| 1  | 18 (69.2)         | 14 (60.9) | 31 (77.5)   | 11 (73.3) |
| 2  | 5 (19.2)          | 6 (26.1)  | 2 ( 5.0)    | 3 (20.0)  |
| 3  | 1 ( 3.8)          | 2 ( 8.7)  | 3 ( 7.5)    | 1 ( 6.7)  |
| Total  | 26                | 23        | 40          | 15        |
| 2. No provision for craft-instructor         | 3 (11.5)          | 0         | 6 (15.0)    | 1 ( 6.7)  |
| 3. Post of craft-instructor vacant           | 1 ( 3.9)          | 2 ( 8.7)  | 2 ( 5.0)    | 1 ( 6.7)  |
| 4. Only part-time craft-instructors employed | 5 (19.2)          | 7 (30.4)  | 9 (22.5)    | 1 ( 6.7)  |
| 5. No separate craft room                    | 10 (38.5)         | 10 (43.5) | 16 (40.0)   | 7 (46.7)  |

TABLE 5 : *Crafts Introduced in Schools*

| Craft                                   | Percentage of schools |       |             |       |
|---|-----------------------|-------|-------------|-------|
|   | Calcutta              |       | 24-Parganas |       |
|   | Boys                  | Girls | Boys        | Girls |
| Clay-modelling and paper-mache work     | 50.0                  | 13.0  | 22.5        | 13.3  |
| Sewing, needle work and embroidery work | 0.0                   | 91.3  | 2.5         | 73.3  |
| Wood-work                               | 42.3                  | 0.0   | 42.5        | 0.0   |
| Leather-work                            | 11.5                  | 17.4  | 5.0         | 13.3  |
| Workshop practice                       | 7.7                   | 0.0   | 0.0         | 0.0   |
| Metal-work                              | 7.7                   | 0.0   | 2.5         | 0.0   |
| Gardening                               | 0.0                   | 0.0   | 12.5        | 0.0   |
| Tailoring                               | 0.0                   | 0.0   | 12.5        | 26.7  |
| Hand-spinning and weaving               | 0.0                   | 0.0   | 5.0         | 0.0   |
| Drawing and painting*                   | 3.8                   | 13.0  | 0.0         | 0.0   |

\* Not included in the list of crafts recognised by the Board of Secondary Education, West Bengal.

in Calcutta and 24-Parganas respectively provide training in 'Technical' group and 'Workshop practice' is a compulsory craft subject for students offering this group. It is also noticed that there exists provision for training in (i) 'Hand spinning and weaving' in 5.0% of boys' schools in 24-Parganas only (ii) 'Metal work' in 7.7% and 2.5% of boys' schools in Calcutta and 24-Parganas only (iii) 'Tailoring' in 12.5% and 26.7% of boys' and girls' schools in 24-Parganas only, (iv) 'Gardening' in 12.5% of boys' schools in 24-Parganas only. 'Wood work' and 'Clay-modelling and paper-mache work' have been introduced in a large proportion of boys' schools. 'Sewing, needle work and embroidery work' has been introduced in most of the girls' schools. Provision for training in 'Leather work' exists in all the groups of schools though in small proportion. Some of the schools have introduced certain crafts like 'Drawing and painting' which are not included in the list of craft subjects recognized by the Board of Secondary Education, West Bengal. There is no provision for a separate craft room in about 40% of all the schools. It is also surprising to find that in a small proportion of schools there is no provision for appointing a whole-time or a part-time trained craft instructor although these schools provide training in craft.

From a glance at Table 5 it appears that only those crafts have been introduced which involve less expenditure and entail less trouble, little attention being paid to their merits. Among boys, 'leather work', 'work-shop practice', 'metal work' and 'tailoring' should have gained greater recognition, and among girls 'tailoring' and 'hand-spinning and weaving'. It is also desirable that a sufficient number of crafts should be introduced in each school so as to cater to the diverse interests and aptitudes of students. The little scope for choice that is left to the students and the little attention that the authorities are paying to instructions in craft go to show that the objectives of the Secondary Education Commission have hardly been achieved.

According to the revised curriculum for higher secondary course general science is a compulsory subject of study for every student upto class X. The main object of teaching general science as indicated by the Secondary Education Commission is to provide a general understanding of scientific phenomena and to indicate how knowledge of science helps one to lead a better and a fuller life.<sup>7</sup> For

**Facilities for Teaching  
General Science**

teaching sciences at this stage some emphasis should be placed on demonstration of experiments and showing of charts, diagrams and models in theoretical classes. In every school there should be a science room where experiments can be demonstrated, a well equipped laboratory and necessary arrangements for showing slides, charts, and diagrams. In this connection it may be mentioned that it will be of great help in teaching if arrangements be made to set up in each school a small museum wherein will be exhibited charts, diagrams, models, scientific apparatuses, collections of various kinds to show the students discoveries of the past and many developments that have taken place in different branches of science and technology. Table 6 gives information about facilities (demonstration of experiments, showing of charts, diagrams and slides etc.) available for teaching general science. The percentages of schools which have museums of some kind or other are 20.0, 31.8, 15.0 and 6.7 for boys' and girls' schools in Calcutta, and in 24-Parganas respectively. 12.0% of boys' schools and 31.8% of girls' schools in Calcutta do not have any separate laboratory for teaching general science. The corresponding percentages for boys' and girls' schools in 24-Paraganas are respectively 15.0 and 33.3. It has not been possible to examine how well-equipped such museums and laboratories are. According to information supplied by the school authorities it is found that about one-fourth of the schools possess only half or less than half of equipments, models and charts recommended by the Board of Secondary Education, West Bengal, for teaching general science. However in 72.0% of boys' schools and 65.2% of girls' schools in Calcutta experiments are demonstrated regularly in theoretical classes. The corresponding percentages for boys' and girls' schools in 24-Parganas are 50.0 and 26.7 respectively. The situation is slightly better in respect of showing of charts and models in theoretical classes. Information was also collected in respect of field trips arranged by schools. It is noticed that in a large percentage of schools field trips are not regulary arranged. The percentage of schools in which field trips are not arranged or arranged only occassionally are respectively 52.0, 47.8, 72.5 and 46.7 for boys' and girls' schools in Calcutta and in 24-Parganas.

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<sup>7</sup> *Ibid*, p. 94.

TABLE 6 : *Facilities Available for Teaching General Science*

| Categories   | Number of schools |           |             |           |
|--|-------------------|-----------|-------------|-----------|
|  | Calcutta          |           | 24-Parganas |           |
|  | Boys              | Girls     | Boys        | Girls     |
| 1. Museum  | 5 (20.0)          | 7 (31.8)  | 6 (15.0)    | 1 ( 6.7)  |
| 2. Separate laboratory for General Science                           | 22 (88.0)         | 15 (68.2) | 34 (85.0)   | 10 (66.7) |
| 3. Equipments, models and charts recommended by Board :              |                   |           |             |           |
| All  | 9 (36.0)          | 5 (22.7)  | 5 (12.5)    | 2 (13.3)  |
| Most   | 11 (44.0)         | 12 (54.5) | 23 (57.5)   | 9 (60.0)  |
| About half   | 3 (12.0)          | 3 (13.6)  | 7 (17.5)    | 3 (20.0)  |
| Less than half   | 1 ( 4.0)          | 1 ( 4.5)  | 3 ( 7.5)    | 1 ( 6.7)  |
| A few  | 1 ( 4.0)          | 1 ( 4.5)  | 1 ( 2.5)    | 0         |
| Nil  | 0                 | 0         | 1 ( 2.5)    | 0         |
| 4. Projector   | 15 (60.0)         | 3 (13.0)  | 11 (27.5)   | 2 (13.3)  |
| 5. Experiments demonstrated in theoretical class :                   |                   |           |             |           |
| Regularly  | 18 (72.0)         | 15 (65.2) | 20 (50.0)   | 4 (26.7)  |
| Occasionally   | 6 (24.0)          | 7 (30.4)  | 17 (42.5)   | 10 (66.7) |
| Nil  | 1 ( 4.0)          | 1 ( 4.3)  | 3 ( 7.5)    | 1 ( 6.7)  |
| 6. Field trips arranged ;  |                   |           |             |           |
| More than once a year  | 6 (24.0)          | 8 (34.8)  | 3 ( 7.5)    | 2 (13.3)  |
| Once a year  | 6 (24.0)          | 4 (17.4)  | 8 (20.0)    | 6 (40.0)  |
| Occasionally   | 6 (24.0)          | 2 ( 8.7)  | 5 (12.5)    | 2 (13.3)  |
| Nil  | 7 (28.0)          | 9 (39.1)  | 24 (60.0)   | 5 (33.3)  |
| 7. No theoretical class room :                                       | 5 (20.0)          | 5 (21.7)  | 9 (22.5)    | 4 (26.7)  |
| 8. Size (in sq. ft.) of theoretical class room for General Science : |                   |           |             |           |
| Less than or equal to 250  | 2 ( 8.0)          | 2 ( 8.7)  | 1 ( 2.5)    | 1 ( 6.7)  |
| 251 - 500  | 10 (40.0)         | 12 (52.2) | 27 (67.5)   | 10 (66.7) |
| 501 - 700  | 6 (24.0)          | 4 (17.4)  | 2 ( 5.0)    | 0         |
| above 700  | 2 ( 8.0)          | 0         | 1 ( 2.5)    | 0         |
| 9. Charts and models shown in theoretical class :                    |                   |           |             |           |
| Regularly  | 20 (80.0)         | 18 (78.3) | 30 (75.0)   | 6 (40.0)  |
| Occasionally   | 5 (20.0)          | 5 (21.7)  | 7 (17.5)    | 9 (60.0)  |
| Nil  | 0                 | 0         | 3 ( 7.5)    | 0         |

N. B. Information in respect of museum, laboratory and equipments for general science could not be collected from one out of 23 girls' schools in Calcutta. Percentages for these items for Calcutta girls' schools are thus based on 22 schools.

All these details will convince one that facilities available for teaching general science are not adequate in many schools and there is considerable room for improvement in this respect.

According to the revised programme of secondary education a school has to make provision for teaching a number of core subjects

**Different Elective  
Courses Taught  
in Schools**

to be taken up by all the students and also for teaching a number of optional subjects.

A student has to study the core subjects and one of the admissible groups of optional subjects.

Seven groups of optional subjects or seven 'streams' of study have been recommended so that students may be given adequate scope in selecting optional subjects in accordance with their abilities, aptitudes and vocational interests. Table 7 gives information about the percentages of schools providing tuition in the different courses.

TABLE 7 : *Number of Schools Providing Tuition in Different Courses*

| Courses      | Number of schools |            |             |            | Total       |
|--------------|-------------------|------------|-------------|------------|-------------|
|              | Calcutta          |            | 24-Parganas |            |             |
|              | Boys              | Girls      | Boys        | Girls      |             |
| Humanities   | 27 (100.0)        | 22 (100.0) | 40 (100.0)  | 15 (100.0) | 104 (100.0) |
| Science      | 24 ( 88.9)        | 8 ( 36.4)  | 37 ( 92.5)  | 5 ( 33.3)  | 73 ( 70.2)  |
| Commerce     | 9 ( 33.3)         | 3 ( 13.6)  | 5 ( 12.5)   | 0          | 17 ( 16.3)  |
| Technical    | 5 ( 18.5)         | 0          | 1 ( 2.5)    | 0          | 6 ( 5.8)    |
| Agriculture  | 0                 | 0          | 1 ( 2.5)    | 0          | 1 ( 1.0)    |
| Home Science | 0                 | 9 ( 40.9)  | 0           | 7 ( 46.7)  | 16 ( 15.4)  |
| Fine Arts    | 0                 | 2 ( 9.1)   | 0           | 1 ( 6.7)   | 3 ( 2.9)    |
| Total        | 27                | 22         | 40          | 15         | 104         |

It is seen therefrom that the boys' schools in Calcutta provide adequate freedom of choice to the students so far as the groups 'Humanities' and 'Science' are concerned, percentages of boys' schools in Calcutta providing training in these two groups being



100.0 and 88.9. The scope of choice is restricted to some extent for the 'Commerce' stream. One-third of boys' schools in Calcutta provide training in this group. The freedom of choice is severely limited in respect of 'Technical' group, only 18.5% of boys' schools in Calcutta providing training in this group.<sup>8</sup> The students of boys' schools in 24-Parganas enjoy freedom of choice more or less to the same extent as the students of boys' schools in Calcutta in respect of the groups 'Humanities' and 'Science'. But the scope of choice of elective group is very much restricted for the groups 'Commerce' and 'Technical'. 12.5% of boys' schools in 24-Parganas provide training in 'Commerce' with a still smaller percentage (2.5%) for the 'Technical' group. Percentages of girls' schools in Calcutta providing training in 'Humanities' and 'Home Science' groups are 100.0 and 40.9, the corresponding percentages for girls' schools in 24-Parganas being 100.0 and 46.7. The freedom of choice of elective group as provided by the girls schools is very much limited so far as the group 'Science' is concerned. About one third of girls' schools provide training in 'Science' group. None of the girls' schools in 24-Parganas from which data were collected provide training in 'Commerce' while in about 14% of girls' schools in Calcutta there is arrangement for teaching this group. A very small percentage of schools provide training in the groups 'Fine Arts' and 'Agriculture'.

Percentages of students following different elective courses in different classes have also been examined (Table 8). It is noticed that for the same group of schools percentages of students studying a particular course are not the same for the different classes. This is likely as the educational institutions are passing through changing conditions. Some schools were upgraded two or three years ago. At present these schools provide training in two or three elective courses. On the other hand some of the newly upgraded schools provide tuition in only one group. There are some newly upgraded schools with no student in class X or in class XI. More than 40.0% of students of boys schools' in Calcutta have selected the science course. A small percentage (4.7%) of

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<sup>8</sup> In this connection mention may be made of a recent decision taken by the Union Education Ministry to give special emphasis to science teaching in secondary schools. It has been suggested in certain quarters that a firm technical bias should be given to secondary education during the third plan period.

students of boys' schools in Calcutta have taken the technical course. The small percentage of students studying this course is due to the small number of schools providing training in this course

TABLE 8 : *Number of Students Studying Different Courses*

| Course          | Number of students reading in |             |                     |            | Total       |
|-----------------|-------------------------------|-------------|---------------------|------------|-------------|
|                 | Calcutta schools              |             | 24-Parganas schools |            |             |
|                 | Boys                          | Girls       | Boys                | Girls      |             |
| <b>Class IX</b> |                               |             |                     |            |             |
| Humanities      | 924 (28.8)                    | 1056 (75.0) | 1801 (51.9)         | 620 (77.3) | 4401 (49.5) |
| Science         | 1362 (42.5)                   | 230 (16.3)  | 1424 (41.0)         | 130 (16.2) | 3146 (35.4) |
| Commerce        | 771 (24.0)                    | 30 ( 2.1)   | 171 ( 4.9)          | 0          | 972 (10.9)  |
| Technical       | 150 ( 4.7)                    | 0           | 22 ( 0.6)           | 0          | 172 ( 1.9)  |
| Agriculture     | 0                             | 0           | 54 ( 1.6)           | 0          | 54 ( 0.6)   |
| Home Science    | 0                             | 93 ( 6.6)   | 0                   | 49 ( 6.1)  | 142 ( 1.6)  |
| Fine Arts       | 0                             | 0           | 0                   | 3 ( 0.4)   | 3 ( 0.1)    |
| <b>Class X</b>  |                               |             |                     |            |             |
| Humanities      | 1194 (47.1)                   | 807 (78.1)  | 1198 (47.9)         | 492 (78.6) | 3691 (55.2) |
| Science         | 736 (29.1)                    | 144 (13.9)  | 1127 (45.1)         | 85 (13.6)  | 2092 (31.3) |
| Commerce        | 484 (19.1)                    | 21 ( 2.0)   | 121 ( 4.8)          | 0          | 626 ( 9.4)  |
| Technical       | 119 ( 4.7)                    | 0           | 11 ( 0.4)           | 0          | 130 ( 1.9)  |
| Agriculture     | 0                             | 0           | 43 ( 1.7)           | 0          | 43 ( 0.6)   |
| Home Science    | 0                             | 52 ( 5.0)   | 0                   | 47 ( 7.5)  | 99 ( 1.5)   |
| Fine Arts       | 0                             | 9 ( 0.9)    | 0                   | 2 ( 0.3)   | 11 ( 0.2)   |
| <b>Class XI</b> |                               |             |                     |            |             |
| Humanities      | 500 (28.0)                    | 460 (77.8)  | 688 (47.0)          | 198 (85.7) | 1846 (45.3) |
| Science         | 779 (43.7)                    | 112 (19.0)  | 688 (47.0)          | 10 ( 4.3)  | 1589 (39.0) |
| Commerce        | 418 (23.4)                    | 19 ( 3.2)   | 50 ( 3.1)           | 0          | 487 (12.0)  |
| Technical       | 87 ( 4.9)                     | 0           | 17 ( 1.2)           | 0          | 104 ( 2.6)  |
| Agriculture     | 0                             | 0           | 25 ( 1.7)           | 0          | 25 ( 0.6)   |
| Home Science    | 0                             | 0           | 0                   | 22 ( 9.5)  | 22 ( 0.5)   |
| Fine Arts       | 0                             | 0           | 0                   | 1 ( 0.4)   | 1 (*)       |

\* (Percentage is 0.02).

But about 30% of students of the schools providing training in technical course have taken up this group. Nearly 30% of students of boys' schools in Calcutta have chosen the 'Humanities' group although provision for teaching this group exists in all the schools. About 20% of students are studying the 'Commerce' course. In the boys' schools in 24-Parganas percentages of students studying 'Science', 'Humanities' and 'Commerce' courses are about 42, 50 and 5 respectively. In the girls' schools a very large proportion (more than 70 percent) of students have taken up 'Humanities'. About 7% of students in girls' schools study 'Home Science' although a little more than 40% of schools provide training in this group. About 15% of girl students study 'Science' course.

Due to the change in the system of secondary education the duration of the secondary education has been extended by one year and the intermediate stage has been abolished, one year of the intermediate course being included in the new higher secondary course. The existing high schools may not be in a position to provide facilities for the additional year's teaching specially in respect of science subjects. Tables 9.1 and 9.2 give in a summary form the information about facilities available for teaching, some of the science subjects. Experts usually lay emphasis on demonstration of experiments and showing of charts and models in theoretical classes for teaching science at this stage. In nearly two-thirds of schools in Calcutta experiments are regularly demonstrated in theoretical Physics and Chemistry classes while in only about half of the boys' schools in 24-Parganas experiments are regularly demonstrated in theoretical classes. The situation in respect of showing of charts and models in Biology is almost the same while the situation with respect to showing of charts and models in Geography classes is slightly better. In this connection we also note that a considerable percentage of schools do not possess all the equipments, charts and models recommended by the Board of Secondary Education, West Bengal, for teaching the different science subjects.

Time devoted to the study of some of the important subjects has been studied (Tables 10.1, 10.2 and 10.3). The difference between maximum and minimum of time devoted to a particular subject is generally quite large for all the subjects, indicating that the emphasis laid on different subjects varies considerably from

**TABLE 9.1 : Demonstration of Experiments in Theoretical Classes :  
Physics and Chemistry**

| Experiments demonstrated | Number of schools |          |             |           |
|--------------------------|-------------------|----------|-------------|-----------|
|                          | Calcutta          |          | 24-Parganas |           |
|                          | Boys              | Girls    | Boys        | Girls     |
| <b>Physics</b>           |                   |          |             |           |
| Regularly                | 16 (66.7)         | 7 (77.8) | 19 (51.4)   | 1 (25.0)  |
| Occasionally             | 6 (25.0)          | 1 (11.1) | 11 (29.7)   | 3 (75.0)  |
| Nil                      | 1 ( 4.2)          | 1 (11.1) | 4 (10.8)    | 0         |
| No response              | 1 ( 4.2)          | 0        | 3 ( 8.1)    | 0         |
| <b>Total</b>             | <b>24</b>         | <b>9</b> | <b>37</b>   | <b>4</b>  |
| <b>Chemistry</b>         |                   |          |             |           |
| Regularly                | 16 (66.7)         | 6 (66.7) | 20 (54.1)   | 0         |
| Occasionally             | 6 (25.0)          | 2 (22.2) | 11 (19.7)   | 4 (100.0) |
| Nil                      | 1 ( 4.2)          | 0        | 4 (10.8)    | 0         |
| No response              | 1 ( 4.2)          | 1 (11.1) | 2 ( 5.4)    | 0         |
| <b>Total</b>             | <b>24</b>         | <b>9</b> | <b>37</b>   | <b>4</b>  |

**TABLE : 9.2 Showing of Charts and Models in Theoretical Classes :  
Geography and Biology**

| Charts and models shown | Number of schools |           |             |           |
|-------------------------|-------------------|-----------|-------------|-----------|
|                         | Calcutta          |           | 24-Parganas |           |
|                         | Boys              | Girls     | Boys        | Girls     |
| <b>Geography</b>        |                   |           |             |           |
| Regularly               | 15 (78.9)         | 13 (72.2) | 20 (57.1)   | 7 (58.3)  |
| Occasionally            | 3 (15.8)          | 4 (22.2)  | 10 (28.6)   | 5 (41.7)  |
| Nil                     | 0                 | 1 ( 5.6)  | 1 ( 2.9)    | 0         |
| No response             | 1 ( 5.3)          | 0         | 4 (11.4)    | 0         |
| <b>Total</b>            | <b>19</b>         | <b>18</b> | <b>35</b>   | <b>12</b> |
| <b>Biology</b>          |                   |           |             |           |
| Regularly               | 12 (66.7)         | 5 (55.6)  | 14 (51.9)   | 1 (20.0)  |
| Occasionally            | 4 (22.2)          | 3 (33.3)  | 7 (25.9)    | 4 (80.0)  |
| Nil                     | 1 ( 5.6)          | 1 (11.1)  | 2 ( 7.4)    | 0         |
| No response             | 1 ( 5.6)          | 0         | 4 (14.8)    | 0         |
| <b>Total</b>            | <b>18</b>         | <b>9</b>  | <b>27</b>   | <b>5</b>  |

TABLE 10.1 : *Average and Maximum and Minimum of Time (in nearest minutes) Devoted to Different Subjects in Class IX*

| Stratum              | Characteristic | Languages |      |      | His-<br>tory | Econo-<br>mics | Geography |        | Mathe-<br>matics | Physics |        | Chemistry |        | Biology |        | Gen.<br>Sc. | El.<br>Math. | Soc.<br>Stud. |
|----------------------|----------------|-----------|------|------|--------------|----------------|-----------|--------|------------------|---------|--------|-----------|--------|---------|--------|-------------|--------------|---------------|
|                      |                | 1st.      | 2nd. | 3rd. |              |                | Theo.     | Pract. |                  | Theo.   | Pract. | Theo.     | Pract. | Theo.   | Pract. |             |              |               |
| Calcutta<br>Boys     | Maximum        | 480       | 538  | 320  | 300          | 300            | 300       | 80     | 300              | 240     | 240    | 240       | 240    | 200     | 240    | 120         | 270          | 215           |
|                      | Minimum        | 200       | 120  | 40   | 90           | 90             | 90        | 40     | 90               | 80      | 45     | 80        | 40     | 80      | 45     | 40          | 80           | 40            |
|                      | Average        | 301       | 352  | 130  | 171          | 170            | 154       | 60     | 165              | 137     | 104    | 137       | 108    | 131     | 121    | 86          | 154          | 95            |
| Calcutta<br>Girls    | Maximum        | 540       | 630  | 390  | 240          | 320            | 240       | 120    | 270              | 160     | 90     | 160       | 90     | 135     | 90     | 180         | 360          | 270           |
|                      | Minimum        | 160       | 120  | 80   | 80           | 80             | 45        | 40     | 120              | 45      | 80     | 45        | 80     | 45      | 40     | 75          | 120          | 40            |
|                      | Average        | 287       | 335  | 150  | 139          | 141            | 123       | 73     | 153              | 100     | 82     | 96        | 82     | 91      | 70     | 100         | 198          | 106           |
| 24-Parganas<br>Boys  | Maximum        | 469       | 531  | 480  | 280          | 240            | 240       | 160    | 390              | 240     | 160    | 240       | 160    | 220     | 120    | 240         | 400          | 240           |
|                      | Minimum        | 160       | 160  | 60   | 80           | 90             | 80        | 40     | 120              | 80      | 40     | 80        | 40     | 40      | 40     | 40          | 80           | 40            |
|                      | Average        | 307       | 373  | 135  | 154          | 152            | 142       | 93     | 162              | 140     | 77     | 131       | 80     | 115     | 62     | 104         | 179          | 76            |
| 24-Parganas<br>Girls | Maximum        | 480       | 546  | 280  | 305          | 240            | 135       | 80     | 240              | 120     | 40     | 120       | 80     | 120     | 40     | 120         | 280          | 160           |
|                      | Minimum        | 200       | 120  | 80   | 80           | 80             | 80        | 35     | 120              | 70      | 35     | 65        | 75     | 70      | 35     | 40          | 80           | 35            |
|                      | Average        | 328       | 387  | 139  | 134          | 131            | 113       | 52     | 160              | 107     | 38     | 96        | 77     | 94      | 38     | 84          | 176          | 87            |

TABLE 10.2 : *Average and Maximum and Minimum of Time (in nearest minutes) Devoted to Different Subjects in Class X*

| Stratum              | Characteristic | Languages |      | His-<br>tory | Econo-<br>mics | Geography |        | Mathe-<br>matics | Physics |        | Chemistry |        | Biology |        | Gen.<br>Sc. | El.<br>Math. | Soc.<br>Stud. |
|----------------------|----------------|-----------|------|--------------|----------------|-----------|--------|------------------|---------|--------|-----------|--------|---------|--------|-------------|--------------|---------------|
|                      |                | 1st.      | 2nd. |              |                | Theo.     | Pract. |                  | Theo.   | Pract. | Theo.     | Pract. | Theo.   | Pract. |             |              |               |
| Calcutta<br>Boys     | Maximum        | 480       | 538  | 300          | 300            | 270       | 140    | 360              | 240     | 360    | 230       | 360    | 200     | 180    | 150         | 270          | 215           |
|                      | Minimum        | 200       | 160  | 90           | 90             | 90        | 40     | 120              | 90      | 60     | 90        | 80     | 40      | 60     | 40          | 80           | 40            |
|                      | Average        | 304       | 360  | 177          | 182            | 161       | 109    | 195              | 154     | 115    | 148       | 118    | 142     | 119    | 90          | 149          | 95            |
| Calcutta<br>Girls    | Maximum        | 540       | 582  | 240          | 320            | 240       | 120    | 270              | 160     | 90     | 160       | 90     | 120     | 90     | 180         | 360          | 270           |
|                      | Minimum        | 200       | 160  | 120          | 120            | 80        | 40     | 120              | 80      | 40     | 90        | 40     | 80      | 40     | 75          | 160          | 80            |
|                      | Average        | 313       | 354  | 153          | 155            | 139       | 65     | 165              | 110     | 76     | 110       | 76     | 93      | 76     | 102         | 202          | 106           |
| 24-Parganas<br>Boys  | Maximum        | 578       | 591  | 360          | 320            | 240       | 160    | 255              | 314     | 482    | 240       | 240    | 240     | 360    | 240         | 300          | 240           |
|                      | Minimum        | 195       | 240  | 70           | 90             | 88        | 40     | 80               | 70      | 40     | 80        | 40     | 80      | 40     | 40          | 80           | 80            |
|                      | Average        | 340       | 369  | 166          | 178            | 158       | 86     | 161              | 240     | 160    | 133       | 104    | 110     | 104    | 97          | 160          | 88            |
| 24-Parganas<br>Girls | Maximum        | 581       | 608  | 245          | 240            | 160       | 120    | 240              | 120     | 80     | 120       | 80     | 120     | 70     | 120         | 240          | 160           |
|                      | Minimum        | 160       | 160  | 120          | 80             | 80        | 35     | 120              | 70      | 70     | 75        | 75     | 70      | 40     | 35          | 80           | 40            |
|                      | Average        | 345       | 384  | 156          | 151            | 133       | 73     | 170              | 103     | 75     | 105       | 78     | 88      | 50     | 70          | 166          | 80            |

TABLE 10.3 : *Average and Maximum and Minimum of Time (in nearest minutes) Devoted to Different Subjects in Class XI*

| Stratum              | Characteristic | Languages |      | History | Economics<br>&<br>Civics | Geography |        | Mathe-<br>matics | Physics |        | Chemistry |        | Biology |        |
|----------------------|----------------|-----------|------|---------|--------------------------|-----------|--------|------------------|---------|--------|-----------|--------|---------|--------|
|                      |                | 1st.      | 2nd. |         |                          | Theo.     | Pract. |                  | Theo.   | Pract. | Theo.     | Pract. | Theo.   | Pract. |
| Calcutta<br>Boys     | Maximum        | 480       | 640  | 360     | 360                      | 360       | 180    | 360              | 320     | 360    | 320       | 360    | 320     | 180    |
|                      | Minimum        | 200       | 160  | 120     | 120                      | 120       | 40     | 160              | 90      | 60     | 80        | 60     | 90      | 40     |
|                      | Average        | 344       | 404  | 233     | 235                      | 260       | 92     | 250              | 186     | 141    | 184       | 138    | 180     | 119    |
| Calcutta<br>Girls    | Maximum        | 600       | 712  | 315     | 270                      | 240       | 120    | 270              | 160     | 120    | 160       | 120    | 160     | 120    |
|                      | Minimum        | 200       | 141  | 135     | 120                      | 135       | 40     | 160              | 120     | 80     | 120       | 80     | 80      | 80     |
|                      | Average        | 375       | 404  | 211     | 208                      | 174       | 94     | 205              | 152     | 88     | 152       | 88     | 112     | 88     |
| 24-Parganas<br>Boys  | Maximum        | 480       | 680  | 400     | 320                      | 270       | 200    | 320              | 240     | 240    | 270       | 270    | 240     | 540    |
|                      | Minimum        | 120       | 240  | 105     | 80                       | 80        | 40     | 120              | 80      | 80     | 80        | 80     | 80      | 80     |
|                      | Average        | 346       | 407  | 212     | 213                      | 172       | 98     | 207              | 155     | 144    | 157       | 150    | 143     | 151    |
| 24-Parganas<br>Girls | Maximum        | 520       | 480  | 490     | 240                      | 240       | 120    | 285              | —       | —      | —         | —      | —       | —      |
|                      | Minimum        | 240       | 240  | 160     | 80                       | 105       | 70     | 160              | —       | —      | —         | —      | —       | —      |
|                      | Average        | 397       | 375  | 235     | 168                      | 173       | 87     | 224              | 145*    | 70*    | 145*      | 145*   | —       | —      |

\* The subject is taught in only one of the girls' schools selected in 24-Parganas.

one school to another. It is desirable that there should be greater uniformity among the schools in respect of time devoted to a particular subject.

Every school should possess a well-equipped library. All books mentioned in the syllabus should be kept in the library.

**Library Facilities** A sufficient number of standard text books on each subject and books of general interest should also be kept in school libraries. Students should be encouraged to make as much use of the library as possible. For satisfactory working of the library it should be placed in the care of a trained librarian. Table 11 provides information about library facilities in summary form. The size of library room in a large proportion of schools is inadequately small. Proportion of schools providing separate periods for the use of library by their students is not very large. In 50.0% of boys' schools in Calcutta there is provision for employing whole-time or part-time librarians. The position is much more unsatisfactory in the girls' schools in Calcutta and in the schools in 24-Parganas. In a large number of schools the library is left to the charge of a teacher or a clerk. One important criterion of library services is the number of available books. From the book student ratio it is also noticed that the library facilities in existing schools are not quite satisfactory.

The success with which a student learns a subject depends to a considerable extent on the able guidance of the teacher, and the reputation of a school is greatly determined by the teachers working there. One of the difficulties which the educational institutions are facing now-a-days is the dearth of qualified and experienced teachers with suitable personal qualities and aptitudes and a spirit of devotion to their work. As one year of the Intermediate course has been added to the higher secondary course it is essential that teachers entrusted with the teaching in higher classes in the school should possess a post-graduate or an honours degree. The other teachers should be at least graduates.<sup>9</sup> It is desirable that teachers should also

<sup>9</sup> Report of the Secondary Education Commission, *Government of India, Ministry of Education*, pp. 157-158.



TABLE 11 : *Library Facilities Available in Schools*

| Library service   | Number of schools |               |               |               |
|---|-------------------|---------------|---------------|---------------|
|   | Calcutta          |               | 24-Parganas   |               |
|   | Boys              | Girls         | Boys          | Girls         |
| <b>1. Librarian</b>   |                   |               |               |               |
| Whole-time  | 7 (29.2)          | 5 (22.7)      | 3 ( 7.5)      | 3 (20.0)      |
| Part-time   | 2 ( 8.3)          | 1 ( 4.6)      | 10 (25.0)     | 3 (20.0)      |
| Teacher-cum-librarian   | 10 (41.7)         | 16 (72.7)     | 23 (57.5)     | 8 (53.3)      |
| Clerk-cum-librarian   | 2 ( 8.3)          | 0             | 2 ( 5.0)      | 1 ( 6.7)      |
| Vacant  | 3 (12.5)          | 0             | 2 ( 5.0)      | 0             |
| <b>Total</b>  | <b>24</b>         | <b>22</b>     | <b>40</b>     | <b>15</b>     |
| <b>2. Period for use of library</b>                           |                   |               |               |               |
| For all classes   | 6 (24.0)          | 7 (31.8)      | 11 (27.5)     | 6 (40.0)      |
| For some classes  | 7 (28.0)          | 5 (22.7)      | 4 (10.0)      | 3 (20.0)      |
| For none of the classes                                       | 12 (48.0)         | 10 (45.5)     | 25 (62.5)     | 6 (40.0)      |
| <b>Total</b>  | <b>25</b>         | <b>22</b>     | <b>40</b>     | <b>15</b>     |
| <b>3. Text books and reference books recommended by Board</b> |                   |               |               |               |
| All   | 3 (12.0)          | 7 (31.8)      | 5 (12.5)      | 0             |
| Most  | 16 (64.0)         | 11 (50.0)     | 15 (37.5)     | 9 (60.0)      |
| Half  | 1 ( 4.0)          | 0             | 3 ( 7.5)      | 3 (20.0)      |
| Some  | 5 (20.0)          | 3 (13.6)      | 16 (40.0)     | 3 (20.0)      |
| Nil   | 0                 | 1 ( 4.6)      | 1 ( 2.5)      | 0             |
| <b>Total</b>  | <b>25</b>         | <b>22</b>     | <b>40</b>     | <b>15</b>     |
| <b>4. No. of books in the library</b>                         |                   |               |               |               |
| Less than 1000  | 1 ( 4.2)          | 3 (14.3)      | 7 (18.0)      | 5 (33.3)      |
| 1000—2000   | 2 ( 8.3)          | 3 (14.3)      | 10 (25.6)     | 7 (46.7)      |
| 2001—5000   | 13 (54.2)         | 14 (66.7)     | 22 (56.4)     | 2 (13.3)      |
| 5001 and above  | 8 (33.3)          | 1 ( 4.7)      | 0             | 1 ( 6.7)      |
| <b>Total</b>  | <b>24</b>         | <b>21</b>     | <b>39</b>     | <b>15</b>     |
| <b>Mean</b>   | <b>4156</b>       | <b>2837</b>   | <b>1930</b>   | <b>1952</b>   |
| <b>5. Library room size (in sq. ft.)</b>                      |                   |               |               |               |
| Less than or equal to 250                                     | 6 (25.0)          | 4 (18.2)      | 11 (28.2)     | 6 (40.0)      |
| 251—500   | 10 (41.7)         | 11 (50.0)     | 23 (59.0)     | 7 (46.7)      |
| 501 and above   | 8 (33.3)          | 7 (31.8)      | 5 (12.8)      | 2 (13.3)      |
| <b>Total</b>  | <b>24</b>         | <b>22</b>     | <b>39</b>     | <b>15</b>     |
| <b>Mean</b>   | <b>468.46</b>     | <b>406.23</b> | <b>377.26</b> | <b>321.47</b> |
| <b>6. Book student ratio*</b>                                 |                   |               |               |               |
| 1 or less   | 0                 | 0             | 6 (15.8)      | 2 (13.3)      |
| 2—3   | 12 (50.0)         | 8 (38.1)      | 16 (42.1)     | 9 (60.0)      |
| 4—5   | 6 (25.0)          | 2 ( 9.5)      | 6 (15.8)      | 0             |
| 6—9   | 3 (12.5)          | 10 (47.6)     | 9 (23.7)      | 4 (26.7)      |
| 10 and above  | 3 (12.5)          | 1 ( 4.8)      | 1 ( 2.6)      | 0             |
| <b>Total</b>  | <b>24</b>         | <b>21</b>     | <b>38</b>     | <b>15</b>     |

\* This has been computed by dividing the total number of books in the stratum by the total number of students reading in Classes VI to XI of that stratum.

possess diploma in training. From an examination of the academic qualifications of teachers (Table 12) it is found that a little more than 30% of teachers of boys' and girls' schools in Calcutta and girls' schools in 24-Parganas possess post-graduate degrees whereas 21.3% of teachers of boys' schools in 24-Parganas possess post-graduate degrees. It is also noticed that porportion of teachers with post-graduate qualifications in girls' schools is greater than that in boys' schools. A small percentage of teachers possess honours degrees but no post-graduate degree. About 40% of teachers of boys' and girls' schools in Calcutta and girls' schools in 24-Parganas possess either a master's degree or a bachelor's degree with honours. But only 33.9% of teachers of boys' schools in 24-Parganas possess the same qualifications. About 40% of teachers of girls' schools possess pass degrees, while 44.8% of teachers of boys' schools in Calcutta and 47.6% of teachers of boys' schools in 24-Parganas possess the same academic qualifications. The percentage of under-graduate teachers is not negligible being about 20% for girls' schools in Calcutta and 24-Parganas.

TABLE 12 : *Academic Qualifications of Teachers*

| Academic Qualification | Number of teachers in |            |                     |            |
|------------------------|-----------------------|------------|---------------------|------------|
|                        | Calcutta schools      |            | 24-Parganas schools |            |
|                        | Boys                  | Girls      | Boys                | Girls      |
| M. A.                  | 210 (25.7)            | 156 (31.2) | 134 (14.9)          | 87 (27.3)  |
| M. Sc.                 | 53 ( 6.5)             | 23 ( 4.6)  | 48 ( 5.3)           | 13 ( 4.1)  |
| M. Com.                | 13 ( 1.6)             | 2 ( 0.4)   | 9 ( 1.0)            | 1 ( 0.3)   |
| Total Post-Graduate    | 276 (33.8)            | 181 (36.2) | 191 (21.3)          | 101 (31.7) |
| B. A. (Hons.)          | 41 ( 5.0)             | 18 ( 3.6)  | 74 ( 8.2)           | 20 ( 6.3)  |
| B. Sc. (Hons.)         | 17 ( 2.1)             | 5 ( 1.0)   | 39 ( 4.3)           | 2 ( 0.6)   |
| Total Hons. Graduate   | 58 ( 7.1)             | 23 ( 4.6)  | 113 (12.6)          | 22 ( 6.9)  |
| B. A.                  | 247 (30.2)            | 161 (32.2) | 253 (28.2)          | 109 (34.2) |
| B. Sc.                 | 99 (12.1)             | 34 ( 6.8)  | 155 (17.3)          | 21 ( 6.6)  |
| B. Com.                | 20 ( 2.4)             | 1 ( 0.2)   | 19 ( 2.1)           | 1 ( 0.3)   |
| Total Graduate (Pass)  | 366 (44.8)            | 196 (39.2) | 427 (47.6)          | 131 (41.1) |
| Under Graduate         | 117 (14.3)            | 100 (20.0) | 164 (18.3)          | 65 (20.4)  |
| Others                 | 0 ( 0.0)              | 0 ( 0.0)   | 3 ( 0.3)            | 0 ( 0.0)   |
| Total                  | 817                   | 500        | 898                 | 319        |

TABLE 13 : *Trained Teachers with Post-graduate and Graduate Degrees*

| Degree in | Number of teachers in       |                                   |                             |                                   |                             |                                   |                             |                                   |
|-----------|-----------------------------|-----------------------------------|-----------------------------|-----------------------------------|-----------------------------|-----------------------------------|-----------------------------|-----------------------------------|
|           | Calcutta schools            |                                   |                             |                                   | 24-Parganas schools         |                                   |                             |                                   |
|           | Boys                        |                                   | Girls                       |                                   | Boys                        |                                   | Girls                       |                                   |
|           | with diploma<br>in training | without<br>diploma<br>in training | with diploma<br>in training | without<br>diploma<br>in training | with diploma<br>in training | without<br>diploma<br>in training | with diploma<br>in training | without<br>diploma<br>in training |
| Arts      | 186 (26.6)                  | 312 (44.6)                        | 219 (54.8)                  | 116 (29.0)                        | 173 (23.7)                  | 288 (39.4)                        | 109 (42.9)                  | 107 (42.1)                        |
| Science   | 60 ( 8.6)                   | 109 (15.6)                        | 27 ( 6.8)                   | 35 ( 8.8)                         | 58 ( 7.9)                   | 184 (25.2)                        | 8 ( 3.2)                    | 28 (11.0)                         |
| Commerce  | 11 ( 1.6)                   | 22 ( 3.1)                         | 0                           | 3 ( 0.8)                          | 7 ( 1.0)                    | 21 ( 2.9)                         | 0                           | 2 ( 0.8)                          |

*N. B.* Percentages relate to the total number of graduate and post-graduate teachers in each stratum.

Table 13 gives information about proportions of trained teachers among teachers possessing master's or bachelor's degrees in Arts, Commerce and Science. A teacher possessing B.T. diploma or its equivalent qualification is considered to be a trained teacher. From an examination of Tables 12 and 13 it is found that there is a larger proportion of trained graduate teachers in girls' schools than in boys' schools in Calcutta although in Calcutta the proportion of graduate teachers in boys' schools is greater than that in girls' schools. In boys' schools in Calcutta 36.8% of teachers possessing graduate or post-graduate degrees also possess B. T. diploma or its equivalent ; this is 31.5% of all teachers in the stratum. The rest (54.2% of all teachers) possess graduate or post-graduate degrees but no B. T. or equivalent diploma while 14.3% of teachers are under-graduates. The percentages of teachers of girls' schools in Calcutta belonging to the above four groups are 61.6, 49.2, 30.8 and 20.0 respectively. In 24-Parganas the corresponding percentages are 32.6, 26.6, 55.1 and 18.3 for teachers of boys' schools and 46.1, 36.7, 42.9 and 20.4 for teachers of girls' schools. These details clearly indicate the dearth of qualified teachers. This is not surprising because the teaching profession has not been attracting during the recent years an adequate number of qualified persons owing to inadequate pay and waning social prestige.

Academic qualifications and vacant posts of teachers in some of the important subjects are given separately in Table 14. About 40% of the teachers of English possess a post-graduate or an honours degree (not necessarily in English). There is a much greater proportion of teachers of English with post-graduate degrees in Calcutta schools than in schools of 24-Parganas. Proportion of teachers in English with post-graduate or honours degrees in girls' schools is greater than that in boys' schools. About 88% of teachers in English are graduates in arts. A small number of science graduates participate in teaching English. Nearly 10% of teachers in English are under-graduates. It may be also mentioned in this connection that a small proportion of teachers in English work on a part-time basis, specially in girls' schools. The picture is definitely more gloomy for Bengali with the percentage of under-graduate teachers as high as 19.7 and percentage of teachers having a post-graduate or an honours degree being only 36.1. This is not surprising because in the

past more emphasis was usually placed on teaching English than on teaching Bengali. As in the case of teachers in English percentage of teachers in Bengali with post-graduate qualifications is greater in Calcutta schools than in 24-Parganas schools and in girls' schools than in boys' schools. The situation is utterly dismal in boys' schools of 24-Parganas where there is only 30.1% of teachers of Bengali who possess post-graduate or honours degrees in some subject (not necessarily in Bengali) and the percentage of under-graduate teachers is 23.8. The situation in respect of teachers in Mathematics is also not very encouraging. The small percentage (about 25%) of teachers with post-graduate or honours degrees and the considerable percentage (more than 16%) of under-graduate teachers clearly suggest the difficulty of appointing teachers with adequate qualifications.

The difficulty of finding properly qualified teachers is more acute for elective subjects. As already noted teachers in elective subjects should possess post-graduate or honours degrees. The percentages of teachers in Civics and Economics who have post-graduate or honours degrees are 73.2, 59.3, 66.6 and 63.7 for boys' and girls' schools in Calcutta and 24-Parganas respectively. Nearly one third of the teachers in this subject possess only pass degrees. It may also be noted that about 10% of posts of teachers for this subject in girls' schools are lying vacant, the percentage of vacant posts in boys' schools being very small.

The major science subjects like Physics, Chemistry and Biology reveal large percentages of pass graduates among teachers in these subjects, and of posts of vacant and part-time teachers. The percentages of teachers in Physics who have post-graduate or honours degrees are respectively 52.2, 63.7, 46.1 and 100.0 for boys' and girls' schools in Calcutta and in 24-Parganas (Table 14). The percentages of teachers in Chemistry possessing equivalent academic qualifications are 47.8, 58.3, 35.4 and 100.0 for these groups of schools. 75.1% of teachers in Biology in boys' schools of Calcutta possess post-graduate or honours degree, the corresponding percentages among teachers of girls' schools in Calcutta and boys' and girls' schools in 24-Parganas being 72.8, 34.2 and 60.0 respectively. The data of the present survey reveal that all the teachers in Physics and Chemistry in girls' schools of 24-Parganas possess post-graduate or honours degree. But the

TABLE 14 : Number of Posts of Teachers in Different Subjects and Academic Qualifications of Teachers in Filled up Posts

|                                    | Number of posts or teachers in English |            |                     |            | Number of posts or teachers in Bengali |            |                     |             |
|------------------------------------|--|------------|---------------------|------------|--|------------|---------------------|-------------|
|                                    | Calcutta schools                       |            | 24-Parganas schools |            | Calcutta schools                       |            | 24-Parganas schools |             |
|                                    | Boys                                   | Girls      | Boys                | Girls      | Boys                                   | Girls      | Boys                | Girls       |
| <i>Posts</i>                       |  |            |                     |            |  |            |                     |             |
| Whole-time                         | 349 (98.3)                             | 190 (96.0) | 407 (99.5)          | 132 (92.3) | 204 (99.0)                             | 163 (99.4) | 336 (99.1)          | 122 (100.0) |
| Part.time                          | 2 ( 0.6)                               | 4 ( 2.0)   | 0                   | 6 ( 4.2)   | 1 ( 0.5)                               | 1 ( 0.6)   | 0                   | 0           |
| Vacant                             | 4 ( 1.1)                               | 4 ( 2.0)   | 2 ( 0.5)            | 5 ( 3.5)   | 1 ( 0.5)                               | 0          | 3 ( 0.9)            | 0           |
| <b>Total</b>                       | <b>355</b>                             | <b>198</b> | <b>409</b>          | <b>143</b> | <b>206</b>                             | <b>164</b> | <b>339</b>          | <b>122</b>  |
| <i>Qualifications</i>              |  |            |                     |            |  |            |                     |             |
| M. A. & M. Com.                    | 121 (34.5)                             | 85 (43.8)  | 84 (20.6)           | 49 (35.5)  | 53 (25.9)                              | 55 (35.5)  | 55 (16.4)           | 34 (27.9)   |
| B. A. (Hons)                       | 27 ( 7.7)                              | 11 ( 5.7)  | 51 (12.5)           | 7 ( 5.1)   | 21 (10.2)                              | 7 ( 4.3)   | 46 (13.7)           | 13 (10.7)   |
| B. A. (Pass) & B. Com.             | 169 (48.1)                             | 76 (39.2)  | 212 (52.1)          | 70 (50.7)  | 82 (40.0)                              | 69 (42.1)  | 144 (42.9)          | 52 (42.6)   |
| Science Graduate and Post Graduate | 6 ( 1.7)                               | 5 ( 2.6)   | 17 ( 4.2)           | 1 ( 0.7)   | 8 ( 3.9)                               | 4 ( 2.4)   | 11 ( 3.3)           | 2 ( 1.6)    |
| Under Graduate                     | 28 ( 8.0)                              | 17 ( 8.8)  | 43 (10.6)           | 11 ( 8.0)  | 41 (20.0)                              | 29 (17.7)  | 80 (23.8)           | 21 (17.2)   |
| <b>Total</b>                       | <b>351</b>                             | <b>194</b> | <b>407</b>          | <b>138</b> | <b>205</b>                             | <b>164</b> | <b>336</b>          | <b>122</b>  |
| Student-teacher ratio*             | 0.0202                                 | 0.0218     | 0.0218              | 0.0233     | 0.0118                                 | 0.0184     | 0.0180              | 0.0206      |

\* This has been calculated by dividing the total number of teachers in a stratum by the total number of students reading in classes VI to XI of that stratum.

TABLE 14 (Contd.)

|                                       | Number of posts or teachers in Civics and Economics |           |                     |           |
|---------------------------------------|---|-----------|---------------------|-----------|
|                                       | Calcutta schools                                    |           | 24-Parganas schools |           |
|                                       | Boys  | Girls     | Boys                | Girls     |
| <i>Posts</i>                          |   |           |                     |           |
| Whole-Time                            | 56 (100.0)  | 31 (88.6) | 63 (96.9)           | 21 (84.0) |
| Part-Time                             | 0   | 1 ( 2.9)  | 0                   | 1 ( 4.0)  |
| Vacant                                | 0   | 3 ( 8.6)  | 2 ( 3.1)            | 3 (12.0)  |
| Total                                 | 56  | 35        | 65                  | 25        |
| <i>Qualifications</i>                 |   |           |                     |           |
| M. A. and M. Com.                     | 30 (53.6)   | 18 (56.2) | 22 (34.9)           | 13 (59.1) |
| B. A. (Hons.) and B. Com.             | 11 (19.6)   | 1 ( 3.1)  | 20 (31.7)           | 1 ( 4.6)  |
| B. A. (Pass)                          | 14 (25.0)   | 13 (40.6) | 19 (30.2)           | 8 (36.4)  |
| Science Graduate and<br>Post-Graduate | 1 ( 1.8)  | 0         | 0                   | 0         |
| Under-Graduate                        | 0   | 0         | 2 ( 3.2)            | 0         |
| Total                                 | 56  | 32        | 63                  | 22        |

TABLE 14 (Contd.)

|                              | Number of posts or teachers in Mathematics |           |                     |           |
|------------------------------|--|-----------|---------------------|-----------|
|                              | Calcutta schools                           |           | 24-Parganas schools |           |
|                              | Boys                                       | Girls     | Boys                | Girls     |
| <i>Posts</i>                 |  |           |                     |           |
| Whole-Time                   | 193 (99.5)                                 | 96 (94.1) | 289 (98.0)          | 76 (90.5) |
| Part-Time                    | 0  | 3 ( 2.9)  | 1 ( 0.3)            | 6 ( 7.1)  |
| Vacant                       | 1 ( 0.5)                                   | 3 ( 2.9)  | 5 ( 1.7)            | 2 ( 2.4)  |
| Total                        | 194  | 102       | 295                 | 84        |
| <i>Qualifications</i>        |  |           |                     |           |
| M. A. and M. Sc.             | 40 (20.7)                                  | 17 (17.2) | 27 ( 9.3)           | 15 (18.3) |
| B.A. (Hons.) & B.Sc. (Hons.) | 15 ( 7.8)                                  | 5 ( 5.0)  | 29 (10.0)           | 7 ( 8.5)  |
| B. A. (Pass) & B. Sc. (Pass) | 107 (55.4)                                 | 56 (56.6) | 172 (59.3)          | 45 (54.9) |
| B. Com. & M. Com.            | 11 ( 5.7)                                  | 1 ( 1.0)  | 8 ( 2.8)            | 0         |
| Under-Graduate               | 20 (10.4)                                  | 20 (20.2) | 54 (18.6)           | 15 (18.3) |
| Total                        | 193  | 99        | 290                 | 82        |
| Student-teacher ratio        | 0.0111                                     | 0.0111    | 0.0156              | 0.0139    |

TABLE 14 (Contd.)

|   | Number of posts or teachers in Physics |          |                     |          |
|---|--|----------|---------------------|----------|
|   | Calcutta schools                       |          | 24-Parganas schools |          |
|   | Boys                                   | Girls    | Boys                | Girls    |
| <i>Posts</i>                                    |  |          |                     |          |
| Whole-time                                      | 35 (77.8)                              | 5 (45.5) | 57 (78.1)           | 2 (28.6) |
| Part-time                                       | 9 (20.0)                               | 6 (54.6) | 8 (11.0)            | 4 (57.1) |
| Vacant  | 1 ( 2.2)                               | 0        | 8 (11.0)            | 1 (14.3) |
| Total   | 45                                     | 11       | 73                  | 7        |
| <i>Qualifications</i>                           |  |          |                     |          |
| M. Sc.  | 17 (38.6)                              | 5 (45.5) | 11 (16.9)           | 4 (66.7) |
| B. Sc. (Hons)                                   | 6 (13.6)                               | 2 (18.2) | 19 (29.2)           | 2 (33.3) |
| B. Sc. (Pass)                                   | 21 (47.7)                              | 4 (36.4) | 33 (50.8)           | 0        |
| Graduate and Post-Graduate in Arts and Commerce | 0                                      | 0        | 2 ( 3.1)            | 0        |
| Under-Graduate                                  | 0                                      | 0        | 0                   | 0        |
| Total   | 44                                     | 11       | 65                  | 6        |

TABLE 14 (Contd.)

|   | Number of posts or teachers in Chemistry |          |                     |          |
|---|--|----------|---------------------|----------|
|   | Calcutta schools                         |          | 24-Parganas schools |          |
|   | Boys                                     | Girls    | Boys                | Girls    |
| <i>Posts</i>                                    |  |          |                     |          |
| Whole-time                                      | 36 (73.5)                                | 5 (38.5) | 54 (69.2)           | 1 (12.5) |
| Part-time                                       | 10 (20.4)                                | 7 (53.8) | 11 (14.1)           | 4 (50.0) |
| Vacant  | 3 ( 6.1)                                 | 1 ( 7.7) | 13 (16.7)           | 3 (37.5) |
| Total   | 49                                       | 13       | 78                  | 8        |
| <i>Qualifications</i>                           |  |          |                     |          |
| M. Sc.  | 16 (34.8)                                | 6 (50.0) | 11 (16.9)           | 4 (80.0) |
| B. Sc. (Hons.)                                  | 6 (13.0)                                 | 1 ( 8.3) | 12 (18.5)           | 1 (20.0) |
| B. Sc. (Pass)                                   | 23 (50.0)                                | 5 (41.7) | 93 (60.0)           | 0        |
| Graduate and Post-Graduate in Arts and Commerce | 1 ( 2.2)                                 | 0        | 1 ( 3.1)            | 0        |
| Under-Graduates                                 | 0  | 0        | 1 ( 1.5)            | 0        |
| Total   | 46                                       | 12       | 65                  | 5        |



TABLE 14 (Concl'd.)

|   | Number of posts or teachers in Biology |          |                     |          |
|---|--|----------|---------------------|----------|
|   | Calcutta schools                       |          | 24-Parganas schools |          |
|   | Boys                                   | Girls    | Boys                | Girls    |
| <i>Posts</i>                                    |  |          |                     |          |
| Whole-time                                      | 11 (61.1)                              | 7 (63.6) | 28 (63.6)           | 3 (60.0) |
| Part-time                                       | 5 (27.8)                               | 4 (36.4) | 7 (15.9)            | 2 (40.0) |
| Vacant  | 2 (11.1)                               | 0        | 9 (20.5)            | 0        |
| Total   | 18                                     | 11       | 44                  | 5        |
| <i>Qualifications</i>                           |  |          |                     |          |
| M. Sc.  | 9 (56.3)                               | 6 (54.6) | 6 (17.1)            | 2 (40.0) |
| B. Sc. (Hons.)                                  | 3 (18.8)                               | 2 (18.2) | 6 (17.1)            | 1 (20.0) |
| B. Sc. (Pass)                                   | 2 (12.5)                               | 2 (18.2) | 22 (62.9)           | 2 (40.0) |
| Graduate and Post-Graduate in Arts and Commerce | 2 (12.5)                               | 1 (9.1)  | 1 (2.9)             | 0        |
| Under-Graduate                                  | 0                                      | 0        | 0                   | 0        |
| Total   | 16                                     | 11       | 35                  | 5        |

situation in respect of girls' schools in 24-Parganas is not satisfactory on account of the high percentages of posts of vacant and part-time teachers in these two subjects. The percentage of part-time teachers in science subjects is very high in girls' schools although the percentage is not negligible in boys' schools. In girls' schools the total number of part-time teachers in Physics and Chemistry slightly exceeds the total number of whole-time teachers. The proportion of vacant posts of teachers in science subjects is much greater in schools of 24-Parganas than that in schools of Calcutta. All these details clearly indicate the difficulty of having teachers with adequate qualifications in rural areas. It is also very distressing to note that in a number of schools a single teacher has to teach a subject in all the three classes IX-XI and has also to look after theoretical as well as practical classes. In some schools the same teacher has to teach more than one science subjects.

The difficulty of finding teachers in elective subjects is also clearly seen from Table 15. For certain subjects a considerable

TABLE 15 : *Vacant Posts of Teachers*

| Subject              | Number of vacant posts of teachers in schools |         |             |          |
|----------------------|---|---------|-------------|----------|
|                      | Calcutta                                      |         | 24-Parganas |          |
|                      | Boys  | Girls   | Boys        | Girls    |
| English              | 4 (1.1)                                       | 4 (2.0) | 2 (0.5)     | 5 (3.5)  |
| Bengali              | 1 (0.5)                                       | 0       | 3 (0.9)     | 0        |
| Mathematics          | 1 (0.5)                                       | 3 (2.9) | 5 (1.7)     | 2 (2.4)  |
| Geography            | 2 (1.6)                                       | 0       | 5 (3.5)     | 2 (3.3)  |
| Economics            | 0   | 3 (8.6) | 2 (3.1)     | 3 (12.0) |
| Commerce             | 1 (4.4)                                       | 0       | 2 (11.1)    | 0        |
| Physics              | 1 (2.2)                                       | 0       | 8 (11.0)    | 1 (14.3) |
| Chemistry            | 3 (6.1)                                       | 1 (7.7) | 13 (16.7)   | 3 (37.5) |
| Biology              | 2 (11.1)                                      | 0       | 9 (20.5)    | 0        |
| Logic and Psychology | 1 ( 6.3)                                      | 1 (4.6) | 4 (19.1)    | 0        |
| Others               | 6   | 4       | 15          | 4        |
| Total                | 22  | 16      | 68          | 20       |

*N. B.* The above percentages have been calculated with respect to the total number of posts of teachers in the subject.

proportion of posts lies vacant owing to the small number of qualified persons willing to join the teaching profession. Among boys' schools the want is most keenly felt for teachers in Biology. No less acute is the dearth of teachers in Logic and Psychology, and Chemistry. The situation is gloomy even for Commerce and Physics. It may be noted, as it can be expected, that more posts lie vacant in 24-Parganas than in Calcutta. Among girls' schools, Chemistry and Economics cause great anxiety. Equally bad is the situation with Physics in 24-Parganas. Schools in 24-Parganas are experiencing difficulties in having teachers in Geography also.

Experience of teachers has also been examined. Table 16 provides information about the average of total experience of teachers with graduate or post-graduate degrees and the average of their experience in the present school. The average of total experience as also the average of experience in the present school are greater for teachers

TABLE 16 : *Average Experience of Teachers (in years) with Graduate and Post-graduate Qualifications*

| Qualifications            | Average of experience in present school |       |             |       | Average of total experience |       |             |       |
|---------------------------|---|-------|-------------|-------|-----------------------------|-------|-------------|-------|
|                           | Calcutta                                |       | 24-Parganas |       | Calcutta                    |       | 24-Parganas |       |
|                           | Boys                                    | Girls | Boys        | Girls | Boys                        | Girls | Boys        | Girls |
| M. A. and M. Com.         | 7.75                                    | 4.70  | 5.15        | 3.11  | 12.61                       | 7.86  | 8.87        | 4.78  |
| B. A. (Hons.)             | 8.48                                    | 6.10  | 4.33        | 4.37  | 12.90                       | 9.20  | 7.88        | 8.59  |
| B. A. and B. Com.         | 10.35                                   | 7.79  | 9.02        | 4.84  | 16.19                       | 14.14 | 18.15       | 7.15  |
| M. Sc.                    | 8.10                                    | 3.30  | 5.60        | 3.43  | 5.09                        | 4.82  | 9.45        | 3.96  |
| B. Sc. (Hons.)            | 3.52                                    | 1.51  | 3.49        | 1.34  | 5.84                        | 2.01  | 5.87        | 4.49  |
| B. Sc. (Pass)             | 3.89                                    | 2.08  | 1.06        | 0.75  | 12.66                       | 2.50  | 2.37        | 0.75  |
| Graduate or Post-graduate | 8.45                                    | 5.67  | 6.38        | 3.83  | 13.31                       | 8.58  | 11.97       | 5.96  |

of boys' schools and for teachers of schools in Calcutta. The average experience figures of teachers of girls' schools in 24-Parganas appear to be very low. Experience of teachers with science degrees in general and specially with post-graduate degrees (science) in particular is somewhat less than that of bachelors and masters in Arts and Commerce. This fact also indicates the difficulty of appointing qualified teachers for science subjects.

One of the most important concerns of a school is to provide proper accommodation to its pupils. Due to financial difficulties a number of schools can not construct suitable

**School Building** buildings that will provide adequate accommodation to their students. Recently matters have improved to some extent because of government grants sanctioned to different schools for construction of building. But inspite of such government aids it is found that about 16% of schools in Calcutta (Table 17) are housed completely in rented buildings. About 8% of schools in Calcutta are housed in buildings partly owned and partly rented, or in buildings allowed free use of. All the boys' schools in 24-Parganas are housed in owned buildings. But nearly 27% of girls' schools are not in a position to own buildings that will be adequate to provide accommodation for all their pupils. All the schools in Calcutta and most (97.5%) of the boys' schools in 24-Parganas are housed in pucca buildings, while 20.0% of girls' schools in 24-Parganas are housed in kutcha or semi-pucca buildings. In order that schools may be housed in their own buildings the government will have to sanction generous grants to educational institutions.

Over-crowding and congestion in class rooms create unhealthy environments for study. It is generally recommended that school buildings should be so designed as to provide

**Overcrowding in Class Rooms** an area of at least 10 sq. ft. per student in the class rooms.<sup>10</sup> But the present survey reveals that in a large number of cases this requirement is not satisfied. Percentages of class rooms large enough to provide adequate space are 40.5, 41.2, 40.3 and 42.8 respectively for boys' and girls' schools in Calcutta and in 24-Parganas. About 35% of class rooms in boys' schools in Calcutta are so small as to provide an area

<sup>10</sup> *Ibid.*, p. 195.

TABLE 17 : *School Buildings*

| Nature of ownership            | (A) According to ownership |           |             |           |           | Housing condition | (B) According to housing condition |            |             |           |            |
|--------------------------------|----------------------------|-----------|-------------|-----------|-----------|-------------------|------------------------------------|------------|-------------|-----------|------------|
|                                | Number of schools          |           |             |           |           |                   | Number of schools                  |            |             |           |            |
|                                | Calcutta                   |           | 24-Parganas |           | Total     |                   | Calcutta                           |            | 24-Parganas |           | Total      |
| Boys                           | Girls                      | Boys      | Girls       | Boys      |           | Girls             | Boys                               | Girls      |             |           |            |
| Owned                          | 20 (76.9)                  | 17 (73.9) | 40 (100.0)  | 11 (73.3) | 88 (84.6) | Pucca             | 26 (100.0)                         | 23 (100.0) | 39 (97.5)   | 12 (80.0) | 100 (96.2) |
| Rented                         | 4 (15.4)                   | 4 (17.4)  | 0           | 2 (13.3)  | 10 ( 9.6) | Semi-Pucca        | 0                                  | 0          | 1 ( 2.5)    | 2 (13.3)  | 3 ( 2.9)   |
| Partly owned and partly rented | 1 ( 3.8)                   | 1 ( 4.3)  | 0           | 2 (13.3)  | 4 ( 3.9)  | Kutchra           | 0                                  | 0          | 0           | 1 ( 6.7)  | 1 ( 1.0)   |
| Allowed free use of            | 1 ( 3.8)                   | 1 ( 4.3)  | 0           | 0         | 2 ( 1.9)  | Total             | 26                                 | 23         | 40          | 15        | 104        |
| Total                          | 26                         | 23        | 40          | 15        | 104       |                   |                                    |            |             |           |            |

TABLE 18 : *Floor Space Available per Student in Different Classes*

Class—VI

| Floor space available per student (in sq. ft.) | Calcutta schools    |                        |                     |                        | 24-Parganas schools |                        |                     |                        |
|--|---------------------|------------------------|---------------------|------------------------|---------------------|------------------------|---------------------|------------------------|
|  | Boys                |                        | Girls               |                        | Boys                |                        | Girls               |                        |
|  | Percentage of cases | Percentage of students | Percentage of cases | Percentage of students | Percentage of cases | Percentage of students | Percentage of cases | Percentage of students |
| Less than or equal to 6                        | 22.7                | 25.2                   | 13.5                | 14.3                   | 11.3                | 12.9                   | 10.3                | 11.5                   |
| Above 6, not more than 8                       | 19.3                | 20.2                   | 28.9                | 30.3                   | 36.1                | 39.0                   | 33.3                | 36.2                   |
| Above 8, less than 10                          | 19.3                | 19.0                   | 25.0                | 24.9                   | 25.8                | 23.4                   | 28.2                | 28.5                   |
| 10 and above                                   | 38.6                | 35.6                   | 32.7                | 30.5                   | 26.8                | 24.8                   | 28.2                | 23.8                   |

Class—VII

| Floor space available per student (in sq. ft.) | Calcutta schools    |                        |                     |                        | 24-Parganas schools |                        |                     |                        |
|--|---------------------|------------------------|---------------------|------------------------|---------------------|------------------------|---------------------|------------------------|
|  | Boys                |                        | Girls               |                        | Boys                |                        | Girls               |                        |
|  | Percentage of cases | Percentage of students | Percentage of cases | Percentage of students | Percentage of cases | Percentage of students | Percentage of cases | Percentage of students |
| Less than or equal to 6                        | 23.5                | 26.7                   | 14.6                | 17.3                   | 8.7                 | 12.3                   | 5.1                 | 5.1                    |
| Above 6, not more than 8                       | 16.5                | 17.3                   | 23.6                | 23.7                   | 46.6                | 48.5                   | 41.0                | 42.1                   |
| Above 8, less than 10                          | 20.0                | 20.1                   | 20.0                | 21.1                   | 15.5                | 15.1                   | 23.1                | 23.5                   |
| 10 and above                                   | 40.0                | 35.9                   | 41.8                | 38.0                   | 29.1                | 24.1                   | 30.8                | 29.4                   |

TABLE 18 (Contd.)

## Class—VIII

| Floor space available per student (in sq. ft.) | Calcutta schools    |                        |                     |                        | 24-Parganas schools |                        |                     |                        |
|--|---------------------|------------------------|---------------------|------------------------|---------------------|------------------------|---------------------|------------------------|
|  | Boys                |                        | Girls               |                        | Boys                |                        | Girls               |                        |
|  | Percentage of cases | Percentage of students | Percentage of cases | Percentage of students | Percentage of cases | Percentage of students | Percentage of cases | Percentage of students |
| Less than or equal to 6                        | 15.7                | 16.6                   | 12.2                | 15.3                   | 40.8                | 8.0                    | 0.0                 | 0.0                    |
| Above 6, not more than 8                       | 19.3                | 18.9                   | 28.6                | 28.0                   | 15.7                | 27.7                   | 14.3                | 16.0                   |
| About 8, less than 10                          | 27.7                | 29.5                   | 28.6                | 28.8                   | 21.1                | 35.2                   | 65.7                | 67.6                   |
| 10 and above                                   | 37.4                | 35.0                   | 30.6                | 27.9                   | 22.4                | 29.2                   | 20.0                | 16.3                   |

## Class—IX

| Floor space available per student (in sq. ft.) | Calcutta schools    |                        |                     |                        | 24-Parganas schools |                        |                     |                        |
|--|---------------------|------------------------|---------------------|------------------------|---------------------|------------------------|---------------------|------------------------|
|  | Boys                |                        | Girls               |                        | Boys                |                        | Girls               |                        |
|  | Percentage of cases | Percentage of students | Percentage of cases | Percentage of students | Percentage of cases | Percentage of students | Percentage of cases | Percentage of students |
| Less than or equal to 6                        | 7.7                 | 11.1                   | 7.5                 | 8.9                    | 2.4                 | 3.4                    | 0.0                 | 0.0                    |
| Above 6, not more than 8                       | 24.4                | 26.8                   | 42.5                | 49.7                   | 16.7                | 20.7                   | 15.4                | 19.2                   |
| Above 8, less than 10                          | 16.7                | 21.2                   | 10.0                | 8.8                    | 29.8                | 32.1                   | 19.2                | 19.5                   |
| 10 and above                                   | 51.3                | 40.9                   | 40.0                | 32.7                   | 51.2                | 43.9                   | 65.4                | 61.3                   |

TABLE 18 (Concl.)

## Class—X

| Floor space available per student (in sq. ft.) | Calcutta schools    |                        |                     |                        | 24-Parganas schools |                        |                     |                        |
|--|---------------------|------------------------|---------------------|------------------------|---------------------|------------------------|---------------------|------------------------|
|  | Boys                |                        | Girls               |                        | Boys                |                        | Girls               |                        |
|  | Percentage of cases | Percentage of students | Percentage of cases | Percentage of students | Percentage of cases | Percentage of students | Percentage of cases | Percentage of students |
| Less than or equal to 6                        | 10.9                | 14.0                   | 2.9                 | 4.4                    | 2.4                 | 3.6                    | 0.0                 | 0.0                    |
| Above 6, not more than 8                       | 15.6                | 19.1                   | 11.8                | 17.9                   | 13.4                | 18.3                   | 5.0                 | 8.8                    |
| Above 8, less than 10                          | 21.9                | 26.1                   | 23.5                | 29.4                   | 9.8                 | 12.5                   | 20.0                | 19.2                   |
| 10 and above                                   | 51.6                | 40.8                   | 61.8                | 48.3                   | 74.4                | 65.6                   | 75.0                | 72.0                   |

## Class—XI

| Floor space available per student (in sq. ft.) | Calcutta schools    |                        |                     |                        | 24-Parganas schools |                        |                     |                        |
|--|---------------------|------------------------|---------------------|------------------------|---------------------|------------------------|---------------------|------------------------|
|  | Boys                |                        | Girls               |                        | Boys                |                        | Girls               |                        |
|  | Percentage of cases | Percentage of students | Percentage of cases | Percentage of students | Percentage of cases | Percentage of students | Percentage of cases | Percentage of students |
| Less than or equal to 6                        | 4.2                 | 4.9                    | 0.0                 | 0.0                    | 2.3                 | 4.8                    | 0.0                 | 0.0                    |
| Above 6, not more than 8                       | 22.9                | 28.5                   | 20.0                | 17.8                   | 11.6                | 18.5                   | 0.0                 | 0.0                    |
| Above 8, less than 10                          | 14.6                | 13.9                   | 25.0                | 27.6                   | 14.0                | 15.2                   | 14.3                | 15.0                   |
| 10 and above                                   | 58.3                | 52.7                   | 55.0                | 54.6                   | 72.1                | 61.5                   | 85.7                | 85.0                   |



less than or equal to 8 sq. ft. per student. The corresponding percentages for girls' schools in Calcutta and boys' and girls' schools in 24-Parganas are respectively 36.8, 39.8 and 28.3. Percentages of class rooms which are so small as to provide an area less than or equal to only 6 sq. ft. per student are 17.4, 10.9, 15.3 and 7.7 for the four groups of schools. About 40% of classes VI-VIII in boys' schools in Calcutta are held in rooms large enough to provide adequate space to its pupils (Table 18). In nearly 40% of boys' schools in Calcutta rooms for classes VI-VIII are so small in comparison to the number of pupils as to provide an area less than 8 sq. ft. per student, the percentages of students who are huddled up in such class rooms being 45.4, 44.0, 35.5 for classes VI, VII and VIII respectively (Table 18). In a considerable proportion of cases the rooms are smaller still and the floor space available per student is less than 6 sq. ft. The conditions in the higher classes (IX to XI) in boys' schools in Calcutta are slightly better. In about 50% of cases the rooms are large enough to meet the above standard. Nearly 30% of the class rooms for the higher classes (IX to XI) are so small that space available per student is less than or equal to 8 sq. ft., the percentages of students who study in such overcrowded rooms being 37.9, 33.1, and 33.4 respectively for classes IX, X and XI. Girls' schools in Calcutta are in no better position so far as classes VI to VIII are concerned. Congestion in class IX of girls' schools in Calcutta is worse than that of boys' schools in Calcutta, Conditions in classes X and XI of girls' schools are however better than those in the same classes of boys' schools in Calcutta. Classes VI and VII in schools in 24-Parganas are a little more overcrowded than the same classes in Calcutta schools. But the boys' schools in 24-Parganas are in a better position in respect of overcrowding in classes IX to XI. The accommodation in classes IX to XI in girls' schools in 24-Parganas may be considered nearly adequate.

With the overcrowding in class rooms as noted above it is not unexpected to find that the number of students in a class is quite large in a considerable porportion of cases.

**Number of Students in a Class** One of the long-standing criticisms against the educational institutions in our country is the large number of pupils in a class. Excessive number of students in a class brings in a lack of personal touch between teachers and students without which individual attention and maintenance

TABLE 19 : *Number of Students in Different Classes*

**Class—VI**

| Number of students in a class | Calcutta schools    |                        |                     |                        | 24-Parganas schools |                        |                     |                        |
|-------------------------------|---------------------|------------------------|---------------------|------------------------|---------------------|------------------------|---------------------|------------------------|
|                               | Boys                |                        | Girls               |                        | Boys                |                        | Girls               |                        |
|                               | Percentage of cases | Percentage of students | Percentage of cases | Percentage of students | Percentage of cases | Percentage of students | Percentage of cases | Percentage of students |
| less than or equal to 40      | 62.9                | 57.5                   | 55.8                | 50.0                   | 62.2                | 55.1                   | 69.2                | 64.4                   |
| 41—49                         | 33.7                | 37.9                   | 38.5                | 42.2                   | 28.6                | 32.5                   | 30.8                | 35.6                   |
| 50 and above                  | 3.4                 | 4.6                    | 5.8                 | 7.8                    | 9.2                 | 12.4                   | 0.0                 | 0.0                    |

**Class—VII**

| Number of students in a class | Calcutta schools    |                        |                     |                        | 24-Parganas schools |                        |                     |                        |
|-------------------------------|---------------------|------------------------|---------------------|------------------------|---------------------|------------------------|---------------------|------------------------|
|                               | Boys                |                        | Girls               |                        | Boys                |                        | Girls               |                        |
|                               | Percentage of cases | Percentage of students | Percentage of cases | Percentage of students | Percentage of cases | Percentage of students | Percentage of cases | Percentage of students |
| less than or equal to 40      | 57.0                | 50.7                   | 61.8                | 52.5                   | 60.6                | 52.6                   | 69.2                | 65.0                   |
| 41—49                         | 31.4                | 33.8                   | 38.2                | 47.5                   | 29.8                | 32.9                   | 28.2                | 31.7                   |
| 50 and above                  | 11.6                | 15.5                   | 0.0                 | 0.0                    | 9.6                 | 14.5                   | 2.6                 | 3.3                    |

TABLE 19 (Contd.)

## Class—VIII

| Number of students in a class | Calcutta schools    |                        |                     |                        | 24-Parganas schools |                        |                     |                        |
|-------------------------------|---------------------|------------------------|---------------------|------------------------|---------------------|------------------------|---------------------|------------------------|
|                               | Boys                |                        | Girls               |                        | Boys                |                        | Girls               |                        |
|                               | Percentage of cases | Percentage of students | Percentage of cases | Percentage of students | Percentage of cases | Percentage of students | Percentage of cases | Percentage of students |
| less than or equal to 40      | 58.3                | 51.9                   | 71.4                | 65.1                   | 69.5                | 62.7                   | 85.7                | 82.7                   |
| 41—49                         | 29.8                | 32.9                   | 24.5                | 29.3                   | 24.2                | 28.2                   | 14.3                | 17.3                   |
| 50 and above                  | 11.9                | 15.2                   | 4.1                 | 5.6                    | 6.3                 | 9.0                    | 0.0                 | 0.0                    |

## Class—IX

| Number of students in a class | Calcutta schools    |                        |                     |                        | 24-Parganas schools |                        |                     |                        |
|-------------------------------|---------------------|------------------------|---------------------|------------------------|---------------------|------------------------|---------------------|------------------------|
|                               | Boys                |                        | Girls               |                        | Boys                |                        | Girls               |                        |
|                               | Percentage of cases | Percentage of students | Percentage of cases | Percentage of students | Percentage of cases | Percentage of students | Percentage of cases | Percentage of students |
| less than or equal to 40      | 57.5                | 47.8                   | 72.5                | 61.6                   | 53.3                | 43.7                   | 88.5                | 80.9                   |
| 41—50                         | 36.3                | 42.6                   | 20.0                | 25.4                   | 37.8                | 45.1                   | 3.8                 | 5.7                    |
| 51—59                         | 5.0                 | 7.5                    | 2.5                 | 4.3                    | 0.0                 | 0.0                    | 3.8                 | 5.9                    |
| 60 and above                  | 1.2                 | 2.1                    | 5.0                 | 8.7                    | 8.9                 | 11.1                   | 3.8                 | 7.5                    |

TABLE 19 (Concl'd.)

Class—X

| Number of students in a class | Calcutta schools    |                        |                     |                        | 24-Parganas schools |                        |                     |                        |
|-------------------------------|---------------------|------------------------|---------------------|------------------------|---------------------|------------------------|---------------------|------------------------|
|                               | Boys                |                        | Girls               |                        | Boys                |                        | Girls               |                        |
|                               | Percentage of cases | Percentage of students | Percentage of cases | Percentage of students | Percentage of cases | Percentage of students | Percentage of cases | Percentage of students |
| Less than or equal to 40      | 66.7                | 54.4                   | 79.4                | 67.0                   | 85.7                | 77.6                   | 80.0                | 56.9                   |
| 41—50                         | 18.8                | 22.8                   | 11.8                | 16.7                   | 11.9                | 18.1                   | 15.0                | 30.4                   |
| 51—59                         | 10.1                | 15.3                   | 5.9                 | 10.7                   | 2.4                 | 4.3                    | 5.0                 | 12.7                   |
| 60 and above                  | 4.4                 | 7.6                    | 2.9                 | 5.7                    | 0.0                 | 0.0                    | 0.0                 | 0.0                    |

Class—XI

| Number of students in a class | Calcutta schools    |                        |                     |                        | 24-Parganas schools |                        |                     |                        |
|-------------------------------|---------------------|------------------------|---------------------|------------------------|---------------------|------------------------|---------------------|------------------------|
|                               | Boys                |                        | Girls               |                        | Boys                |                        | Girls               |                        |
|                               | Percentage of cases | Percentage of students | Percentage of cases | Percentage of students | Percentage of cases | Percentage of students | Percentage of cases | Percentage of students |
| Less than or equal to 40      | 62.5                | 50.9                   | 85.0                | 76.8                   | 73.8                | 58.6                   | 77.8                | 56.7                   |
| 41—50                         | 25.0                | 30.4                   | 10.0                | 14.5                   | 14.3                | 20.0                   | 11.1                | 18.6                   |
| 51—59                         | 12.5                | 18.7                   | 5.0                 | 8.8                    | 7.1                 | 12.5                   | 11.1                | 24.7                   |
| 60 and above                  | 0.0                 | 0.0                    | 0.0                 | 0.0                    | 4.8                 | 8.9                    | 0.0                 | 0.0                    |

of discipline is almost impossible.<sup>11</sup> From the data of the present survey (Table 19) it is found that in nearly 40% of all classes in boys' schools in Calcutta and of classes VI and VII in girls' schools in Calcutta and in boys' schools in 24-Parganas the number of pupils in a class exceeds 40. The situation is little better for classes VIII and IX in girls' schools in Calcutta, classes VIII and XI in boys' schools in 24-Parganas and classes VI and VII in girls' schools in 24-Parganas with about 30% of cases having the number of pupils in a class exceeding 40. Congestion is at its highest in class IX in boys' schools in 24-Parganas with 47.0% of cases having a roll strength greater than 40. The percentages for other classes with size greater than 40 varies between 12 and 23. From the above details about the large number of students accommodated in class rooms of inadequate size it may be surmised that healthy conditions for study do not exist in a large proportion of higher secondary schools in the two districts : Calcutta and 24-Parganas.

Total roll strength in schools from which data were collected are also examined. Average total number of students in boys' schools in Calcutta is 997 (Table 20). The corresponding figures

TABLE 20 : Total Number of Students

| Total number<br>of students<br>in schools | Number of schools |          |             |          |
|---|-------------------|----------|-------------|----------|
|   | Calcutta          |          | 24-Parganas |          |
|   | Boys              | Girls    | Boys        | Girls    |
| Less than or equal to 500                 | 4 (16.0)          | 9 (40.9) | 16 (40.0)   | 4 (26.7) |
| 501— 750                                  | 3 (12.0)          | 9 (40.9) | 18 (45.0)   | 9 (60.0) |
| 751—1000                                  | 7 (28.0)          | 4 (18.2) | 5 (12.5)    | 2 (13.3) |
| 1000 and above                            | 11 (44.0)         | 0        | 1 ( 2.5)    | 0        |
| Total                                     | 25                | 22       | 40          | 15       |
| Average no. of students                   | 997               | 569      | 585         | 556      |

<sup>11</sup> The Secondary Education Commission appointed by the Government of India in 1952 recommended that the number of students in a class shall be 30 and the maximum number should not exceed 40.

for girls' schools in Calcutta and boys' and girls' schools in 24-Parganas are respectively 569, 585 and 556. According to the Secondary Education Commission 'the optimum number in a school is 500 and the maximum 750, except in certain multipurpose schools where it may be 1000'.<sup>12</sup> Total roll strength in 18.2% of girls' schools in Calcutta and in 13.3% of girls' schools in 24-Parganas, lies between 751 and 1000. The total roll strength in the rest of the girls' schools is less than 750. The situation is almost the same for boys' schools in 24-Parganas. But in 28.0% of boys' schools in Calcutta the total number of students exceeds 750 but does not exceed 1000 and in 44.0% of boys' schools in Calcutta total number of students exceeds 1000. The Headmaster who is responsible for discipline and satisfactory working of the school will experience great difficulty in discharging his duty efficiently, if the total number of students be large. This will also hinder the Headmaster's scrutiny of students' performance at the school tests and stand in the way of his contact with the students and their guardians.

The large number of students in boys' schools in Calcutta is due to the large number of sections in certain classes. In 28.0% of boys' schools in Calcutta (Table 21) number of sections in Class VI is 5 or 6, corresponding percentages for Classes VII, VIII, IX and X being 24.0, 20.0, 12.0 and 12.0 respectively. The increase in the number of sections sometimes leads to the increase in the number of sections in which a teacher has to teach the same subject. Repeated delivery of the same lessons in a number of sections and with short intervals may rob the lessons of their liveliness.

The physical welfare of the students of schools should be one of the main concerns of educational authorities because good physical health is necessary for sound mental health. It is essential that thorough medical examination of all students at regular intervals and necessary follow-up should be carried out in all schools. At present medical examinations of the students are carried out in a number of schools. Such medical examinations are not generally carried out thoroughly and there are also other defects owing to

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<sup>12</sup> Report of Secondary Education Commission, *Government of India, Ministry of Education*, p. 164.

TABLE 21 : *Number of Sections in Different Classes*

| sections | Number of schools |          |          |          |          |          |       |                |           |           |         |   |   |       |
|----------|-------------------|----------|----------|----------|----------|----------|-------|----------------|-----------|-----------|---------|---|---|-------|
|          | Calcutta boys     |          |          |          |          |          |       | Calcutta girls |           |           |         |   |   |       |
|          | 1                 | 2        | 3        | 4        | 5        | 6        | Total | 1              | 2         | 3         | 4       | 5 | 6 | Total |
| Class    |                   |          |          |          |          |          |       |                |           |           |         |   |   |       |
| VI       | 2 ( 8.0)          | 4 (16.0) | 8 (32.0) | 4 (16.0) | 4 (16.0) | 3 (12.0) | 25    | 6 (26.1)       | 5 (21.7)  | 12 (52.8) | 0       | 0 | 0 | 23    |
| VII      | 2 ( 8.0)          | 4 (16.0) | 9 (36.0) | 4 (16.0) | 4 (16.0) | 2 ( 8.0) | 25    | 4 (17.4)       | 7 (30.4)  | 11 (47.8) | 1 (4.4) | 0 | 0 | 23    |
| VIII     | 2 ( 8.0)          | 4 (16.0) | 8 (32.0) | 6 (24.0) | 5 (20.0) | 0        | 25    | 6 (26.1)       | 9 (39.1)  | 7 (30.4)  | 1 (4.4) | 0 | 0 | 23    |
| IX       | 2 ( 8.0)          | 7 (28.0) | 6 (24.0) | 7 (28.0) | 0        | 3 (12.0) | 25    | 5 (22.7)       | 16 (72.7) | 1 ( 4.6)  | 0       | 0 | 0 | 22    |
| X        | 4 (16.0)          | 9 (36.0) | 5 (20.0) | 4 (16.0) | 3 (12.0) | 0        | 25    | 10 (45.4)      | 12 (54.6) | 0         | 0       | 0 | 0 | 22    |
| XI       | 2 (10.5)          | 7 (36.8) | 8 (42.1) | 2 (10.5) | 0        | 0        | 19    | 10 (66.7)      | 5 (33.3)  | 0         | 0       | 0 | 0 | 15    |

| sections | Number of schools |           |           |          |          |       |           |                   |          |          |   |       |  |  |
|----------|-------------------|-----------|-----------|----------|----------|-------|-----------|-------------------|----------|----------|---|-------|--|--|
|          | 24-Parganas boys  |           |           |          |          |       |           | 24-Parganas girls |          |          |   |       |  |  |
|          | 1                 | 2         | 3         | 4        | 5        | Total | 1         | 2                 | 3        | 4        | 5 | Total |  |  |
| Class    |                   |           |           |          |          |       |           |                   |          |          |   |       |  |  |
| VI       | 4 (10.0)          | 17 (42.5) | 17 (42.5) | 1 ( 2.5) | 1 ( 2.5) | 40    | 3 (20.0)  | 3 (20.0)          | 6 (40.0) | 3 (20.0) | 0 | 15    |  |  |
| VII      | 4 (10.0)          | 16 (40.0) | 14 (35.0) | 5 (12.5) | 1 ( 2.5) | 40    | 2 (13.3)  | 4 (26.7)          | 7 (46.7) | 2 (13.3) | 0 | 15    |  |  |
| VIII     | 5 (12.5)          | 17 (42.5) | 14 (35.0) | 2 ( 5.0) | 1 ( 2.5) | 40    | 4 (26.7)  | 6 (40.0)          | 4 (26.7) | 1 ( 6.7) | 0 | 15    |  |  |
| IX       | 5 (12.5)          | 25 (62.5) | 7 (17.5)  | 2 ( 5.0) | 1 ( 2.5) | 40    | 5 (33.3)  | 9 (60.0)          | 1 ( 6.7) | 0        | 0 | 15    |  |  |
| X        | 10 (25.0)         | 20 (50.0) | 8 (20.0)  | 2 ( 5.0) | 0        | 40    | 10 (66.7) | 5 (33.3)          | 0        | 0        | 0 | 15    |  |  |
| XI       | 10 (41.7)         | 9 (37.5)  | 5 (20.8)  | 0        | 0        | 24    | 5 (71.4)  | 2 (28.6)          | 0        | 0        | 0 | 7     |  |  |

TABLE 22 : *Provision for Medical Examination*

| Frequency of medical examination | Number of schools |          |             |          | Total     |
|----------------------------------|-------------------|----------|-------------|----------|-----------|
|                                  | Calcutta          |          | 24-Parganas |          |           |
|                                  | Boys              | Girls    | Boys        | Girls    |           |
| Half-yearly or more frequent     | 7 (26.9)          | 6 (26.1) | 3 ( 7.5)    | 1 ( 6.7) | 17 (16.3) |
| Annual                           | 8 (30.8)          | 9 (39.1) | 10 (25.0)   | 5 (33.3) | 32 (30.8) |
| Occasional                       | 0                 | 0        | 3 ( 7.5)    | 2 (13.3) | 5 ( 4.8)  |
| Nil                              | 11 (42.3)         | 8 (34.8) | 24 (60.0)   | 7 (46.7) | 50 (48.1) |
| Total                            | 26                | 23       | 40          | 15       | 104       |

unavoidable circumstances. But the present survey reveals that in a very large proportion of schools medical examination of students is not carried even in a perfunctory manner. The situation is a little better in Calcutta schools than in the schools of 24-Parganas. Table 22 gives information about provisions for medical examination.

Playgrounds and open space are essential for students' recreation and physical education. It is difficult for the schools in crowded cities to secure open space to be utilised as play grounds. Many boys' schools in Calcutta (46.2%) do not have any playground for their students. Most of the girls' schools in Calcutta (78.3%) have, however, lawns inside schools premises. In 24-Parganas the percentages of boys' and girls' schools which do not have any playground are 17.5 and 33.3 respectively. In the absence of play-grounds schools should have gymnasiums for their students. The situation in this respect is also not satisfactory. Table 23 gives in a nut shell the nature of such facilities.

TABLE 23 : *Playground*

| Playground         | Number of schools |           |             |           | Total     |
|--------------------|-------------------|-----------|-------------|-----------|-----------|
|                    | Calcutta          |           | 24-Parganas |           |           |
|                    | Boys              | Girls     | Boys        | Girls     |           |
| Adjacent to school | 11 (42.3)         | 16 (69.6) | 29 (72.5)   | 10 (66.7) | 66 (63.5) |
| Within one mile    | 3 (11.5)          | 2 ( 8.7)  | 4 (10.0)    | 0         | 9 ( 8.6)  |
| Nil                | 12 (46.2)         | 5 (21.7)  | 7 (17.5)    | 5 (33.3)  | 29 (27.9) |
| Total              | 26                | 23        | 40          | 15        | 104       |



TABLE 24 : *Number of Teaching Days (in a year)*

| Number of teaching days      | Number of schools |           |          |           |             |           |          |          |
|------------------------------|-------------------|-----------|----------|-----------|-------------|-----------|----------|----------|
|                              | Calcutta          |           |          |           | 24-Parganas |           |          |          |
|                              | Boys              |           | Girls    |           | Boys        |           | Girls    |          |
|                              | 1958-59           | 1959-60   | 1958-59  | 1959-60   | 1958-59     | 1959-60   | 1958-59  | 1959-60  |
| Less than or equal to 175    | 15 (62.5)         | 13 (54.2) | 5 (22.7) | 3 (13.6)  | 5 (12.5)    | 5 (12.5)  | 2 (13.3) | 0        |
| 176 to 200                   | 4 (16.7)          | 8 (33.3)  | 8 (36.4) | 11 (50.0) | 12 (30.0)   | 17 (42.5) | 4 (26.7) | 6 (40.0) |
| 201 to 210                   | 3 (12.5)          | 1 ( 4.2)  | 5 (22.7) | 5 (22.7)  | 8 (20.0)    | 3 ( 7.5)  | 3 (20.0) | 3 (20.0) |
| 211 to 225                   | 1 ( 4.2)          | 1 ( 4.2)  | 2 ( 9.1) | 1 ( 4.5)  | 9 (22.5)    | 12 (30.0) | 5 (33.3) | 5 (33.3) |
| 226 and above                | 1 ( 4.2)          | 1 ( 4.2)  | 2 ( 9.1) | 2 ( 9.1)  | 6 (15.0)    | 3 ( 7.5)  | 1 ( 6.7) | 1 ( 6.7) |
| Total                        | 24                | 24        | 22       | 22        | 40          | 40        | 15       | 15       |
| Mean number of teaching days | 179.00            | 178.13    | 193.86   | 193.00    | 200.40      | 200.10    | 201.80   | 203.20   |

Data were also collected in respect of number of teaching days, periodical examinations, tutorial classes and results at the Public Examination (School Final or Higher Secondary) from a number of schools. Table 24 gives information about number of teaching days in a school for the sessions 1958-59 and 1959-60. The Secondary Education Commission appointed by the Government of India recommended that the total number of teaching days in a year should not be less than 200.<sup>13</sup> But from the above mentioned table it is noticed that the percentage of schools with number of teaching days less than 200 is not negligible, the percentage being higher in Calcutta schools than in the schools of 24-Parganas and among boys' schools than among girls' schools. Percentages for boys' and girls' schools in Calcutta and in 24-Parganas are respectively 84.5, 61.5, 49.6 and 40.0.

Table 25 provides percentages of passes in different divisions at the Public Examinations held in 1960. A little more than

TABLE 25.1 : *Average Percentage of Passes in Different Divisions*

| Division | Number of schools |       |             |       |
|----------|-------------------|-------|-------------|-------|
|          | Calcutta          |       | 24-Parganas |       |
|          | Boys              | Girls | Boys        | Girls |
| First    | 13.7              | 8.6   | 5.8         | 0.0   |
| Second   | 36.2              | 42.3  | 26.8        | 17.0  |
| Third    | 25.7              | 27.4  | 28.3        | 24.7  |

75% students of Calcutta Schools were successful although the percentage of students passed in first division was extremely small (13% for boys' and 8.6% for girls'.) The unsatisfactory nature of the results at the Public Examinations is clearly revealed by the large percentage of successful candidates being placed in the third division. The students of schools in 24-Parganas fared worse at the Public Examinations. It is also noticed that in about 20.0% of all schools excepting girls' schools in Calcutta percentages of

<sup>13</sup> *Ibid.*, p. 207.

In conclusion, it may be noted that in this investigation an attempt has been made to examine the extent to which facilities for study and work have been made available to the student and the teacher in the higher secondary schools in Calcutta and 24-Parganas.

**Summary and  
Concluding Remarks**

Although it has not been possible to examine all the relevant matters of investigation the survey reveals that the existing teaching facilities in schools are not very encouraging, and many of the recommendations of the Secondary Education Commission have not been fully implemented in some of the schools. A brief summary of some of the important findings of the present survey is given below.

Some emphasis has been laid by the Commission on teaching crafts to train practical aptitudes, to facilitate clarity of thinking and to give chance for co-operative work. A few schools (about 7%) have no provision for training in craft, while in a large percentage (about 71%) of schools provision exists for training one craft only. Schools have mostly introduced those craft subjects which involve less expenditure, and little attention has been paid to the diverse interests and aptitudes of students. In about 40% of all schools there is no separate craft room, while a small proportion of schools, which impart training in craft, do not even provide for appointing a whole-time or a part-time craft instructor. The little scope for choice of craft subjects that is left to the students and the little attention that the authorities are paying to instructions in craft go to show that the objectives of the Secondary Education Commission have hardly been accomplished.

To provide a general understanding of scientific phenomena and to indicate how knowledge of science helps one to lead a better and fuller life, the Commission has also recommended the teaching of General Science. But in more than 10% of boys' schools and 30% of girls' schools there is no separate laboratory for General Science and only a small number of schools possess a museum. According to the information supplied by the school authorities it is found that about one-fourth of such laboratories possess only half or less than half of equipments recommended by the Board of Secondary Education, West Bengal. Experiments are not demonstrated regularly in theoretical classes in a considerable proportion of schools, the situation being less satisfactory in schools of 24-Parganas than in schools of Calcutta.

According to the revised syllabus, a student has to read a number of core subjects and one of the admissible groups of optional subjects. Seven such groups have been proposed by the Board of Secondary Education, West Bengal, so as to allow the students adequate choice of subjects in keeping with their abilities, aptitudes and interests. But provisions for teaching Commerce and Technical groups exist in comparatively few schools, and only one-third of girls' schools teach science subjects. Percentages of Calcutta boy students reading Humanities, Science, Commerce and Technical Groups are 35, 40, 20 and 5 respectively, while the corresponding percentages in 24-Parganas are 50, 42, 5 and 1. About 15% of girls study Science, while the percentage of girls reading Home Science is as low as 7, although facilities for teaching Home Science exist in as many as 40% of girls' schools.

The utility of a well-equipped library in a teaching institution need not be over-emphasized. In a large number of schools, however, the library room is inadequately small, and there is no provision for employing a part-time or a whole-time librarian. Such libraries are left to the care of a teacher or a clerk. Library facilities as judged by book-student ratio, existence of separate reading-room, etc. are poor.

With the inclusion of the first year of the Intermediate course in the higher secondary programme, it has been deemed necessary to appoint teachers possessing post-graduate or honours degrees for teaching the elective subjects. Dearth of qualified and trained teachers in the elective subjects is no unexpected revelation. About 40% of teachers in Calcutta schools and in the girls' schools of 24-Parganas possess a master's degree or a bachelor's degree with honours, but the percentage is as low as 33 among teachers in boys' schools of 24-Parganas. Some 15 to 20 percent of teachers are only under-graduates. Percentages of trained teachers in the four groups are 31, 49, 27 and 37. Nearly 40% of teachers in English possess a post-graduate or an honours degree (not necessarily in English), and 10% are under-graduates. Nearly 12% hold degrees in Commerce and Science. The picture is more gloomy for Bengali. About 16% of teachers in Mathematics are under-graduates and one-third of teachers in Civics and Economics possess only pass degrees. Major Science subjects reveal large percentages of pass-graduates among teachers and of posts of vacant and part-time

teachers. To make matters worse, the same teacher has to teach the subject in all the classes in a few schools. Sometimes the same teacher has to teach more than one science subject.

Over-crowding and congestion create unhealthy environments. Classes are large and divided into too many sections. In a considerable proportion of cases number of students in a class exceeds 40. While an accommodation of 10 sq. ft. should be allowed to each student, percentages of class-rooms providing an area not more than 8 sq. ft. vary between 30 to 40, while some 10 to 20 percent of class rooms spare to each student a floor space not more than 6 sq. ft.

Provisions for a regular medical check-up do not exist in all the schools, while existing facilities for recreation and physical exercise are only meagre. Tutorial classes are seldom arranged and periodical (weekly/monthly) examinations are not regularly held. In a considerable proportion of schools the number of teaching days is less than 200.

All these details clearly indicate the unsatisfactory nature of facilities available in schools. It will not be unexpected, if with the admission of a large number of students in a great majority of schools and without adequate staff, class-room, library and necessary equipments the schools will not be in a position to give a full education to their students with the consequence that the results at the Public Examination will be poor. The unsatisfactory nature of the results at the Public Examination is reflected in the large percentage of successful candidates being placed in the third division. It is also found that in about 20% of all schools excepting girls' schools in Calcutta percentage of passes is less than 50. Students of 24-Parganas have fared worse than the students of Calcutta.

In this connection it should be noted that the present survey was confined to schools in Calcutta and 24-Parganas and to only those schools which were recently upgraded to higher secondary schools. It is likely that teaching facilities available in these schools are perhaps better than the teaching facilities available in schools which have not been upgraded and specially in schools which are situated in rural areas. One can then easily imagine how inadequate are the existing teaching facilities in a large proportion of schools.

Important changes are taking place in our educational system through the replacement of the old curriculum of studies by the new one. The mere introduction of a new curriculum however good and carefully planned cannot cause any effective improvement. In order to make any effective improvement in the educational system greater attention has to be paid in removing the short-comings of the teaching facilities.

Sul. National Systems Unit,  
National Institute of Educational  
Planning and Administration  
17-B, SriAurobindo Marg, New Delhi-110016  
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