

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

AN EDUCATIONAL SURVEY

REPORT NUMBER 2

Howrah, Hooghly, Nādia and Murshidabad

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PREFACE

This is the second of a series of reports meant to present the findings of a statistical enquiry into the facilities for study and work available in the higher secondary schools of West Bengal. The present report covers the districts of Howrah, Hooghly, Nadia and Murshidabad, the first report* being devoted to a similar study in Calcutta and 24-Parganas. Non-response has been strenuously avoided and sampling study has been discarded in favour of complete enumeration for girls' schools since the numbers of higher secondary girls' schools in these districts are small. Mechanical tabulation was resorted to for the analysis of information regarding teachers. The questionnaire used for collection of data from schools in these districts was practically the same as the one used for collection of data from the schools in Calcutta and 24-Parganas except for some minor changes. A few items of information have been inserted while a few existing ones have been dropped. An analysis of examination results has been attempted, a study of the incomes of teachers has been added, and information relating to certain other items has been analysed.

That the field of education in our country has been thronged with many acute problems in the recent past is only too well-known. Perhaps many new difficulties have also cropped up with the introduction of eleven-year programme of secondary education in schools and the three-year degree courses in colleges. Under these circumstances, an enquiry into the facilities for study and work currently provided by the higher secondary schools vis-a-vis the difficulties that the authorities of the newly-upgraded higher secondary schools are facing in introducing the new system is expected to be of great help in revealing the directions along which efforts may be made to remove them and thus to bring in effective improvement in the system of education.

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FACILITIES FOR TEACHING IN HIGHER SECONDARY SCHOOLS IN WEST BENGAL

Howrah, Hooghly, Nadia and Murshidabad

Recently, on the recommendations of the Secondary Education Commission, it has been decided to change over from the old unilateral system of secondary education to one that will cater for the diverse needs, aptitudes and interests of students. The curriculum of studies as well as the pattern of examinations underwent remarkable changes to render secondary education more practical and complete in itself. It has been claimed as a step towards an integrated system of education that makes room for individual differences. But the new programme can be a success only in properly-staffed and well-equipped institutions. That is why the conversion of the old high (Class X) schools into the higher secondary multipurpose (Class XI) institutions is fraught with many obstacles. Adequate library and laboratory facilities, tutorial classes and periodical examinations, availability of qualified and trained teachers are some of the pre-requisites for efficient working of an educational institution.

It is difficult to convert all the existing high schools simultaneously into higher secondary schools and it is likely that facilities available in the recently upgraded schools may not be quite satisfactory at least at the initial stages. So an investigation into such facilities available in this period of transition may reveal a somewhat unsatisfactory picture. All the same, an enquiry into the existing conditions is likely to indicate the directions along which efforts may be made to cause effective improvement over the existing system of education. It is with this belief that the present report is being brought out to reveal the findings of this Educational Survey in the districts of Howrah, Hooghly, Nadia and Murshidabad. It may be recalled that this fact finding study was initiated in August, 1960 by the Department of Statistics, Calcutta University and the first report containing the findings in Calcutta and 24-Parganas has already been published. In this connection, it

should be noted that the extent of facilities available in the higher secondary schools of Calcutta and 24-Parganas as revealed in the earlier report has definitely gone up since the publication of the first preliminary report of this educational enquiry.

The present report is written essentially on the same lines to embody almost the same type of analysis as the earlier one.

New Features of the Present Report Changes have of course been introduced in the construction of tables and the presentation of results. A more elaborate study of some items of information has been attempted. An analysis of students' performance in the school examinations has been made. Opinions of heads of the institutions surveyed regarding the working of higher secondary classes have also been collected.

In the light of experience gathered during the earlier round of field-investigation in Calcutta and 24-Parganas, it was felt proper to introduce a few new items of information and to delete a few existing items as being not so important. The period of reference in respect of a number of items was also altered. So inter-district comparability as to the reference period for a number of items has not been strictly ensured, though uniformity has been fully preserved for all schools within a district. The questionnaire has thus under-gone a gradual modification to meet exigencies of the situation. Of the new items of information collected from schools in Howrah, and Hooghly, mention may be made of residence facilities for teachers and hostel facilities for students, time devoted to instructions in craft, practical classes for elective science subjects, school hours, existence of any other school in the same building, tuition fee etc. In addition to these items, information about facilities for games and exercises, number of teachers who joined and of those who left the school owing to various reasons during the last 3 years and common-room facilities were also collected from schools in Nadia and Murshidabad.

Field work in the four districts covered in the present report was completed in three stages. Investigation in the schools of Howrah and Hooghly was started in August 1961 with a batch of six investigators and continued upto the middle of October, 1961. Postal enquiry was taken recourse to for 3 boys' schools in Howrah and 1 boys'

school in Hooghly owing to transport difficulties. Post-graduate students of the Department of Statistics, Calcutta University, along with four of the above investigators started compiling data from schools in Nadia in December, 1961. Collection of data from these schools was completed in the early part of February, 1962. Investigators were sent to Murshidabad in the middle of March, 1962. In spite of great difficulties that the investigators had to face in travelling from one school to another, field-work in the district was completed in early May, 1962.

In this connection it may be mentioned that investigators had to visit some of the institutions more than once. The filled in schedules were scrutinised for inconsistencies, if any, or incompleteness after they were submitted by the investigators and necessary corrections were made through postal correspondence with the heads of the institutions. In this way an attempt was made to collect information from all the schools included in the sample and it is gratifying to note that all the schools visited by the investigators furnished most of the information sought.

The design adopted in the enquiry in Calcutta and 24-Parganas was one of stratified random sampling with proportional allocation, sampling fraction in a stratum being nearly equal to 60%. The schools in each district were classed into two groups or strata—boys' schools and girls' schools and from each such group about 60% of schools were selected.

Sampling Design

Since upgrading of Class X schools is a continuing process, the list of higher secondary schools should be examined carefully and recent changes should be noted before selecting samples from any stratum. When the field-work was going on in Calcutta and 24-Parganas, there were 37, 40, 22 and 22 higher secondary schools for boys in the districts of Howrah, Hooghly, Nadia and Murshidabad respectively, the corresponding numbers of girls' schools being 9, 13, 6 and 3. Numbers have increased since then and at the time of field-work in these districts these numbers stood at 45, 53, 29, 26 and 9, 13, 7 and 4 respectively. Since the numbers of girls' schools upgraded in all these districts were small, it was deemed proper to collect information from all of these institutions. But data were collected from 60% of boys' schools in each of these four districts. Although the findings for girls' schools in these districts take account of the position prevailing in each and every existing higher

secondary school, the merit of these results is considerably affected due to the smallness of numbers on which they are based specially in view of the fact that we are passing through a transition period when upgrading of schools has been continuing. But the extremely small numbers of higher secondary schools for girls clearly indicate unsatisfactory conditions relating to educational facilities open to girls in these districts. The numbers of schools covered in this round of field-work are 25, 27, 18 and 17 for boys and 9, 13, 7 and 4 for girls in the 4 districts of Howrah, Hooghly, Nadia and Murshidabad respectively.

One point to note in this connection is that not all the boys' schools in the sample are reserved for boys. Some of these institutions are recognised as co-educational, while in some others provision exists for admitting girls in the higher classes. However, separate records for the numbers of boys and girls reading in such schools have not been collected and in view of the fact that the majority of scholars in these schools are boys, they have been shown as boys' schools.¹ Table 1 shows the numbers of boys' and girls'

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

Stratum	Number in stratum	Number investigated	Fraction investigated
Howrah Boys	37*	25	0.68
Howrah Girls	9	9	1.00
Hooghly Boys	40*	27	0.68
Hooghly Girls	13	13	1.00
Nadia Boys	29	18	0.62
Nadia Girls	7	7	1.00
Murshidabad Boys	26	17	0.65
Murshidabad Girls	4	4	1.00
Total	165	120	

* These are the numbers of schools in these two strata when data were collected. Later, 8 and 13 more schools were upgraded with effect from 1. 3. 1961.

¹ In the list of recognised higher secondary schools prepared by the Board of Secondary Education, West Bengal, from which samples were drawn, such schools are listed as boys' schools and not shown separately.

schools existing in the four districts covered and the corresponding numbers included in this enquiry.

It has been already mentioned that the new curriculum in higher secondary schools has been framed to adapt itself to the diverse needs, aptitudes and interests of students.

The Revised Curriculum

The revised syllabus provides for a number of compulsory subjects including three languages, social studies and elementary mathematics. To train practical aptitudes, to facilitate clarity of thinking, to encourage co-operative work and thus to enrich the entire personality, the Secondary Education Commission has recommended craft as a compulsory subject of study. General science has also become another compulsory subject to provide to the students a general understanding of scientific phenomena and to indicate how knowledge of science helps one to lead a better and a fuller life.² Apart from these core subjects to be learnt by all, students have to select one of seven admissible groups of elective subjects or streams of study; and have to choose three elective subjects from the group. It is from this point of view that the course is diversified and the institution is multipurpose.

One salient feature of the new curriculum is the provision for diversified courses of study for students of varying intellect and interest. Seven groups of elective subjects or seven streams of study have been recognised, so that students may have ample scope for choice of their subjects in keeping with their

Facilities for Selecting Elective Groups

aptitudes, aptitudes and aspirations. But the very object of this scheme will be foiled if schools cannot arrange for teaching in an adequate number of these streams. It is also desirable that provision should exist for teaching almost all the different subjects recommended in each group.

To impart education in general, schools should provide for teaching in 'Humanities'; to cope with the gradually increasing demand for scientific and technical personnel in our country to-day facilities for teaching 'Science' and 'Technical' subjects

² Third language and craft are to be discontinued at the end of Class IX, while Elementary Mathematics, General Science and Social Studies at the end of Class X. Students are not examined at the final examination in these subjects.

should be extended, and to cater for the vocational needs of students provisions should exist for teaching 'Commerce' and 'Agriculture'. In the opinion of the authors it is desirable that all boys' schools should provide training in 'Humanities', 'Science', 'Commerce' and 'Technical' courses. It must be admitted, however, that 'Technical' stream cannot be easily introduced in all the schools. In girls' schools, however, provision for imparting training in 'Agriculture' and 'Technical' groups is not essential but 'Home Science' and 'Fine Arts' should be given due emphasis. Girls' schools should impart instructions in 'Humanities', 'Science', 'Home Science' and 'Fine Arts', or at least the first three.

Tables 2 and 3 provide information about the extent of facilities available to students in respect of the selection of their

TABLE 2 : *Number of Streams Introduced.*

No. of Streams	Number of Schools							
	Howrah		Hooghly		Nadia		Murshidabad	
	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls
1	5 (20.0)	3 (33.3)	1 (3.7)	8 (61.5)	4 (22.2)	1 (14.3)	4 (23.5)	3 (75.0)
2	15 (60.0)	3 (33.3)	17 (63.0)	4 (30.8)	12 (66.7)	5 (71.4)	10 (58.8)	1 (25.0)
3	5 (20.0)	1 (11.1)	8 (29.6)	1 (7.7)	2 (11.1)	1 (14.3)	2 (11.8)	0
4	0	2 (22.2)	1 (3.7)	0	0	0	1 (5.9)	0

(Figures in parentheses indicate percentages in all tables).

elective groups. It is found from Table 2 that 20% of boys' schools in Howrah impart teaching in 'Humanities' only, leaving no option altogether to their students regarding the choice of elective groups. In 60% of boys' schools in Howrah students have to make a choice between two alternative courses for which training is provided by these schools. Another 20% of schools, however provide for tuition in three different courses. In three (33.3%) out of nine girls' schools in Howrah, 'Humanities' is the only course to be taken up, while in three other schools two courses are being taught. The remaining three schools offer some choice, with

TABLE 3 : *Courses Introduced.*

Courses	Number of Schools							
	Howrah		Hooghly		Nadia		Murshidabad	
	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls
Humanities	25 (100.0)	9 (100.0)	27 (100.0)	13 (100.0)	18 (100.0)	7 (100.0)	17 (100.0)	4 (100.0)
Science	19 (76.0)	6 (66.7)	26 (96.3)	3 (23.1)	10 (55.6)	3 (42.9)	12 (70.6)	1 (25.0)
Commerce	3 (12.0)	0	4 (14.8)	0	2 (11.1)	0	2 (11.8)	0
Technical	1 (4.0)	0	3 (11.1)	0	1 (5.6)	0	0	0
Agriculture	2 (8.0)	0	3 (11.1)	0	3 (16.7)	0	3 (17.6)	0
Home Science	0	3 (33.3)	0	3 (23.1)	0	2 (28.6)	0	0
Fine Arts	0	2 (22.2)	0	0	0	2 (28.6)	0	0
Total	25	9	27	13	18	7	17	4

two (22.2%) of them imparting instructions in as many as four elective courses. The situation in respect of boys' schools is somewhat better in the district of Hooghly. In only about 4% of these schools students have been denied of any scope for choice of elective course the only group taught being 'Humanities' and nearly 30% of schools provide training in three different courses, while students in about 4% of schools can select a course from among four alternatives. Girls' schools in Hooghly, on the other hand present a disheartening picture with eight (61.5%) schools out of a total number of thirteen providing 'Humanities' as the only elective course and only one (7.7%) school provides tuition in three different courses. Some 22.2% of boys' schools in Nadia provide training in one group only, with percentages of schools providing training in 2 and 3 elective groups being 66.7 and 11.1 respectively. Girls' schools in this district offer slightly greater freedom, numbers of schools providing tuition in one (Humanities), two and three elective groups being 1(14.3%), 5(71.4%) and 1(14.3%) respectively. In Murshidabad, the picture for boys' schools is almost the same as

in Howrah with however, nearly 12% of schools arranging instructions in three elective courses and nearly 6% of schools offering 4 elective courses. Of the four girls' schools of this district three (75%) schools do not provide for training in any course other than 'Humanities' and in only one (25%) school there is provision for teaching two elective groups—'Humanities' and 'Science.'

The picture in respect of freedom of choice of elective groups enjoyed by students is not very encouraging as revealed by a considerable percentage of boys' schools in Howrah, Nadia and Murshidabad providing training in only one elective group (Humanities), although in about 60% of boys' schools provision exists for teaching two elective groups. The proportion of boys' schools arranging instructions in three or four elective groups is also small in these three districts. The situation in respect of girls' schools is worse.

With its minimum of pre-requisites, 'Humanities' has been introduced in all the schools. So far as 'Science' is concerned, boys' schools in Hooghly provide adequate freedom of choice, 96.3% of schools providing instruction in this group. In Howrah and Murshidabad the corresponding percentages of schools are 76.0 and 70.6 respectively. The scope of choice in favour of 'Science' is however restricted in Nadia where only 55.6% of schools teach the group. Freedom of choice is much limited in respect of the 'Technical' group. Percentages of boys' schools providing tuition in this group being 4.0, 11.1 and 5.6 in Howrah, Hooghly and Nadia respectively. None of the boys' schools selected in Murshidabad provide training in 'Technical' subjects. A greater percentage of schools in these districts however offer training in 'Agriculture' than in 'Technical' group. So far as the group 'Commerce' is concerned, the position is almost the same in the four districts, the percentage of schools providing tuition in this group varying between 11 to 15.

Like boys' schools, all girls' schools also provide training in 'Humanities'. While girls' schools in the districts of Howrah and Nadia provide some freedom of choice in respect of the 'Science' group the scope is much restricted in the schools of Hooghly and Murshidabad, the group being taught in 6(66.7%), 3(23.1%), 1(25.0%) and 3(42.9%) schools respectively in Howrah, Hooghly, Murshidabad

and Nadia. It is surprising to note that no girls' school in Murshidabad provides training in 'Home Science', the percentage of girls' schools with arrangements for training in this group in the other three districts varying between 23 and 33. In none of the girls' schools in these four districts provision exists for teaching 'Commerce'. Provision for training in 'Fine Arts' exists in the schools of Howrah and Nadia only, percentages of schools in these districts teaching the group being 22.2% and 28.6% respectively.

Percentages of students following different courses have been examined. Table 4.1 gives the percentages of students studying the different elective courses separately for the three classes IX, X and XI. It is found that in boys' schools the proportion of students who have taken up, 'Commerce' or 'Technical' or 'Agriculture' course is very small being 7 at the most. This is due to small number of schools providing tuition in these groups. Percentages of students following the 'Humanities' and the 'Science' courses are nearly the same in Hooghly. In Howrah and Nadia about 70% of students of boys' schools have taken up 'Humanities' while the percentages of students following 'Science' varies between 33.2 and 41.3 in Howrah and between 25.9 and 38.9 in Nadia. In Murshidabad about two-thirds of students in boys' schools have selected 'Humanities' and the percentage of students following the 'Science' course is slightly less than 25. Most of the students in girls' schools study 'Humanities', the percentage being greater than 75 in Howrah and Nadia and about 85 in Hooghly. In Murshidabad more than 90% of students study 'Humanities.' The percentages of girls who have taken up the 'Science' course in girls' schools are about 15 in Howrah, about 10 in Nadia and less than 10 in Hooghly and Murshidabad.

In schools imparting instruction in one course (Humanities) only, students have to take up that stream. Scope of choice of elective course is not the same in all the schools. So it seems appropriate to study percentages of students following different courses separately for schools providing tuition in a number (two or more) of specified elective courses. Percentages have been calculated separately for boys' schools providing tuition in (i) 'Humanities' and 'Science', (ii) 'Humanities' and 'Agriculture' (in Nadia and Murshidabad), (iii) 'Humanities', 'Science' and

TABLE 4.1 : Percentages of Students in Different Elective Courses (overall figures)

Streams	Howrah		Hooghly		Nadia		Murshidabad	
	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls
Class—IX								
Humanities	52.20	74.35	47.61	83.00	58.62	76.13	67.04	93.13
Science	41.26	17.91	42.90	8.16	25.87	10.45	21.85	6.86
Commerce	4.52		4.91		5.07		4.89	
Technical	0.28		2.95		3.34			
Agriculture	1.71		1.60		7.10		6.20	
Home Science		5.64		8.82		10.00		
Fine Arts		2.08				3.40		
Class—X								
Humanities	55.84	79.65	46.74	82.38	55.25	80.16	63.78	93.86
Science	36.91	14.78	42.00	12.88	33.38	14.87	25.32	6.13
Commerce	4.53		4.47				3.55	
Technical	0.79		3.99		4.94			
Agriculture	1.91		2.78		6.42		7.33	
Home Science		4.52		4.73		0.41		
Fine Arts		1.04				4.54		
Class—XI								
Humanities	61.45	81.68	46.52	92.45	51.50	71.17	66.53	90.00
Science	33.21	16.08	42.96	6.55	38.87	9.45	24.61	10.00
Commerce	3.64		4.11				2.69	
Technical	0.71		4.02		5.01			
Agriculture	0.97		2.37		4.60		6.15	
Home Science		1.98		0.98		16.21		
Fine Arts		0.25				3.15		

'Commerce', (iv) 'Humanities', 'Science' and 'Technical' and (v) 'Humanities', 'Science' and 'Agriculture'. Such percentages for girls' schools have been calculated separately for schools imparting training in (i) 'Humanities' and 'Science', (ii) 'Humanities' and 'Home Science' and (iii) 'Humanities', 'Science' and 'Home Science'. Table 4.2 gives these percentages separately for classes IX, X and XI.

In 60% of boys' schools in Howrah, 'Humanities' and 'Science' are being taught and in these schools percentages of students following 'Science' course are 39.3, 44.2 and 51.2 respectively in classes XI, X and IX. In Hooghly 63% of boys' schools impart training in 'Humanities' and 'Science' and percentages of students studying 'Science' in classes IX to XI of these schools vary between 45.7 and 48.7. Two-thirds of boys' schools of Nadia providing instructions in 2 streams offer either 'Science', or 'Agriculture' or 'Commerce' as an alternative to 'Humanities'; percentages of students following 'Science' are 52 in class XI, 48 in class X and 42 in class IX, while percentage of students following 'Agriculture' is about 68 in class XI and nearly 55 in the other two classes. More than 50% however read 'Commerce'. In 58.8% boys' schools of Murshidabad, students have to make a choice either between 'Humanities' and 'Science' or between 'Humanities' and 'Agriculture'. In classes X and XI of schools of the first category nearly 44% of students study 'Science', the percentage being only 29 in class IX. In the second category of schools one fourth of students in class X, one-third in class XI and half in class IX read 'Humanities'.

Proportion of schools providing tuition in three or more streams is small. So data could be collected only from a very small number of schools providing training in three or more elective courses and this has to be kept in mind in discussing these results. In Howrah only one school included in the sample was found to impart training in 'Humanities', 'Science' and 'Technical' groups. About 50% of students in classes X and XI follow 'Science' while the percentage in class IX is 43. The percentages following the 'Technical' group in the classes IX, X and XI are 6, 18 and 12 respectively. In schools where the students can select one of the three groups 'Humanities', 'Science' and 'Agriculture', 40.5% students in class IX, 42.9% in class X

TABLE 4.2 : Percentages of Students Following Different Courses

Courses taught	Percentages of Students reading in schools								
	Howrah Boys					Hooghly Boys			
	Hum.	Sc.	Com.	Tech.	Ag.	Hum.	Sc.	Com.	Tech. Ag.
Class—IX									
Hum. & Sc.	48.8	51.2				54.3	45.7		
Hum, Sc, Com.	19.8	35.6	4.64			31.0	40.4	28.6	
Hum, Sc, Ag,	40.5	27.0			32.4	64.6	19.5		15.9
Hum, Sc, Tech.	51.7	42.7			5.6	27.1	42.1		30.8
Class—X									
Hum & Sc.	55.8	44.2				52.9	47.1		
Hum, Sc, Com.						48.0	35.3	16.7	
Hum, Sc, Ag.	42.9	28.6			28.6	38.1	29.8		32.1
Hum, Sc, Tech.	29.6	51.9			18.5	30.6	31.3		38.1
Class—XI									
Hum & Sc.	60.7	39.3				51.3	48.7		
Hum, Sc, Com.						52.4	33.3	14.3	
Hum, Sc, Ag.	58.8	23.5			17.7	63.5	17.3		19.2
Hum, Sc, Tech.	39.4	48.5			12.1	36.4	33.9		29.7

Courses taught	Howrah Girls			Hooghly Girls					
	Hum.	Sc.	H. Sc.	Hum.	Sc.	H. Sc.			
Class—IX									
Hum. & Sc.	77.2	22.8		61.2	38.8				
Hum. & H. Sc.				60.1		39.9			
Hum., Sc. & H. Sc.	65.4	22.2	12.4	57.3	25.6	17.1			
Class—X									
Hum. & Sc.	81.5	18.5		57.9	42.1				
Hum. Sc. & H. Sc.	66.0	25.5	8.5	56.8	32.1	11.1			
Class—XI									
Hum. & Sc.	84.0	16.0							
Hum, Sc. & H. Sc.				58.5	34.2	7.3			

TABLE 4.2 : (Concl.)

Courses taught	Nadia Boys					Murshidabad Boys				
	Hum.	Sc.	Com.	Tech.	Ag.	Hum.	Sc.	Com.	Tech.	Ag.
Class - IX										
Hum. & Sc.	57.8	42.2				71.0	29.0			
Hum. & Ag.	44.8				55.2	48.9				51.1
Hum., Sc. & Com.						45.7	30.4	23.9		
Hum., Sc. & Ag.	12.2	43.9			43.9	30.6	32.6			36.8
Hum., Sc. & Tech.	28.3	35.4		36.3						
Class - X										
Hum. & Sc.	51.8	48.2				56.0	44.0			
Hum. & Ag.	45.6				54.4	25.7				74.3
Hum., Sc. & Com.						45.2	21.0	33.8		
Hum., Sc. & Ag.	62.1	22.4			15.5	36.4	33.3			30.3
Hum., Sc. & Tech.	18.0	42.0		40.0						
Class - XI										
Hum. & Sc.	48.5	51.5				56.7	43.3			
Hum. & Ag.	32.1				67.9	34.6				65.4
Hum., Sc. & Com.						57.4	25.5	17.1		
Hum., Sc. & Ag.	55.9	32.4			11.7					
Hum., Sc. & Tech.	21.4	42.8		35.8						

Courses taught	Nadia Girls			Murshidabad Girls		
	Hum.	Sc.	H. Sc.	Hum.	Sc.	H. Sc.
Class - IX						
Hum. & Sc.	78.2	21.8		83.3	16.7	
Hum. & H. Sc.	50.7		49.3			
Class - X						
Hum. & Sc.	71.7	28.3		81.5	18.5	
Hum. & H. Sc.						
Class - XI						
Hum. & Sc.	79.9	20.1		81.2	18.8	
Hum. & H. Sc.	51.5	48.5				

N.B. In a few of the schools some elective courses have been introduced only recently and figures are not available for all the classes IX, X and XI.

and 58.8% in class XI follow 'Humanities', while the percentage of students studying 'Agriculture' in the classes IX, X and XI are 32.4, 28.6 and 17.7.

In 4(14.8%) schools in Hooghly included in this survey 'Science' 'Commerce' and 'Humanities' are taught, although in one school 'Science' has been introduced only for one year and in two schools 'Commerce' has been introduced for not more than two years. The percentage of students in the 'Science' stream is never less than 33.3, it being 40.4, 35.3 and 33.3 for classes IX, X and XI. Though itself small, the percentage for 'Commerce' has changed from 14 to 29 in classes XI to IX, while that for 'Humanities' is nearly 50 for classes X and XI and only 31 in class IX. In classes IX and XI of schools providing tuition in 'Humanities', 'Science' and 'Agriculture' slightly less than 20 per cent of students follow each of the latter two streams while a little more than 60% have taken up 'Humanities'. In class X, however, nearly 30% follow each of the streams 'Science' and 'Agriculture'. Where 'Technical' subjects have been introduced along with 'Humanities' and 'Science', percentages of students in the 'Science' stream are 42.1, 31.3 and 33.9 for classes IX, X and XI and in the 'Technical' stream these are as large as 30.8, 38.1 and 29.7.

In Nadia schools providing tuition in 3 courses either 'Technical' or 'Agriculture' is being taught in addition to 'Humanities' and 'Science'. Where 'Technical' course has been introduced, nearly 43% of students in classes X and XI follow 'Science', the percentage being 35.4 in class IX; while only about 18 to 28 percent have taken up 'Humanities'. With 'Agriculture' as an alternative, percentages of students offering 'Agriculture' in classes IX, X and XI are widely different from each other, being 43.9, 15.5 and 11.7 in classes IX, X and XI respectively, while the percentages of students reading 'Science' are 44 in class IX, 22 in class X and 32 in class XI.

In 17.6% of boys' schools in Murshidabad more than two elective courses are taught. In schools where students have to make a choice between 'Humanities', 'Science' and 'Commerce', the percentage of students following 'Science' course varied between 20 and 30 and the percentage of students studying 'Commerce' in

the classes IX, X and XI are 23.9, 33.8 and 17.1 respectively. In one school included in the sample 'Humanities', 'Science' and 'Agriculture' are taught, 'Agriculture' being introduced for only two years. About one third of students of this school follow each of the three alternative courses.

Girls' schools in Howrah providing tuition in two streams have more than three-fourths of their students reading 'Humanities', the rest having taken up 'Science'. When girls have to make a choice among 3 alternative courses, about two-thirds of students study 'Humanities,' nearly one-fourth read 'Science', the rest being students of 'Home Science'. In those girls' schools of Hooghly where either 'Science' or 'Home Science' is taught as the only alternative to 'Humanities' nearly 60% follow 'Humanities.' Where these 3 courses are taught together, a little less than 60% of students read 'Humanities', and 26 to 34 per cent read 'Science', the rest (7 to 16 per cent) following 'Home Science'. In Nadia, a considerable proportion of students offer 'Home Science.' In fact, where this is the only course alternative to 'Humanities', nearly half the students study this course. In schools providing 'Science' as the only alternative to 'Humanities', about 20 to 28 per cent follow 'Science' and where 'Fine Arts' is the alternative, the course has been taken up by about 20% of students. In Murshidabad, only one girls' school provides training in 2 courses—'Humanities' and 'Science'. A little less than 20% of students in this school study 'Science'.

Percentages of students following the different courses in schools providing tuition in the same group of two or more elective courses are found to be different for the three classes IX, X and XI and also for the different districts. The proportion of students studying a particular course is likely to be influenced by various factors, viz., (i) percentage of schools providing instruction in that course, (ii) number of students for whom schools can arrange for training in the course, (iii) scope of choice of other alternative courses provided by schools, (iv) students' and/or their guardians' preference or otherwise for the choice of a particular stream etc. The various factors likely to affect the percentages of students following the different courses did not remain the same for the different districts and for the different years. It has not been possible to study the effect of the different factors. Nevertheless an examination

of the percentages of schools arranging tuition in different elective courses (Table 3), small percentages of schools providing adequate freedom of choice of elective subjects to their students (Table 2) and percentages of students following different courses (Tables 4.1 and 4.2) clearly indicate that provision for greater scope of choice of elective course should be made by introducing different elective courses in schools. To introduce new courses schools will have to incur considerable expenses and may have to face great difficulties in employing qualified teachers. Without adequate help from Government and the Board of Secondary Education the schools will not be able to overcome these difficulties. At the initial stages it may not be possible to introduce all the elective courses in every school in different regions of the country. It may be mentioned that heads of some higher secondary schools covered in this survey have suggested that facilities should exist for transfer of students intending to follow a particular course from one school where the course is not being taught to a neighbouring school providing tuition in that course.

It has been already mentioned that schools should not only introduce an adequate number of courses so as to provide freedom of choice of elective group to their students but also make arrangements for teaching almost all the different subjects belonging to a particular group. Difficulties that schools may have to face in this connection have been mentioned earlier. Table 5 gives information about the elective subjects belonging to 'Humanities' and 'Science' introduced in schools of different districts. History and Elements of Civics & Economics are being taught in all the schools investigated. One or more classical languages are taught in a greater percentage of girls' schools than in boys' schools in Howrah and Hooghly, while the percentages are nearly the same in Nadia, and in Murshidabad the situation is reversed. Classical languages have been introduced in all the girls' schools of Howrah. The percentage of schools teaching classical languages is always greater than 70, except in the boys' schools of Hooghly where the percentage is as low as 55.6. The percentage of girls' schools teaching Logic and Psychology is greater than the corresponding percentage of boys' schools except in Hooghly where the percentages are nearly equal. Nearly 50% of boys' schools in Howrah, Nadia and Murshidabad have introduced this subject, the proportion

TABLE 5 : *Elective Subjects (Humanities & Science Courses).*

Subject	Percentage of schools							
	Howrah		Hooghly		Nadia		Murshidabad	
	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls
History	100·0	100·0	100·0	100·0	100·0	100·0	100·0	100·0
Elements of Civics & Economics	100·0	100·0	100·0	100·0	100·0	100·0	100·0	100·0
Classical Lan- guage*	70·8	100·0	55·6	76·9	82·4	83·3	94·1	75·0
Logic & Psychology	50·0	100·0	66·7	69·2	52·9	83·3	52·9	100·0
Music (Vocal- Instrumental)	0·0	75·0	0·0	7·7	0·0	0·0	0·0	0·0
Mathematics	70·8	50·0	74·1	30·8	47·1	50·0	70·6	25·0
Geography	100·0	75·0	74·1	69·2	58·8	66·7	70·6	50·0
Home Science	0·0	75·0	0·0	69·2	5·9	33·3	0·0	100·0
Physics	100·0	100·0	100·0	100·0	100·0	100·0	100·0	100·0
Chemistry	100·0	100·0	100·0	100·0	100·0	66·7	100·0	100·0
Biology	68·4	100·0	69·2	100·0	80·0	66·7	66·7	100·0
Mechanics	36·8	0·0	38·5	0·0	20·0	0·0	0·0	0·0
Physiology & Hygiene	0·0	0·0	3·9	0·0	0·0	33·3	0·0	0·0

*Sanskrit, Pali, Arabic, Persian or Latin.

N. B.—Information in respect of elective subjects taught could not be collected from one boys' school and one girls' school from each of the districts of Howrah and Nadia.

being two-thirds among boys' schools in Hooghly. All girls' schools in Howrah and Murshidabad teach the subject, the percentages in Hooghly and Nadia being 69.2 and 83.3 respectively. Six (75%) out of eight girls' schools in Howrah and one (7.7%) girls' school in Hooghly arrange for teaching Music as an elective subject. Among the three subjects Mathematics, Geography and Elements of Home Science belonging to the 'Humanities' as well as to the 'Science' groups, it is found that in Howrah and Murshidabad, Geography is taught in a much greater proportion of boys' schools than in girls' schools, while in the other two districts percentage of girls' schools teaching Geography is nearly the same as the corresponding percentage for boys' schools. Geography is taught in a greater proportion of boys' schools than

Logic and Psychology while the situation is just the opposite in girls' schools except in Hooghly. But the differences are large except in boys' and girls' schools of Hooghly and boys' schools of Nadia. The percentages of boys' schools where Geography has been introduced are 100.0, 74.1, 58.8 and 70.6 respectively in the districts of Howrah, Hooghly, Nadia and Murshidabad, the corresponding percentages for girls' schools being 75.0, 69.2, 66.7 and 50.0. Mathematics is taught in a larger proportion of boys' schools than in girls' schools except in Nadia where the percentage for girls' schools is slightly greater than that for boys' schools. Nearly 70% of boys' schools in Howrah and Murshidabad, about 75% in Hooghly and only 47% in Nadia teach Mathematics. Among girls' schools, these percentages are 50 in Howrah and Nadia, about 30 in Hooghly and only 25 in Murshidabad. Three fourths of girls' schools in Howrah, about two-thirds in Hooghly, one third in Nadia and all girls' schools in Murshidabad provide tuition in Elements of Home Science. It is also found that about 6% of boys' schools in Nadia teach this subject. Among the 5 subjects exclusively under the 'Science' course, Physics and Chemistry have been introduced in all schools included in the survey where 'Science' course has been introduced (in these districts), except in one girls' school in Nadia where arrangement exists for teaching Physics but not for Chemistry. In a few schools imparting tuition in 'Science' group, provision does not exist for teaching Mathematics. In all girls' schools affiliated to the 'Science' group in Howrah, Hooghly and Murshidabad provision exists for teaching Biology, the percentage being 66.7% in Nadia. In 70% of boys' schools of Howrah and Hooghly, 80% of schools of Nadia and two thirds of schools in Murshidabad Biology has been introduced. Mechanics is being taught in only boys' schools of Howrah, Hooghly and Nadia with the percentages being 36.8, 38.5 and 20.0 respectively. In a small proportion (3.9%) of boys' schools in Hooghly and in one third of girls' schools in Nadia there exists provision for teaching Physiology and Hygiene.

It is obvious from the above discussion that there is scope for extending provision for teaching some of the elective subjects in some districts specially Classical languages, Logic and Psychology, Geography, Mathematics, Physiology and Hygiene, Biology and Mechanics.

While the medium of instruction in undergraduate and post-graduate classes continues to be a controversial issue, few would doubt that mother-tongue should be the medium of instruction at the secondary stage. It is found that in all boys' schools selected in Hooghly and Nadia and in all girls' schools existing in Howrah, Hooghly, Nadia and Murshidabad Bengali is the only medium of instruction. In a small proportion of boys' schools in Howrah and Murshidabad some other languages are also being used. In Howrah, 4% of boys' schools teach through Hindi only. Urdu is being used as an alternative medium in about 6% of boys' schools in Murshidabad.

Medium of Instruction

Unlike the situation in schools of Calcutta, Bengali is the first language and English the second language in all the girls' schools in Howrah, Hooghly, Nadia and Murshidabad.

Languages Taught

The same is true for all boys' schools selected in the district of Hooghly. In one (4%) boys' school selected in Howrah, Hindi is being used as the only first language. English is however, the second language in all the boys' schools selected in this district. English is the first language and Bengali the second language in 5.6% of boys' schools in Nadia. In the remaining 94.4% schools Bengali is the first language and English the second language. In 5.9% of boys' schools in Murshidabad Bengali or Urdu is the first language, English being the second language in all the boys' schools selected in this district.

Table 6 gives information about third languages taught in schools. Sanskrit is the most frequently used third language as in the schools of Calcutta and 24-Parganas. But in a considerable proportion of boys' and girls' schools in Howrah, girls' schools of Nadia and boys' schools of Murshidabad, Hindi is taught. It may be also noted that in more than 50% of boys' schools of Murshidabad, Arabic and Persian are taught as alternative third languages. Sanskrit is being taught as the only or as an alternative third language in 64.0% of boys' schools in Howrah. In Hooghly this percentage is as high as 81.5. (This is partly due to the fact that 55.6% of boys' schools in Hooghly use Sanskrit as the compulsory third language). The corresponding percentages for Nadia and Murshidabad are 88.9 and 94.1 respectively. In all the girls' schools of Hooghly and Murshidabad and in 5 (55.5%) out of 9

TABLE 6 : *Third Languages.*

Language	Number of schools							
	Howrah		Hooghly		Nadia		Murshidabad	
	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls
Sanskrit	10 (40·0)	3 (33·3)	15 (55·6)	10 (76·9)	11 (61·1)	3 (42·9)	2 (11·8)	3 (75·0)
Hindi	8 (32·0)	4 (44·4)	5 (18·5)	0	2 (11·1)	3 (42·9)	1 (5·9)	0
Bengali	1 (4·0)	0	0	0	0	0	0	0
Hindi & Sanskrit	5 (20·0)	2 (22·2)	3 (11·1)	3 (23·1)	2 (11·1)	1 (14·3)	5 (29·4)	1 (25·0)
Persian & Sanskrit	0	0	0	0	1 (5·6)	0	3 (17·6)	0
Arabic & Sanskrit	0	0	3 (11·1)	0	1 (5·6)	0	2 (11·8)	0
Hindi, Arabic & Sanskrit	1 (4·0)	0	0	0	1 (5·6)	0	0	0
Sanskrit & French	0	0	1 (3·7)	0	0	0	0	0
Sanskrit, Persian & Hindi	0	0	0	0	0	0	3 (17·6)	0
Hindi, Sanskrit, Arabic & Persian	0	0	0	0	0	0	1 (5·9)	0
Total	25	9	27	13	18	7	17	4

girls' schools in Howrah and in 4 (57.1%) out of 7 girls' schools in Nadia Sanskrit is being taught as the only or as an alternative third language. In the girls' schools of Hooghly and Murshidabad no other language is being used as the exclusive third language. The percentages of boys' schools where Hindi is being taught as the only or as an alternative third language are 56.0, 29.6, 27.8 and 58.8 respectively for Howrah, Hooghly, Nadia and Murshidabad. In only 1 (25.0%) girls' school out of 4 in Murshidabad Hindi is being taught as an alternative third language. Six (66.7%) out of 9 girls' schools in Howrah and 4 (57.1%) out of 7 girls' schools in Nadia teach Hindi as the only or as an alternative third language. In none of the girls' schools Persian or Arabic is taught.

4% of boys' schools in Howrah, nearly 11% of boys' schools in Hooghly and Nadia teach Arabic as an alternative third language while the percentage is as high as 17.6 in Murshidabad. Persian is taught only in 5.6% and 41.2% of boys' schools in Nadia and Murshidabad respectively. French is being taught along with Sanskrit in 3.7% of boys' schools in Hooghly.

The Secondary Education Commission recommended craft as a compulsory subject of study and the Board of Secondary Education, West Bengal, has recognised 11 different craft subjects to cater for the variety of interests and aptitudes of students. Tables 7 and 8 provide information in respect of facilities available for training in craft and various craft subjects introduced in schools. From table 7 it is found that a very large percentage of schools except girls' schools in Howrah impart instructions in one craft only,

TABLE 7 : *Facilities for Training in Craft.*

Categories	Number of schools							
	Howrah		Hooghly		Nadia		Murshidabad	
	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls
1. Number of crafts introduced								
1	22 (88.0)	5 (55.6)	23 (85.2)	13 (100.0)	17 (94.4)	5 (71.4)	16 (94.1)	4 (100.0)
2	3 (12.0)	3 (33.3)	3 (11.1)	0	1 (5.6)	1 (14.3)	1 (5.9)	0
3	0	1 (11.1)	1 (3.7)	0	0	1 (14.3)	0	0
Total	25	9	27	13	18	7	17	4
2. No provision for craft instructor	0	0	2 (7.4)	0	1 (5.6)	0	0	0
3. Post of craft instructor vacant	3 (12.0)	1 (11.1)	0	0	3 (16.7)	2 (28.6)	0	0
4. Only part time craft instructors employed	3 (12.0)	0	0	1 (7.7)	0	1 (14.3)	1 (5.9)	0
5. No separate craft-room	9 (36.0)	3 (33.3)	8 (29.6)	10 (76.9)	4 (22.2)	4 (57.1)	4 (23.5)	4 (100.0)

TABLE 8 : *Crafts Introduced.*

Craft	Percentage of schools							
	Howrah		Hooghly		Nadia		Murshidabad	
	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls
Hand spinning & weaving	24.0	0.0	11.1	0.0	5.6	0.0	23.5	0.0
Wood work	44.0	0.0	70.4	0.0	55.6	0.0	41.2	0.0
Metal work	4.0	0.0	3.7	0.0	0.0	0.0	0.0	0.0
Gardening	8.0	0.0	7.4	0.0	27.8	0.0	17.6	0.0
Tailoring	4.0	11.1	3.7	7.7	5.6	14.3	23.5	0.0
Sewing, needle work & embroidery	8.0	77.8	3.7	92.3	0.0	100.0	0.0	100.0
Leather work	8.0	44.4	3.7	0.0	0.0	28.6	0.0	0.0
Clay-modelling & paper-mache work	8.0	22.2	11.1	0.0	5.6	0.0	0.0	0.0
Workshop practice	4.0	0.0	3.7	0.0	0.0	0.0	0.0	0.0
Radio	0.0	0.0	0.0	0.0	5.6	0.0	0.0	0.0

leaving little scope for choice of 'craft' subject to the students. Percentages of boys' schools providing training in one craft only are 88.0, 85.2, 94.4 and 94.1 respectively in Howrah, Hooghly, Nadia and Murshidabad. No girls' school in Hooghly and Murshidabad arranges for training in more than one craft subject. In 5 (55.6%) out of 9 girls' schools in Howrah and in 5 (71.4%) out of 7 schools in Nadia provision exists for teaching only one craft subject.

An examination of the crafts introduced in the schools from which data were collected reveals that in none of these schools 'Printing technology' has been introduced and only one (5.6%) boys' school selected in Nadia provides training in 'Radio'. In this connection it may be noted that 'Work shop practice' is a compulsory craft subject to be taken up by all students selecting the 'Technical' group and this elective group has been introduced in 4.0%, 11.1% and 5.6% of boys' schools in Howrah, Hooghly and Nadia respectively. But provision for imparting training in this craft exists in only 4.0% of boys' schools in Howrah and in 3.7% of boys' schools in Hooghly. 'Metal work' has been introduced

only in a small (about 4) percentage of boys' schools in Howrah and Hooghly. In a sizeable proportion of boys' schools provision exists for imparting training in (i) 'Gardening' and (ii) 'Hand-spinning and weaving', the percentages for 'Gardening' being 8.0, 7.4, 27.8 and 17.6 respectively in Howrah, Hooghly, Nadia and Murshidabad. The corresponding percentages, in respect of 'Hand-spinning and weaving' are 24.0, 11.1, 5.6 and 23.5. Training in 'Wood work' is imparted in a considerable proportion of boys' schools, the percentages in these four districts being 44.0, 70.4, 55.6 and 41.2. None of these crafts has been introduced in any of the girls' schools. In most of the girls' schools 'Sewing, needle work and embroidery work' is taught. This is the only craft introduced in each of the 4 girls' schools in Murshidabad and in 12 (92.3%) out of 13 girls' schools in Hooghly. All the 7 girls' schools in Nadia and 7 (77.8%) out of 9 girls' schools in Howrah provide training in this craft. Provision, however, exists for imparting training in this craft in 8.0% and 3.7% of boys' schools in Howrah and Hooghly. 'Leather work' has been introduced in 44.4% and 28.6% of girls' schools in Howrah and Nadia respectively, the corresponding percentages of boys' schools in Howrah and Hooghly being 8.0 and 3.7 respectively. This craft has not been introduced in any of the schools selected in the other strata. 'Clay-modelling and paper-mache work' is taught in only 2 (22.2%) out of 9 schools in Howrah. In a small percentage of boys' schools in Howrah, Hooghly and Nadia there is arrangement for training in this craft. 'Tailoring' is taught in 23.5% of boys' schools of Murshidabad. This craft has also been introduced in a small proportion of boys' and girls' schools in Howrah, Hooghly and Nadia.

It is thus seen that a large proportion of schools cannot arrange for training in an adequate number of craft subjects and that students are not given the scope of choice of craft subject and some of the craft subjects recognised by the Board of Secondary Education, West Bengal have been introduced in a small proportion of schools or not at all. In this connection it may also be noted that 7.4 and 5.6 per cent of boys' schools surveyed in Hooghly and Nadia respectively do not provide for the post of any craft-instructor. In 12.0% and 11.1% of boys' and girls' schools in Howrah and 16.7% and 28.6% of boys' and girls' schools in Nadia posts of craft instructors are lying vacant. Moreover, in 12.0% and 5.9% of boys' schools in Howrah and Murshidabad and

in 7.7% and 14.3% of girls' schools in Hooghly and Nadia only part time teachers have been employed. In all of the 4 girls' schools in Murshidabad, in 4 (57.1%) out of 7 girls' schools in Nadia and in 10 (76.9%) out of 13 girls' schools in Hooghly there is no separate craft room. The proportion of schools with no separate craft room in the other strata is not small, the percentage varying between 22.2 and 36.0. Craft classes in these schools are held in class-rooms or libraries or laboratories or open compounds or covered verandahs or the like.

All these details clearly indicate that facilities available for training in craft are not satisfactory. In order that craft subjects may be taught usefully and efficiently, a school should arrange for imparting training in a number of crafts, should provide for a separate craft room, should possess all necessary equipments and should also appoint efficient craft instructors. All these require sufficient funds, and funds of all schools are not adequate. As mentioned by some heads of institutions selected in the present survey, schools are also facing difficulties in appointing efficient craft instructors.

Every student has to study general science upto class X. In the 'Curriculum and Syllabuses for Higher Secondary Course' published by Board of Secondary Education, West Bengal, it is mentioned that the object of teaching general science is 'to provide an elementary scientific interpretation and classification of some everyday phenomena' and 'to show how Science provides an ordered and systematised general view of natural phenomena and how this is made use of in helping men to live a fuller and better life.' It has been also suggested that the method to be used should be mainly descriptive, yet precise and that frequent use be made of demonstration of experiments, charts and models explaining, wherever possible, 'with reference to what is occurring in the immediate surroundings, and in the day-to-day life of the people or the community.' In order that general science can be taught efficiently a school should at least possess a science room where demonstration of experiments can be arranged and charts and models can be shown; it should also possess a well-equipped laboratory. It will be also of great benefit and interest to the students, if a small museum can be set up in each school. Schools should also arrange educational excursions.

**Facilities for Teaching
General Science**

Table 9 gives in a nut shell the nature of such facilities available for teaching general science. Museums have been set up in a small proportion of schools, there being no museum in any school in Nadia and in any girls' school in Murshidabad. Slightly more than 70% of boys' schools in Howrah and Hooghly possess separate laboratory for general science, the corresponding percentages for girls' schools being considerably smaller (37.5 in Howrah and 30.8 in Hooghly). In Nadia the position is nearly the same for boys' and girls' schools, a little less than 60% of schools possessing a separate laboratory. The situation is worst in Murshidabad with only 29.4% of boys' schools and none of the 4 girls' schools possessing a separate laboratory for general science. In this connection it may be mentioned that in schools having no separate laboratory for general science but providing tuition in

TABLE 9 : *Facilities Available for Teaching General Science*

Categories	Number of schools							
	Howrah		Hooghly		Nadia		Murshidabad	
	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls
1. Museum	2 (8.0)	1 (12.5)	2 (7.4)	2 (15.4)	0	0	2 (11.8)	0
2. Separate laboratory for general science	18 (72.0)	3 (37.5)	19 (70.4)	4 (30.8)	10 (58.8)	4 (57.1)	5 (29.4)	0
3. Equipments, models, charts recommended by Board :								
Most	8 (32.0)	2 (25.0)	9 (33.3)	2 (15.4)	6 (37.5)	2 (28.6)	4 (23.5)	0
About half	3 (12.0)	2 (25.0)	5 (18.5)	4 (30.8)	1 (6.2)	2 (28.6)	3 (17.6)	3 (75.0)
Less than half	1 (4.0)	0	1 (3.7)	0	0	0	1 (5.9)	0
A few	0	0	0	1 (7.7)	2 (12.5)	0	0	1 (25.0)
None	1 (4.0)	0	0	0	0	0	1 (5.9)	0

TABLE 9 (Contd.)

Categories	Number of schools							
	Howrah		Hooghly		Nadfa		Murshidabad	
	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls
4. Experiments demonstrated in theoretical class :								
Regularly	12 (48·0)	4 (50·0)	20 (74·1)	4 (30·8)	12 (70·6)	6 (85·7)	10 (58·8)	0
Occasionally	11 (44·0)	3 (37·5)	7 (25·9)	8 (61·5)	4 (23·5)	1 (14·3)	5 (29·4)	4 (100·0)
Nil	2 (8·0)	1 (12·5)	0	1 (7·7)	1 (5·9)	0	2 (11·8)	0
5. Field trips arranged	10 (40·0)	5 (62·5)	17 (63·0)	6 (46·2)	5 (29·4)	3 (42·9)	2 (11·8)	0
6. No theoretical class room	8 (32·0)	3 (33·3)	3 (12·5)	4 (30·8)	3 (18·8)	4 (57·1)	8 (47·1)	8 (75·0)
7. Size (in sq. ft.) of theoretical class-room for general science :								
Less than or equal to 250	1 (4·0)	1 (11·1)	2 (8·3)	3 (23·1)	1 (6·2)	0	1 (5·9)	0
251-500	12 (48·0)	5 (55·6)	11 (45·8)	6 (46·2)	10 (62·5)	2 (28·6)	7 (41·2)	1 (27·0)
501-700	2 (8·0)	0	7 (29·2)	0	1 (6·2)	1 (14·3)	1 (5·9)	0
Above-700	2 (8·0)	0	1 (4·2)	0	1 (6·2)	0	0	0
8. Charts and models shown in theoretical class :								
Regularly	13 (52·0)	5 (62·5)	18 (66·7)	7 (53·8)	12 (70·6)	7 (100·0)	13 (76·5)	1 (25·0)
Occasionally	9 (36·0)	3 (37·5)	8 (29·6)	4 (30·8)	4 (23·5)	0	4 (23·5)	3 (75·0)
Nil	3 (12·0)	0	1 (3·7)	2 (15·4)	1 (5·9)	0	0	0

N. B.—It has not been possible to collect information in respect of some or all of the items of information about general science from 1 girls' school in Howrah, 3 boys' schools in Hooghly, and 2 boys' schools in Nadia. Hence, in calculating percentages for different items in a stratum different divisors have been used.

science course, laboratories for different science subjects are perhaps used for teaching general science. According to information supplied by school authorities, about one-third of boys' schools in Howrah, Hooghly and Nadia, and about one-fourth of boys' schools in Murshidabad and girls' schools in Howrah and Nadia possess all the equipments, models, charts etc., recommended by the Board of Secondary Education, West Bengal. The position is worse for girls' schools in Hooghly with only 2(15.4%) out of 13 schools possessing all the equipments. None of the girls' schools in Murshidabad possesses all the equipments. In about 20% of boys' schools in Howrah, Hooghly and Nadia only half or less than half of the equipments, models, charts etc. are available, the corresponding percentage for Murshidabad being 29.4. The situation is worse for girls' schools with the percentages for the 4 districts as 25.0, 38.5, 28.6 and 100.0.

In 48% of boys' schools in Howrah experiments are demonstrated regularly in theoretical classes, the corresponding percentages for Hooghly, Nadia and Murshidabad being 74.1, 70.6 and 58.8. In all the 4 girls' schools in Murshidabad experiments are demonstrated only occasionally. Experiments are demonstrated regularly in 50.0% of girls' schools in Howrah, 30.8% of girls schools in Hooghly and in 85.7% (6 out of 7) girls' schools in Nadia. The percentage of schools where experiments are demonstrated occasionally is considerable. In a small proportion of schools experiments are not demonstrated at all. The position in respect of showing of charts and models seems to be slightly better although in a small proportion of schools they are not shown at all.

Attempts were made to collect information in respect of field trips arranged by schools. Details about frequencies of such field trips and classes for which these excursions are arranged etc., could not be collected from all the schools. It is found that percentages of boys' schools arranging field trips are 40.0, 63.0, 29.4 and 11.8 for Howrah, Hooghly, Nadia and Murshidabad respectively. In no girls' school in Murshidabad field trips are arranged, while the percentages of girls' schools arranging field trips are 62.5, 46.2 and 42.9 for Howrah, Hooghly and Nadia. From all these it is evident that facilities for teaching general science are rather inadequate.

Emphasis has been generally laid on demonstration of experiments and showing of charts and models in theoretical classes for teaching science subjects at the secondary stage. Number of students doing practical work at the same time under one teacher should not be excessively large and laboratories should also be adequately spacious. Table 10 gives information about facilities available for some of the elective science subjects. It may be noted that it has not been possible to collect information from all the schools. The percentages of non-response in respect of demonstration of experiments in Physics and Chemistry theoretical classes in the boys' schools are 5.3 (1 out of 19) in Howrah, 15.4 (4 out of 26) in Hooghly, 10.0 (1 out of 10) in Nadia and 50.0 (6 out of 12) in Murshidabad. In 9 out of these 12 boys' schools from which data could not be collected, Science course has been introduced for not more than one year. In two-thirds of boys' schools from which data were collected in Howrah experiments are demonstrated regularly, while in about four-fifths of such schools in Hooghly, Nadia and Murshidabad experiments are demonstrated regularly. In about 20% of schools experiments are demonstrated occasionally. In 11.1% (2 out of 18) of schools in Howrah only experiments are never arranged in theoretical classes. In one of these two schools, Science has been introduced only for one year. It should be noted that it may not be appropriate to conclude that the situation in boys' schools of Howrah is worse than that in the boys' schools of other districts as the non-response rates in the other districts (specially in Hooghly and Murshidabad) are higher than that in Howrah. In all the girls' schools from which data were collected experiments are demonstrated regularly in theoretical classes. But non-response rates are considerable, data being not available from the only girls' school with provision for teaching science in Murshidabad, 4 out of 6 girls' schools in Howrah and 1 out of 3 girls' schools in Hooghly.

Biology is taught in a smaller number of schools than Physics and Chemistry. The number of girls' schools where Biology has been introduced is very small. Percentages of non-response for boys' schools are 0, 50.0, 25.0 and 50.0. In all the boys' schools from which data were collected in Nadia and Murshidabad and in a little less than 70% of respondent boys' schools in Howrah

TABLE 10 : *Facilities Available for Teaching Elective Science Subjects*

Categories	Number of schools							
	Howrah		Hooghly		Nadia		Murshidabad	
	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls
Physics								
1. Demonstration of experiments								
Regularly	12 (66.7)	2 (100.0)	17 (77.3)	2 (100.0)	7 (77.8)	3 (100.0)	5 (83.3)	0
Occasionally	4 (22.2)	0	5 (22.7)	0	2 (22.2)	0	1 (16.7)	0
Nil	2 (11.1)	0	0	0	0	0	0	0
2. Size of laboratory (sq. ft.)								
0—250	0	1 (25.0)	0	0	0	0	0	0
251—500	10 (71.4)	3 (75.0)	14 (82.4)	3 (100.0)	8 (100.0)	1 (50.0)	5 (83.3)	1 (100.0)
501—750	4 (28.6)	0	3 (17.6)	0	0	0	1 (16.7)	0
751—	0	0	0	0	0	1 (50.0)	0	0
Chemistry								
1. Demonstration of experiments								
Regularly	12 (66.7)	2 (100.0)	17 (77.3)	2 (100.0)	7 (77.8)	2 (100.0)	5 (83.3)	0
Occasionally	4 (22.2)	0	5 (22.7)	0	2 (22.2)	0	1 (16.7)	0
Nil	2 (11.1)	0	0	0	0	0	0	0
2. Size of laboratory (sq. ft.)								
0—250	0	1 (25.0)	0	0	0	0	0	0
251—500	8 (57.1)	3 (75.0)	13 (81.3)	3 (100.0)	8 (100.0)	1 (50.0)	5 (83.3)	1 (100.0)
501—750	5 (35.7)	0	3 (18.7)	0	0	0	1 (16.7)	0
751—	1 (7.1)	0	0	0	0	1 (50.0)	0	0

TABLE 10 (Contd.)

Categories	Number of schools							
	Howrah		Hooghly		Nadia		Murshidabad	
	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls
Biology								
1. Charts and models shown								
Regularly	9 (69.2)	1 (50.0)	6 (66.7)	0	6 (100.0)	1 (100.0)	4 (100.0)	0
Occasionally	1 (7.7)	0	3 (33.3)	0	0	0	0	0
Nil	3 (23.1)	1 (50.0)	0	2 (100.0)	0	0	0	0
2. Size of laboratory (sq. ft.)								
251—500	9 (81.8)	3 (100.0)	10 (90.9)	3 (100.0)	6 (100.0)	0	5 (100.0)	0
501—750	2 (18.2)	0	1 (9.1)	0	0	0	0	0
751—	0	0	0	0	0	1 (100.0)	0	0
Geography								
Charts and models shown								
Regularly	14 (60.9)	3 (100.0)	11 (78.6)	4 (66.7)	10 (100.0)	2 (100.0)	8 (72.7)	0
Occasionally	9 (39.1)	0	3 (21.4)	0	0	0	3 (27.3)	1 (100.0)
Nil	0	0	0	2 (33.3)	0	0	0	0

and Hooghly charts and models are shown regularly in theoretical classes. Charts and models are shown occasionally in 7.7% of schools in Howrah and in 33.3% of schools in Hooghly. Charts and models are not shown at all in 23.1% of boys' schools in Howrah.

Geography has been introduced in 24, 20, 10 and 12 boys' schools in Howrah, Hooghly, Nadia and Murshidabad respectively, the corresponding numbers of girls' schools being 6, 9, 4 and 2. Information was collected from 23, 14, 11 and 10 boys' schools in Howrah, Hooghly, Murshidabad and Nadia and 3, 6, 1 and 2 girls'

schools in the 4 districts. Charts and models are shown regularly in these schools except in 33.3% of girls' schools in Hooghly where charts and models are never shown in theoretical classes and in 39.1%, 21.4% and 27.3% of boys' schools of Howrah, Hooghly and Murshidabad where charts and models are shown occasionally.

Data were collected about sizes of laboratories, numbers of students in practical classes and numbers of teachers who conduct the practical classes from some of the schools. It has been already stated that in a number of schools Science course has been introduced for not more than one year. In four of these schools practical classes have not yet been started. Data were not available from some of the other schools also. In a very large proportion of schools from which data about sizes of laboratories could be collected, the sizes of laboratories do not exceed 500 sq. ft. In only one (25%) girls' school in Howrah the sizes of Physics and Chemistry laboratories have been reported to be very small being only 210 sq. ft. In a small number of schools the sizes of laboratories exceed 500 sq. ft. In this connection it may be mentioned that according to recommendations of the Calcutta University for Intermediate course (now abolished) not more than 20 students should be placed under one teacher in the practical classes of Physics, Chemistry and Biology at one time and the size of a room for 20 students should not be less than 20 feet by 25 feet for Physics practical class and not less than 20 feet by 30 feet for Chemistry and Biology practical classes. As one year of the former Intermediate course has been incorporated in the higher secondary course, it may be of some interest to examine the proportions of schools in which the existing conditions in practical classes of elective science subjects are below the standards prescribed by the Calcutta University for Intermediate classes. In 46.2% (6 out of 13) of boys' schools in Howrah from which data were collected about size of Physics laboratory as well as maximum number of students doing practical work at a time the above recommendation about the size of Physics laboratory is not satisfied. The corresponding figures in boys' schools of Hooghly, Nadia and Murshidabad are 25.0 (4 out of 16), 62.5 (5 out of 8) and 50.0 (3 out of 6) respectively. Data were available from 3 girls' schools in each of the districts of Howrah and Hooghly,

2 in Nadia and 1 in Murshidabad. The standard is not satisfied in one school in Howrah and in all the three schools in Hooghly. The situation is almost the same in respect of Chemistry. In 3 (out of 15) boys' schools of Howrah, 2 (out of 10) boys' schools in Nadia and 1 (out of 7) boys' school in Murshidabad more than 20 students are placed under the guidance of one teacher in Physics and Chemistry practical classes. The corresponding figures for girls' schools are 1 for Physics and 2 for Chemistry, and that also only in Howrah. In one boys' school in each of the districts of Nadia and Murshidabad and in one girls' school in each of the districts of Howrah and Hooghly one teacher has to guide more than 20 students in Biology classes.

One of the difficulties which the educational institutions have been facing in recent times is in the appointment of qualified and experienced teachers. This is perhaps, one of the greatest impediments to a successful implementation of the new programme. Poor scale of pay and unpromising future prospects fail to attract a sufficient number of qualified persons to the profession of teaching. Lack of facilities for tuition and like job to supplement income, unsatisfactory conditions of service and irregular payment of salaries, absence of many of the amenities which one enjoys in urban areas, and the difficulties that a person has to face now-a-days in securing a place of residence specially in a rural area, are a few of the many facts reported to be responsible for dearth of qualified teachers in Muffasil areas. Sometimes part-time teachers have to be appointed especially for teaching elective subjects in girls' schools. The proportions of part-time teachers and of vacant posts of teachers in some of the elective subjects are quite sizeable. The data of the present survey reveal that girls' schools employ a greater proportion of part-time teachers than boys' schools, only about 2% of teachers in boys' schools being part-timers. The corresponding percentage for girls' schools in Howrah, Nadia and Murshidabad being about 11, 12 and 14 respectively, while the percentage is as low as 3 among teachers in the girls' schools of Hooghly.

It has been generally recommended that teachers in elective subjects and teachers in core subjects for higher classes should possess post-graduate or honours graduate degrees. The other teachers should be at least graduates. It is desirable that teachers

should also possess diploma in training. Tables 11.1 and 11.2 give academic qualifications separately for whole-time and part-time teachers (excepting headmasters/headmistresses and assistant headmasters/assistant headmistresses) in each of the 8 strata covered. Table 11.1 reveals that nearly 17% of the whole-time teachers in boys' schools of Howrah and in the boys' and girls' schools of Hooghly possess post-graduate degrees. The corresponding percentages are nearly 33 (highest among these 8 strata) in the girls' schools of Howrah, 11.6 in the boys' schools and 15.4 in the girls' schools of Nadia. In Murshidabad about 10% of teachers possess post-graduate degrees. Percentages of whole-time teachers with honours degrees are 11.7 and 8.7 in boys' and girls' schools of Howrah and 13.4 and 10.0 in Hooghly. The corresponding percentages in boys' schools of Nadia and Murshidabad are 8.8 and 14.6. Nearly one-fifth of the teachers in girls' schools of Nadia and Murshidabad possess honours degrees. It is thus found that about 30% of whole-time teachers employed in boys' schools of Howrah and Hooghly possess honours or post-graduate degrees. The same is also true of girls' schools in Hooghly and Murshidabad, the corresponding percentages in girls' schools of Howrah and Nadia being about 41 and 34 respectively. About one-fifth of whole-time teachers in boys' schools of Nadia and one-fourth of whole-time teachers in boys' schools of Murshidabad possess the same academic qualifications. A little less than half of whole-time teachers in the boys' schools of Howrah, Hooghly and Murshidabad possess pass-graduate degrees, the percentage for Nadia being 57.5. The corresponding percentages in the girls' schools are 39.0 in Howrah, 54.6 in Hooghly, 43.8 in Nadia and 38.6 in Murshidabad. The overall position is that about three-fourths of teachers in boys' schools, about four-fifths of teachers in girls' schools in Howrah, Hooghly and Nadia and two-thirds of teachers in Murshidabad are at least graduates. The percentages of under-graduate teachers are about 25 in boys' schools and about 20 in girls' schools except in girls' schools of Murshidabad where the percentage is 31.6. Information about academic qualifications of a few teachers (totalling 6 in number) could not be collected, and a very small number of teachers are found to possess degrees and diplomas in Medicine and Engineering.

Information about teachers possessing diplomas or certificates in training is also given in Tables 11.1 and 11.2. In the first

TABLE 11.1 : *Academic Qualifications of Whole-time Teachers*

Academic Qualification	Number of teachers in			
	Howrah schools		Hooghly schools	
	Boys	Girls	Boys	Girls
M. A., B. T.	12(2.6)	10(5.1)	17(3.0)	5(2.2)
M. Sc., B. T.	0	1(0.5)	3(0.5)	0
M. A.	55(11.9)	50(25.6)	57(10.2)	32(14.0)
M. Sc.	7(1.5)	3(1.5)	16(2.9)	2(0.9)
M. Com.	3(0.6)	0	4(0.7)	0
Total Post-graduate	77(16.7)	64(32.8)	97(17.4)	39(17.0)
B. A. (Hons.), B. T.	12(2.6)	4(2.1)	12(2.2)	3(1.3)
B. Sc. (Hons.), B. T.	2(0.4)	0	1(0.2)	0
B. A. (Hons.) with some Training	3(0.6)	0	0	0
B. Sc. (Hons.) " "	0	1(0.5)	1(0.2)	0
B. A. (Hons.)	21(4.5)	9(4.6)	39(7.0)	17(7.4)
B. Sc. (Hons.)	16(3.5)	3(1.5)	22(3.9)	3(1.3)
Total Hons. Graduate	54(11.7)	17(8.7)	75(13.4)	23(10.0)
B. A., B. T.	36(7.8)	31(15.9)	42(7.5)	34(14.8)
B. Sc., B. T.	18(3.9)	4(2.1)	39(7.0)	9(3.9)
B. Com., B. T.	6(1.3)	0	2(0.4)	0
B. A. with some Training	22(4.8)	4(2.1)	17(3.0)	6(2.6)
B. Sc. " "	13(2.8)	2(1.0)	14(2.5)	2(0.9)
B. Com. " "	2(0.4)	0	0	0
B. A.	59(12.8)	28(14.4)	86(15.4)	58(25.3)
B. Sc.	51(11.0)	7(3.6)	48(8.6)	15(6.6)
B. Com.	5(1.1)	0	9(1.6)	1(0.4)
Total Pass Graduate	212(45.9)	76(39.0)	257(46.1)	125(54.6)
Under-graduate (Trained)	49(10.6)	20(10.3)	36(6.5)	18(7.9)
Under-graduate	28(6.1)	11(5.6)	30(5.4)	9(3.9)
Classical Teachers	41(8.9)	7(3.6)	52(9.3)	13(5.7)
Total Under-graduate	118(25.5)	38(19.5)	118(21.1)	40(17.5)
Others	1(0.2)	0	8(1.4)	0
No response	0	0	3(0.5)	2(0.9)
Total	462	195	558	229

TABLE 11.1 : (Contd.)

Academic Qualification	Number of teachers in			
	Nadia schools		Murshidabad schools	
	Boys	Girls	Boys	Girls
M. A., B. T.	14(4.0)	7(5.4)	6(1.9)	1(1.8)
M. Sc., B. T.	0	2(1.5)	1(0.3)	0
M. A.	20(5.7)	11(8.5)	18(5.7)	4(7.0)
M. Sc.	5(1.4)	0	6(1.9)	0
M. Com.	2(0.6)	0	2(0.6)	0
Total Post-graduate	41(11.6)	20(15.4)	33(10.4)	5(8.8)
B. A. (Hons.), B. T.	7(2.0)	9(6.9)	10(3.2)	6(10.5)
B. Sc. (Hons.), B. T.	0	0	0	0
B. A. (Hons.) with some Training	0	0	0	0
B. Sc. (Hons.) " "	0	0	0	0
B. A. (Hons.)	17(4.8)	14(10.8)	27(8.5)	5(8.8)
B. Sc. (Hons.)	7(2.0)	1(0.8)	9(2.8)	1(1.8)
Total Hons. Graduate	31(8.8)	24(18.5)	46(14.6)	12(21.1)
B. A., B. T.	63(17.8)	23(17.7)	39(12.3)	15(26.3)
B.Sc., B.T.	22(6.2)	2(1.5)	26(8.2)	1(1.8)
B. Com., B. T.	6(1.7)	0	2(0.6)	0
B. A. with some Training	16(4.5)	0	9(2.8)	0
B. Sc. " "	7(2.0)	1(0.8)	10(3.2)	1(1.8)
B. Com. " "	0	1(0.8)	0	0
B. A.	56(15.9)	22(16.9)	45(14.2)	3(5.3)
B. Sc.	29(8.2)	8(6.2)	21(6.6)	2(3.5)
B. Com.	4(1.1)	0	2(0.6)	0
Total Pass Graduate	203(57.5)	57(43.8)	154(48.7)	22(38.6)
Under-graduate (Trained)	45(12.7)	19(14.6)	37(11.7)	9(15.8)
Under-graduate	13 (3.7)	2 (1.5)	13 (4.1)	1 (1.8)
Classical Teachers	19 (5.4)	8 (6.2)	33(10.4)	8(14.0)
Total Under-graduate	77(21.8)	29(22.3)	83(26.3)	18(31.6)
Others	1 (0.3)	0	0	0
Total	353	130	316	57

report, a teacher possessing B. T. or equivalent diploma only was considered to be a trained teacher. But some teachers possess certificates of training in particular subjects, or teachers' training, or vernacular master's training, or physical training or basic training (undergraduate course) which are not considered equivalent to B.T. But in our present study percentages of teachers with such qualifications have been separately calculated. It is found that the proportion of graduate teachers with either a diploma or a certificate in training is higher in Nadia and Murshidabad than in Howrah and Hooghly.

Among whole-time graduate or post-graduate teachers, the percentages of teachers with diplomas or certificates in training vary between 32 and 37 in Howrah and Hooghly and between 44 and 49 in Nadia and Murshidabad. 27% to 32% of teachers in schools of Howrah and Hooghly possess graduate or post-graduate degrees and training diplomas while the corresponding percentages in schools of Nadia and Murshidabad vary between 33 and 42. It may be noted that the proportion of teachers with diplomas or certificates in training among the teachers with graduate or post-graduate degrees in science is nearly the same as the proportion of teachers with diplomas or certificates in training among the teachers with graduate or post-graduate arts degrees. About 6% of all teachers of boys' schools except in Howrah, where the percentage is 8.6, possess certificates in teaching not equivalent to B.T., the corresponding percentages for girls' schools being only 2 to 4. Many of the under-graduate teachers possess certificates in training. In Howrah and Hooghly percentages of teachers possessing certificates of training among under-graduate teachers vary between 55 to 67 while the corresponding percentages for the other two districts vary between 74 and 91.

In the boys' schools of Howrah and Hooghly half the part-time teachers possess post-graduate qualifications, the percentages of M.Sc.'s among part-time teachers being 33.3 and 28.6. Two-thirds of part-time teachers in the boys' schools of Nadia and three-fourths in those of Murshidabad possess M. A. or M. Sc. degrees, degrees in science being possessed by 58.3% of teachers in Murshidabad only. The percentages of M. A. or M. Sc. part-time teachers in the girls' schools of Hooghly and Murshidabad are 42.9 and 55.5 respectively, while only 8.7% and 17.6% of

TABLE 11.2 : *Academic Qualifications of Part-time Teachers*

Academic Qualification	Number of teachers in schools of							
	Howrah		Hooghly		Nadia		Murshidabad	
	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls
M. A., B. T.	0	0	0	1 (14.3)	1 (16.7)	1 (5.8)	0	0
M. Sc., B. T.	0	0	0	0	0	0	1 (8.3)	0
M. A.	2 (16.7)	0	3 (21.4)	0	3 (50.0)	0	2 (16.7)	4 (44.4)
M. Sc.	4 (33.3)	2 (8.7)	4 (28.6)	2 (28.6)	0	2 (11.8)	6 (50.0)	1 (11.1)
Total Post-graduate	6 (50.0)	2 (8.7)	7 (50.0)	3 (42.9)	4 (66.7)	3 (17.6)	9 (75.0)	5 (55.5)
B. Sc. (Hons.), B. T.	0	0	1 (7.1)	0	0	0	0	0
B. Sc. (Hons.)	3 (25.0)	1 (4.3)	3 (21.4)	0	0	0	0	0
Total Hons. Graduate	3 (25.0)	1 (4.3)	4 (28.6)	0	0	0	0	0
B. Sc., B. T.	0	2 (8.7)	0	0	0	0	0	0
B. A.	0	0	1 (7.1)	0	0	2 (11.8)	0	0
B. Sc.	0	1 (4.3)	0	0	2 (33.3)	2 (11.8)	0	1 (11.1)
Total Pass Graduate	0	3 (13.0)	1 (7.1)	0	2 (33.3)	4 (23.5)	0	1 (11.1)
Under-graduate (trained)	0	4 (17.4)	0	1 (14.3)	0	3 (17.6)	0	0
Under-graduate	1 (8.3)	1 (4.3)	0	1 (14.3)	0	2 (11.8)	0	0
Classical Teachers	2 (16.7)	8 (34.8)	1 (7.1)	1 (14.3)	0	3 (11.6)	0	1 (11.1)
Total Under-graduate	3 (25.0)	13 (56.5)	1 (7.1)	3 (42.9)	0	8 (47.1)	0	1 (11.1)
Others	0	4 (17.4)	1 (7.1)	1 (14.3)	0	2 (11.8)	2 (16.7)	2 (22.2)
No response	0	0	0	0	0	0	1 (8.3)	0
Total	12	23	14	7	6	17	12	9

part-time teachers in the girls' schools of Howrah and Nadia possess equivalent qualifications. Honours degree are possessed only by 25.0% of teachers in the boys' schools of Howrah, 28.6% of teachers in the boys' schools of Hooghly and 4.3% of teachers in the girls' schools of Howrah. The percentages of pass-graduates among teachers of boys' schools are 0.0, 7.1, 33.3 and 0.0 in Howrah, Hooghly, Nadia and Murshidabad, the corresponding percentages in the girls' schools being 13.0, 0.0, 23.5 and 11.1. In this connection it must be noted that the proportions of undergraduates among part-time teachers in some of the strata are not negligible. The percentages are 25.0 and 7.1 in the boys' schools of Howrah and Hooghly, and 56.5, 42.9, 47.1 and 11.1 in the girls' schools of Howrah, Hooghly, Nadia and Murshidabad respectively. In Nadia and Murshidabad none of the selected boys' schools has employed any undergraduate part-time teacher.

Information relating to academic qualifications of headmasters and headmistresses has also been collected. It is found that all the headmistresses of the schools in the 4 districts and the headmasters of schools from which data were collected in Murshidabad possess arts degrees. The percentages of schools where headmasters possess science degrees are 4.0, 7.4 and 22.2 in Howrah, Hooghly and Nadia respectively, rest of the headmasters possessing degrees in Arts. The proportion of headmistresses with training diplomas is greater than the proportion of headmasters with training diplomas. Headmistresses of all the girls' schools excepting 1 (7.7%) out of 13 in Hooghly and 1 (14.3%) out of 7 in Nadia have diplomas in training. In 24.0% of boys' schools of Howrah headmasters do not possess B.T. diploma, the corresponding percentages in Hooghly, Nadia and Murshidabad being 18.5, 11.1 and 6.7. In 64.0% of boys' schools in Howrah headmasters possess post-graduate degrees in arts along with B.T. diplomas, the corresponding percentages in Hooghly, Nadia and Murshidabad being 44.4, 61.1 and 66.7 respectively. The same academic qualification is possessed by headmistresses of 8 (88.9%) out of 9 schools in Howrah, 10 (76.9%) out of 13 schools in Hooghly, 5 (71.4%) out of 7 schools in Nadia and 2(50.0%) out of 4 schools in Murshidabad. It is also found that the percentage of pass-graduates among headmistresses is always less than that among headmasters. In Howrah, a little more than 10% of headmasters and headmistresses

are only pass-graduates, the percentage being slightly less than 40 in the boys' schools of Hooghly and Nadia and 20 in the boys' schools of Murshidabad. The corresponding percentages for girls' schools in Hooghly, Nadia and Murshidabad being only 7.7, 14.3 and 0 respectively. About 4 to 13 per cent of headmasters possess a degree in law; nearly 5% of headmasters in Howrah and Nadia possess a Sanskrit title and besides them 7 head-masters and 4 head-mistresses in all have some certificates in training not equivalent to B. T. Some have master's degrees in more than one subjects and some others possess graduate degrees both in Arts and Science.

Academic qualifications of assistant headmasters and head-mistress have also been examined. In a considerable proportion

TABLE 12.1 : *Academic Qualifications of Headmasters and Headmistresses*

Academic Qualification	Number of Headmasters/Headmistresses in schools of							
	Howrah		Hooghly		Nadia		Murshidabad	
	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls
M. A., B. T.	16 (64.0)	8 (38.9)	12 (44.4)	10 (76.9)	11 (61.1)	5 (71.4)	10 (66.7)	2 (50.0)
B. A. (Hons.), B. T.	1 (4.0)	0	3 (11.1)	1 (7.7)	0	0	1 (6.7)	2 (50.0)
M.Sc. or B.Sc., (Hons.) B. T.	1 (4.0)	0	1 (3.7)	0	0	0	0	0
B. A., B. T.	1 (4.0)	1 (11.1)	6 (22.2)	1 (7.7)	3 (16.7)	1 (14.3)	3 (20.0)	0
B. Sc., B. T.	0	0	0	0	2 (11.1)	0	0	0
M. A.	4 (16.0)	0	1 (3.7)	1 (7.7)	0	1 (14.3)	0	0
B. A. (Hons.)	0	0	0	0	0	0	1 (6.7)	0
B. A.	2 (8.0)	0	3 (11.1)	0	0	0	0	0
B. Sc.	0	0	1 (3.7)	0	2 (11.1)	0	0	0
Total	25	9	27	13	18	7	15*	4

* Posts of headmasters in two schools of Murshidabad were lying vacant at the time of collecting the data.

of schools either there is no provision for appointing assistant headmasters/headmistresses or the posts of assistant headmasters/headmistresses are lying vacant. Among the boys' schools such percentages are 28.0 in Howrah, 22.2 in Hooghly, 11.1 in Nadia and 11.8 in Murshidabad. Numbers of such girls' schools are 4(44.4), 3(23.1) and 1(14.3) in Howrah, Hooghly and Nadia. In none of the 4 girls' schools in Murshidabad the post of assistant headmistress is vacant. All the assistant headmistresses possess degrees in arts. Percentages of assistant headmasters possessing degrees in science are 16.7, 27.3, 25.0 and 33.3 in boys' schools of Howrah, Hooghly, Nadia and Murshidabad. The

TABLE 12.2 : *Academic Qualifications of Assistant Headmasters and Assistant Headmistresses*

Academic Qualification	Number of Asst. Headmasters/Asst. Headmistresses in schools of							
	Howrah		Hooghly		Nadia		Murshidabad	
	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls
M. A., B. T.	3 (16.7)	3 (60.0)	4 (18.2)	6 (60.0)	1 (6.2)	3 (50.0)	0	0
B. A. (Hons.), B. T.	3 (16.7)	0	0	1 (10.0)	2 (12.5)	0	3 (20.0)	2 (50.0)
M. Sc. or B. Sc. (Hons.) B. T.	2 (11.1)	0	0	0	0	0	1 (6.7)	0
B. A., B. T.	0	2 (40.0)	7 (31.8)	2 (20.0)	7 (43.8)	3 (50.0)	1 (6.7)	0
B. Sc. B. T.	1 (5.6)	0	5 (22.7)	0	2 (12.5)	0	2 (13.3)	0
M. A.	3 (16.7)	0	1 (4.5)	0	2 (12.5)	0	2 (13.3)	1 (25.0)
B. A. (Hons.)	0	0	1 (4.5)	0	0	0	0	0
M. Sc. or B. Sc. (Hons.)	0	0	1 (4.5)	0	0	0	9	0
B. A.	6 (33.3)	0	3 (13.6)	1 (10.0)	0	0	4 (26.7)	1 (25.0)
B. Sc.	0	0	0	0	2 (12.5)	0	2 (13.3)	0
Total	18	5	22*	10	16	6	15	4

* In one of the 21 schools from which information regarding qualifications of assistant headmasters was collected there were 2 assistant headmasters.

proportion of assistant headmistresses with diplomas in training is greater than the proportion of assistant headmasters possessing diplomas in training in each district. All assistant headmistresses in the schools of Howrah and Nadia have B. T. diplomas, assistant headmistresses in 9 schools of Hooghly and in 2 schools of Murshidabad possessing diplomas in training. Some of the assistant headmasters and headmistresses possess certificates of training not equivalent to B. T. Nearly 20% of assistant headmasters and assistant headmistresses in the schools of Howrah, nearly 25% of assistant headmasters in Hooghly and assistant headmistresses in Murshidabad and nearly 40% of assistant headmasters in the schools of Nadia and Murshidabad possess some certificates of training not equivalent to B. T.

In 33.3% of boys' schools of Howrah assistant headmasters possess post-graduate degrees in arts. The corresponding percentages for Hooghly, Nadia and Murshidabad are 22.7, 18.7 and 13.3 respectively. In only 1(25%) girls' school in Murshidabad the assistant headmistress possesses post-graduate qualifications. The number of schools in which assistant headmistresses have similar academic qualifications are 3(60.0%) in Howrah, 6(60.0%) in Hooghly and 3(50.0%) in Nadia. Nearly 40% of assistant headmasters in schools of Howrah are pass-graduates, the corresponding percentages in Hooghly, Nadia and Murshidabad being 68.2, 68.8 and 60.0 respectively. Numbers of pass-graduates among assistant headmistresses are 2(40.0%), 3(30.0%), 3(50.0%) and 1(25.0%) in Howrah, Hooghly, Nadia and Murshidabad respectively.

Academic qualifications and experience of teachers who participate in teaching some of the important subjects in classes IX to XI have been examined (Tables 13.1 to 13.9). For experience the total period of service of a teacher in all the schools where he has worked has been considered. It should be noted that the experience of a teacher teaching a particular subject as shown in Tables 13.1 to 13.9 may not mean teaching experience in that subject alone.

It is found that in all the districts surveyed, the proportion of teachers in English and Bengali possessing master's or honours degrees in Arts (not necessarily in English or Bengali) is greater in girls' schools than that in boys' schools. In none of the girls'

schools in these districts does a teacher possessing a degree in Commerce or Science participate in teaching English in the higher classes; also there is no undergraduate teacher who participates in teaching English in classes IX to XI in any of these girls' schools. However, nearly 4% of teachers in English in the boys' schools of Hooghly and Nadia, about 6% in Howrah and about 7% in Murshidabad possess degrees in Commerce or Science. Nearly 1% of teachers in English in the boys' schools of Howrah and Nadia and about 2% in Hooghly are undergraduates, there being no undergraduate teacher in any of the boys' schools selected in Murshidabad. The percentages of teachers possessing master's or honours degree in Arts are 52.2, 43.4, 29.6 and 29.3 in the boys' schools of Howrah, Hooghly, Nadia and Murshidabad respectively and 75.7, 63.4, 57.2 and 58.8 in the girls' schools of these districts. 41% of teachers in boys' schools of Howrah, about 50% in Hooghly and a little more than 60% in Nadia and Murshidabad are pass-graduates. In girls' schools the corresponding percentages are 24.4 in Howrah, 36.5 in Hooghly and slightly more than 40 in Nadia and Murshidabad.

The percentages of teachers in English with experience not exceeding one year are 6.0, 10.1, 8.2 and 6.1 in boys' schools of Howrah, Hooghly, Nadia and Murshidabad. The corresponding percentages among teachers in girls' schools are 22.0, 25.0, 4.8 and 17.6. Nearly 20% of teachers in English of boys' schools in Howrah and Hooghly, a little less than 15% in Nadia and Murshidabad have been teaching only for 3 years or less, the corresponding percentages among teachers of girls' schools in Howrah, Hooghly, Nadia and Murshidabad being 44.0, 44.2, 14.3 and 23.5. The percentages of teachers with experience exceeding 10 years are 55.6, 55.0, 58.2 and 65.9 in boys' schools of the 4 districts. The percentages of teachers with more than 10 years of experience are much smaller in girls' schools, being 26.8, 34.6, 52.4 and 35.3 in these 4 districts. It may be noted that percentage of pass-graduates is (in general) greater among teachers in English with longer experience than among teachers with experience not exceeding 1 year or 3 years. A very large proportion of teachers with experience not exceeding 1 year or 3 years have post-graduate or honours degrees.

TABLE 13.1 : *Number of Teachers in English in Classes IX to XI with Different Academic Qualifications and Experience*

Qualifications	Experience (in years)						Experience (in years)					
	-1	-3	-5	-10	10-	Total	-1	-3	-5	-10	10-	Total
	Howrah Boys' Schools						Hooghly Boys' Schools					
M. A.	4	9	5	11	20	49(41.9)	6	5	2	10	16	39(30.2)
B. A. (Hons.)	2	2	1	1	6	12(10.3)	3	3	2	2	7	17(13.2)
B. A.	1	3	2	7	35	48(41.0)	3	6	4	8	44	65(50.4)
Degree in Sc. or Com.	0	0	2	2	3	7 (6.0)	1	1	0	2	1	5 (3.9)
Under-graduate	0	0	0	0	1	1 (0.9)	0	0	0	0	3	3 (2.3)
Total	7	14	10	21	65	117	13	15	8	22	71	129
	(6.0)	(12.0)	(8.5)	(17.9)	(55.6)		(10.1)	(11.6)	(6.2)	(17.1)	(55.0)	
	Howrah Girls' Schools						Hooghly Girls' Schools					
M. A.	9	6	4	3	5	27(65.9)	8	4	2	3	10	27(51.9)
B. A. (Hons.)	0	2	0	1	1	4 (9.8)	3	1	0	2	0	6(11.5)
B. A.	0	1	0	4	5	10(24.4)	2	5	2	2	8	19(36.5)
Total	9	9	4	8	11	41	13	10	4	7	18	52
	(22.0)	(22.0)	(9.8)	(19.5)	(26.8)		(25.0)	(19.2)	(7.7)	(13.5)	(34.6)	
	Nadia Boys' Schools						Murshidabad Boys' Schools					
M. A.	4	2	4	0	10	20(20.4)	1	0	1	2	7	11(13.4)
B. A. (Hons.)	2	0	1	3	3	9 (9.2)	2	5	0	1	5	13(15.9)
B. A.	2	2	4	16	40	64(65.3)	1	1	2	9	39	52(63.4)
Degree in Sc. or Com.	0	0	0	1	3	4 (4.1)	1	0	0	2	3	6 (7.3)
Under-graduate	0	0	0	0	1	1 (1.0)	0	0	0	0	0	0
Total	8	4	9	20	57	98	5	6	3	14	54	82
	(8.2)	(4.1)	(9.2)	(20.4)	(58.2)		(6.1)	(7.3)	(3.7)	(17.1)	(65.9)	
	Nadia Girls' Schools						Murshidabad Girls' Schools					
M. A.	0	2	0	2	5	9(42.9)	1	0	0	2	1	4(23.5)
B. A. (Hons.)	1	0	1	1	0	3(14.3)	1	0	2	0	3	6(35.3)
B. A.	0	0	0	3	6	9(42.9)	1	1	1	2	2	7(41.2)
Total	1	2	1	6	11	21	3	1	3	4	6	17
	(4.8)	(9.5)	(4.8)	(28.6)	(52.4)		(17.6)	(5.9)	(17.6)	(23.5)	(35.3)	

Percentages of teachers in Bengali with post-graduate or honours degrees in Arts are 43.4, 47.1, 29.7 and 32.1 in boys' schools of Howrah, Hooghly, Nadia and Murshidabad respectively, the corresponding figures for girls' schools being 65.8, 64.8, 58.8 and 37.5. Among teachers in Bengali of Boys' schools about 40% in Howrah and Hooghly, 60% in Nadia and a little more than 50% in Murshidabad are pass-graduates. The corresponding percentages among teachers in girls' schools of Howrah, Hooghly, Nadia and Murshidabad are 26.8, 35.1, 41.2 and 31.2 respectively. In the girls' schools of Howrah, Hooghly and Nadia there is no teacher with degree in Science or Commerce; in Murshidabad, however, 12.5% of teachers in girls' schools possess degrees in Science or Commerce. About 8 per cent of teachers in boys' schools of Howrah, Hooghly and Murshidabad and about 3% in Nadia possess equivalent qualifications. Although no undergraduate teacher participates in teaching Bengali in the girls' schools of Hooghly and Nadia, the percentages of undergraduate teachers are 7.3 and 18.8 in the girls' schools of Howrah and Murshidabad. Percentages of undergraduates among teachers in Bengali of boys' schools vary between 4.4 and 7.5.

The proportion of teachers in Bengali with experience of 10 years or more is greater in boys' schools. All teachers of girls' schools of Nadia have been working for more than one year. But percentages of teachers in Bengali with experience of one year or less are not negligible, being 4.4, 11.8, 3.1 and 11.3 among teachers of boys' schools in Howrah, Hooghly, Nadia and Murshidabad and 12.2, 24.3 and 12.5 among teachers in girls' schools of Howrah, Hooghly and Murshidabad. A little less than 50% of teachers in the boys' schools of Howrah and Hooghly and nearly 60% of teachers in the boys' schools of Nadia and Murshidabad have been teaching for over a decade. The same may be said of a little less than half of the teachers in the girls' schools of Nadia and Murshidabad and nearly one-fourth of teachers in the girls' schools of Howrah and Hooghly.

Percentages of teachers in Elementary Mathematics possessing post-graduate or honours degrees (not necessarily in Mathematics) are 22.2, 40.7, 15.3 and 23.7 for boys' schools in Howrah, Hooghly, Nadia and Murshidabad respectively, the corresponding figures for girls' schools being 23.1, 20.0, 66.7 and 0. There is no teacher

TABLE 13.2 *Number of Teachers in Bengali in Classes IX to XI with Different Academic Qualifications and Experience.*

Qualification	Experience (in years)						Experience (in years)					
	-1	-3	-5	-10	10-	Total	-1	-3	-5	-10	10-	Total
	Howrah Boys' Schools						Hooghly Boys' Schools					
M. A.	2	6	3	5	8	24(26.7)	2	4	2	6	12	26(30.6)
B. A. (Hons)	1	1	4	4	5	15(16.7)	3	2	1	1	7	14(16.5)
B. A.	1	3	3	6	26	39(43.3)	2	5	4	6	15	32(37.6)
Degree in Sc. or Com.	0	1	1	4	2	8 (8.9)	2	1	0	2	2	7 (8.2)
Under-graduate	0	0	1	1	2	4 (4.4)	1	2	1	0	2	6 (7.1)
Total	4	11	12	20	43	90	10	14	8	15	38	85
	(4.4)	(12.2)	(13.3)	(22.2)	(47.8)		(11.8)	(16.5)	(9.4)	(17.6)	(44.7)	
	Howrah Girls' Schools						Hooghly Girls Schools					
M. A.	5	6	3	5	5	24(58.5)	4	3	0	3	5	15(40.5)
B. A. (Hons.)	0	1	0	1	1	3 (7.3)	2	3	1	1	2	9(24.3)
B. A.	0	0	1	7	3	11(26.8)	3	2	1	5	2	13(35.1)
Under-graduate	0	0	0	2	1	3 (7.3)	0	0	0	0	0	0
Total	5	7	4	15	10	41	9	8	2	9	9	37
	(12.2)	(17.1)	(9.8)	(36.6)	(24.4)		(24.3)	(21.6)	(5.4)	(24.3)	(24.3)	
	Nadia Boys' Schools						Murshidabad Boys' Schools					
M. A.	0	2	0	0	8	10(15.6)	0	0	1	2	4	7(13.2)
B. A. (Hons.)	0	0	2	2	5	9(14.1)	2	1	1	1	5	10(18.9)
B. A.	2	5	2	10	20	39(60.9)	3	2	1	4	18	28(52.8)
Degree in Sc. or Com.	0	0	0	1	1	2 (3.1)	1	0	0	1	2	4 (7.5)
Under-graduate	0	0	0	0	4	4 (6.2)	0	0	0	0	4	4 (7.5)
Total	2	7	4	13	38	64	6	3	3	8	33	53
	(3.1)	(10.9)	(6.2)	(20.3)	(59.4)		(11.3)	(5.7)	(5.7)	(15.1)	(62.3)	
	Nadia Girls' Schools						Murshidabad Girls' Schools					
M. A.	0	2	0	0	5	7(41.2)	0	0	1	0	1	2(12.5)
B. A. (Hons.)	0	0	2	1	0	3(17.6)	0	0	0	1	3	4(25.0)
B. A.	0	0	0	4	3	7(41.2)	1	0	1	1	2	5(31.2)
Degree in Sc. or Com.	0	0	0	0	0	0	1	0	1	0	0	2(12.5)
Under-graduate	0	0	0	0	0	0	0	0	0	2	1	3(18.8)
Total	0	2	2	5	8	17	2	0	3	4	7	16
	(11.8)	(11.8)	(29.4)	(47.1)			(12.5)	(18.8)	(25.0)	(43.7)		

possessing post-graduate or honours degrees in the girls' schools of Murshidabad. About 70% of teachers in the boys' schools of Howrah and Murshidabad, about 60% in the boys' schools of Hooghly and about 75% in boys' schools of Nadia and in the girls' schools of Howrah and Hooghly are pass-graduates, the percentages being 33.4 and 100.0 in the girls' schools of Nadia and Murshidabad. Nearly 3% of teachers in the boys' schools of Nadia and Murshidabad possess degrees in Commerce, while some 4 to 10 per cent of teachers in some groups of schools are only undergraduates. Nearly 30% of teachers in the boys' and girls' schools of Howrah and in boys' schools of Nadia and Murshidabad have teaching experience of 3 years at the most, the corresponding percentages being about 40 in the boys' and girls' schools of Hooghly, 50 in the girls' schools of Nadia and 100 in the girls' schools of Murshidabad. More than 30% of teachers in the boys' and girls'

TABLE 13.3 *Number of Teachers in Elementary Mathematics in Class IX to XI with Different Academic Qualifications and Experience.*

Qualifications	Experience (in years)						Experience (in years)					
	-1	-3	-5	-10	10-	Total	-1	-3	-5	-10	10-	Total
	Howrah Boys' Schools						Hooghly Boys Schools					
M.A. or M.Sc.	0	2	3	0	0	5(11.1)	2	2	2	1	1	8(29.6)
B.A. (Hons.) or B.Sc. (Hons.)	2	1	1	1	0	5(11.1)	2	0	0	1	0	3(11.1)
B.A. or B.Sc.	4	5	3	7	12	31(68.9)	3	1	2	3	7	16(59.3)
Under-graduate	0	0	1	0	3	4 (8.9)	0	0	0	0	0	0
Total	6 (13.3)	8 (17.8)	8 (17.8)	8 (17.8)	15 (33.3)	45	7 (25.9)	3 (11.1)	4 (14.8)	5 (18.5)	8 (29.6)	27
	Nadia Boys' Schools						Murshidabad Boys' Schools					
M.A. or M.Sc.	1	1	0	1	0	3(11.5)	1	0	1	1	0	3 (7.9)
B.A. (Hons.) or B.Sc. (Hons.)	0	0	0	1	0	1 (3.8)	3	2	0	0	1	6(15.8)
B.A. or B.Sc.	2	2	3	7	6	20(76.9)	6	0	2	6	14	28(73.7)
B.Com. or M.Com.	0	1	0	0	0	1 (3.8)	0	1	0	0	0	1 (2.6)
Under-graduate	0	0	0	1	0	1 (3.8)	0	0	0	0	0	0
Total	3 (11.5)	4 (15.4)	3 (11.5)	10 (38.5)	6 (23.1)	26	10 (26.3)	3 (7.9)	3 (7.9)	7 (18.4)	15 (39.5)	38

schools of Howrah and in the girls' schools of Nadia, and about 30% in the boys' schools of Hooghly have been however teaching for more than 10 years. About 20% of teachers in the boys' schools of Nadia and 40% in the girls' schools of Hooghly and boys' schools of Murshidabad have experience exceeding a decade, there being no such teacher in the girls' schools of Murshidabad.

From all this one can realise the difficulty of appointing qualified teachers even for the core subjects.

The difficulty of appointing qualified teachers in elective subjects is also keenly felt. The picture in respect of History is a little better than those in respect of other elective subjects. More than 60% of teachers in History in the boys' and girls' schools of Howrah and girls' schools of Nadia, nearly 30% of teachers in the boys' schools of Nadia, about 40% of teachers in the boys' and girls' schools of Murshidabad and 50% and 75% of teachers in the boys' and girls' schools of Hooghly possess master's or honours degrees in arts. About one-fourth of teachers in the boys' schools and one-third in the girls' schools of Howrah, two-fifths in the boys' schools of Hooghly and girls' schools of Murshidabad, slightly less than six-tenths in the boys' schools of Nadia and Murshidabad and one fifth in the girls' schools of Hooghly and Nadia are pass-graduates. Some (4% to 7%) teachers possessing degrees in Science or Commerce participate in teaching History in the higher classes in the boys' schools of Howrah, Hooghly and Nadia. In the girls' schools of Hooghly and Murshidabad also a few science graduates participate in teaching History. About 2 to 6 per cent of teachers in the boys' schools of Howrah, Hooghly and Nadia and girls' schools of Howrah are under-graduates, the percentage being as large as 11.1 and 10.0 among teachers in the girls' schools of Nadia and Murshidabad respectively. There is no under-graduate teacher in History in the girls' schools of Hooghly and in the boys' schools of Murshidabad.

In the boys' schools of Howrah and Murshidabad only 5% of teachers in History have been working for one year or less, the corresponding percentages among teachers in boys' schools of Nadia and Hooghly being 12.2 and 20.8. In the girls' schools of Howrah, Hooghly, Nadia and Murshidabad these percentages are 16.7, 24.0, 11.1 and 10.0. About 30% of teachers in the boys' schools of Howrah, 15% in the boys' schools of Hooghly and

TABLE 13.4 : Number of Teachers in History in Classes IX to XI with Different Academic Qualifications and Experience.*

Qualifications	Experience (in years)						Experience (in years)					
	-1	-3	-5	-10	10-	Total	-1	-3	-5	-10	10-	Total
	Howrah Boys' Schools						Hooghly Boys' Schools					
M. A.	1	11	2	4	7	25(53.2)	6	4	2	4	4	20(41.7)
B. A. (Hons.)	0	0	0	5	1	6(12.8)	2	0	1	1	0	4 (8.3)
B. A.	0	3	1	3	5	12(25.5)	1	3	3	2	10	19(39.6)
Degree in Sc. or Com.	1	0	0	1	0	2 (4.3)	0	0	1	1	1	3 (6.2)
Under-graduate	0	0	0	0	2	2 (4.3)	1	0	0	0	1	2 (4.2)
Total	2	14	3	13	15	47	10	7	7	8	16	48
	(4.3)	(29.8)	(6.4)	(27.7)	(31.9)		(20.8)	(14.6)	(14.6)	(16.7)	(33.3)	
Nadia Boys' Schools						Murshidabad Boys' Schools						
M. A.	1	1	2	2	5	11(26.8)	1	2	1	2	2	8(23.0)
B. A. (Hons.)	1	0	0	1	0	2 (4.9)	0	6	0	0	0	6(18.7)
B. A.	1	5	4	3	11	24(58.5)	1	3	3	2	9	18(56.3)
Degree in Sc. or Com.	2	0	0	0	1	3 (7.3)	0	0	0	0	0	0
Under-graduate	0	0	0	0	1	1 (2.4)	0	0	0	0	0	0
Total	5	6	6	6	18	41	2	11	4	4	11	32
	(12.2)	(14.6)	(14.6)	(14.6)	(43.9)		(6.2)	(34.4)	(12.5)	(12.5)	(34.4)	
Howrah Girls' Schools						Hooghly Girls Schools						
M. A.	2	3	5	0	1	11(61.1)	5	5	1	2	2	15(60.0)
B. A. (Hons.)	0	0	0	0	0	0	1	2	1	0	0	4(16.0)
B. A.	1	1	0	2	2	6(33.3)	0	2	0	3	0	5(20.0)
Degree in Sc.	0	0	0	0	0	0	0	0	0	0	1	1 (4.0)
Under-graduate	0	0	0	1	0	1 (5.6)	0	0	0	0	0	0
Total	3	4	5	3	3	18	6	9	2	5	3	25
	(16.7)	(22.2)	(27.8)	(16.7)	(16.7)		(24.0)	(36.0)	(8.0)	(20.0)	(12.0)	

* Tables in respect of teachers in the girls' schools of Nadia and Murshidabad have not been shown since the numbers of teachers in these two strata are very small.

Nadia, 35% in the boys' schools in Murshidabad and girls' schools in Hooghly, 20% in the girls' schools of Howrah and Murshidabad and 11% in the girls' schools of Nadia have teaching experience varying between 1 year and 3 years. 10 to 15 per cent of teachers in the girls' schools of Howrah, Hooghly and Murshidabad have been teaching for more than a decade, the corresponding percentage being about 30 in the boys' schools of these districts. In Nadia, however, slightly more than 40% of teachers in boys' and girls' schools have experience longer than 10 years.

As the numbers of teachers in Civics and Economics, Geography, Elective Mathematics, Physics and Chemistry in the girls' schools are extremely small, tables have been prepared in respect of teachers in boys' schools only for these subjects.

TABLE 13.5 : *Number of Teachers in Civics and Economics in Classes IX to XI with Different Academic Qualifications and Experience.*

Qualifications	Experience (in years)						Experience (in years)					
	—1	—3	—5	—10	10—	Total	—1	—3	—5	—10	10—	Total
	Howrah Boys' Schools						Hooghly Boys' Schools					
M. A.	5	6	2	2	2	17(50.0)	4	2	0	6	3	15(42.9)
B. A. (Hons.)	4	1	0	2	0	7(20.6)	3	2	1	0	0	6(17.1)
B. A.	1	1	1	1	1	5(14.7)	3	3	1	1	4	12(34.3)
Degree in Sc. or Com.	2	0	0	1	1	4(11.8)	0	2	0	0	0	2 (5.7)
Under-graduate	0	0	0	1	0	1 (2.9)	0	0	0	0	0	0
Total	12	8	3	7	4	34	10	9	2	7	7	35
	(35.3)	(23.5)	(8.8)	(20.6)	(11.8)		(28.6)	(25.7)	(5.7)	(20.0)	(20.0)	
	Nadia Boys' Schools						Murshidabad Boys' Schools					
M. A.	3	1	4	0	0	8(29.6)	2	1	0	3	2	8(25.0)
B. A. (Hons.)	4	1	2	0	0	7(25.9)	3	3	0	1	1	8(25.0)
B. A.	0	2	1	3	3	9(33.3)	2	4	1	2	4	13(40.6)
Degree in Sc. or Com.	0	1	0	1	1	3(11.1)	1	1	0	1	0	3 (9.4)
Under-graduate	0	0	0	0	0	0	0	0	0	0	0	0
Total	7	5	7	4	4	27	8	9	1	7	7	32
	(25.9)	(18.5)	(25.9)	(14.8)	(14.8)		(25.0)	(28.1)	(3.1)	(21.9)	(21.9)	

Percentages of pass-graduates among teachers in Civics and Economics are considerable. Two-thirds of teachers in the boys' schools of Howrah and girls' schools of Murshidabad, 60% of teachers in the boys' schools of Hooghly and girls' schools of Howrah, 50% of teachers in girls' schools of Hooghly and boys' schools of Murshidabad, 55.5% of teachers in the boys' and girls' schools in Nadia however possess honours or post-graduate degrees in arts. In boys' schools some Commerce graduates participate in teaching Civics and Economics, percentages of such teachers being 12.5, 2.9, 11.1 and 9.4 in Howrah, Hooghly, Nadia and Murshidabad. 7.7% of teachers in the girls' schools of Howrah and 2.9% of teachers in the boys' schools of Hooghly only have degrees in Science.

A few teachers in the boys' schools of Howrah (3.1%) and girls' schools of Hooghly (5.5%) are under-graduates. Teachers in boys' schools possess longer experience than do teachers in girls' schools. Nearly 30% of teachers in Civics and Economics in the schools of Howrah and Hooghly and 25% of teachers in the schools of Nadia and Murshidabad have teaching experience of one year at the most. More than 50% of teachers in the boys' and girls' schools of the 4 districts have been teaching for 3 years at the most, (except for teachers in the boys' schools of Nadia where the percentage is 44.4).

Percentages of pass graduates among teachers in Geography are even larger. Such percentages are 45.9, 54.8, 77.8 and 79.2 in the boys' schools of Howrah, Hooghly, Nadia and Murshidabad and 66.7 and 71.4 in the girls' schools of Howrah and Hooghly. Percentages of teachers with honours or post-graduate degrees are 43.2, 32.3, 7.4 and 16.8 in the boys' schools and 25.0, 28.5, 16.8 and 66.7 in the girls' schools. A few teachers (3% to 12%) in the boys' schools possess degrees in Commerce, there being no such teacher in the girls' schools. About 4% of teachers in the boys' schools of Howrah, Hooghly and Nadia and 8.3% of teachers in the girls' schools of Howrah only are under-graduates. Teachers in Geography have comparatively long experience with a considerable proportion of teachers having experience for more than a decade. Percentages of teachers with experience exceeding 5 years are 81.0, 64.5, 66.7 and 58.4 in the boys' schools and 66.7 and 42.8 in the girls' schools of Howrah and Hooghly.

TABLE 13.6 : *Number of Teachers in Geography in Classes IX to XI with Different Academic Qualifications and Experience.*

Qualifications	Experience (in years)						Experience (in years)					
	-1	-3	-5	-10	10-	Total	-1	-3	-5	-10	10-	Total
	Howrah Boys' Schools						Hooghly Boys' Schools					
M.A. or M.Sc.	1	0	3	2	2	8(21.6)	1	3	1	0	3	8(25.8)
B.A. (Hons.) or B.Sc. (Hons.)	1	0	0	5	2	8(21.6)	0	0	0	1	1	2 (6.5)
B.A. or B.Sc.	0	1	1	4	11	17(45.9)	0	1	1	0	15	17(54.8)
M.Com. or B.Com.	0	0	0	2	0	2 (5.4)	1	2	0	0	0	3 (9.7)
Under-graduate	0	0	0	0	2	2 (5.4)	1	0	0	0	0	1 (3.2)
Total	2	1	4	13	17	37 (5.4) (2.7) (10.8) (35.1) (45.9)	3	6	2	1	19	31 (9.7) (19.4) (6.5) (3.2) (61.3)
	Nadia Boys' Schools						Murshidabad Boys' Schools					
M.A. or M.Sc.	0	1	0	1	0	2 (7.4)	1	0	0	0	1	2 (8.3)
B.A. (Hons.) or B.Sc. (Hons.)	0	0	0	0	0	0	0	1	1	0	0	2 (8.3)
B.A. or B.Sc.	2	2	1	4	12	21(77.8)	2	3	2	3	9	19(79.2)
M.Com. or B. Com.	1	2	0	0	0	3(11.1)	0	0	0	1	0	1 (4.2)
Under-graduate	0	0	0	0	1	1 (3.7)	0	0	0	0	0	0
Total	3	5	1	5	13	27 (11.1) (18.5) (3.7) (18.5) (48.1)	3	4	3	4	10	24 (12.5) (16.7) (12.5) (16.7) (41.7)

Dearth of qualified teachers in elective science subjects is clearly seen from the large percentages of pass graduates among teachers in these subjects. Percentages of teachers in Elective Mathematics with honours of post-graduate degrees are 38.8, 37.9, 29.7 and 54.5 in boys' schools of Howrah, Hooghly, Nadia and Murshidabad respectively. Percentages of pass-graduates among teachers in this subject are 40 in Murshidabad, 50 in Howrah, 60 in Hooghly and 70 in Nadia. 7% of teachers in the boys' schools of Howrah only are under-graduates, while about 4% of teachers in Howrah and Murshidabad possess degrees in Commerce. Experience of teachers in boys' schools is rather long. Nearly 40% of teachers in Howrah and about 35% in Hooghly and Nadia (but only 13.6% in Murshidabad) have been teaching for more than 10 years.

TABLE 13.7 : *Number of Teachers in Elective Mathematics in Classes IX to XI with Different Academic Qualifications and Experience.*

Qualifications	Experience (in years)						Experience (in years)					
	—1	—3	—5	—10	10—	Total	—1	—3	—5	—10	10—	Total
	Howrah Boys' Schools						Nadia Boys' Schools					
M.A. or M.Sc.	0	2	0	1	2	5(17.9)	0	4	0	1	2	7(18.9)
B.A. (Hons.) or B.Sc. (Hons.)	2	1	0	2	1	6(21.4)	2	0	0	1	1	4(10.8)
B.A. or B.Sc.	2	1	1	3	7	14(50.0)	7	1	1	7	10	26(70.3)
M.Com. or B.Com.	0	0	0	0	1	1(3.6)	0	0	0	0	0	0
Under-graduate	0	1	0	0	1	2(7.1)	0	0	0	0	0	0
Total	4	5	1	6	12	28	9	5	1	9	13	37
	(14.3)	(17.9)	(3.6)	(21.4)	(42.8)		(24.3)	(13.5)	(2.7)	(24.3)	(35.1)	
	Hooghly Boys' Schools						Murshidabad Boys' Schools					
M.A. or M.Sc.	4	4	1	1	3	14(24.1)	2	2	1	2	0	7(31.8)
B.A. (Hons.) or B.Sc. (Hons.)	3	4	1	0	0	8(13.8)	3	0	0	0	2	5(22.7)
B.A. or B.Sc.	3	7	3	5	16	34(58.6)	3	1	1	3	1	9(40.9)
M.Com. or B. Com.	0	1	1	0	0	2 (3.4)	0	1	0	0	0	1 (4.5)
Total	10	16	6	6	19	58	8	4	2	5	3	22
	(17.2)	(27.6)	(10.3)	(10.3)	(34.5)		(36.4)	(18.2)	(9.1)	(22.7)	(13.6)	

Nearly 40% of teachers in Physics in the boys' schools of Howrah and Hooghly possess post-graduate or honours graduate degrees, while about 20% and 40% of teachers in the boys' schools of Nadia and Murshidabad possess equivalent qualifications. Except 2 (7.4%) under-graduate teachers in the boys' schools surveyed in Howrah, no under-graduate teacher has been reported to be participating in teaching Physics. However, nearly 7% of teachers in the boys' schools of Howrah and Hooghly only possess degrees in Arts. Percentages of pass-graduates among teachers in Physics in the boys' schools are 48.1 in Howrah, 50.0 in Hooghly, 81.8 in Nadia and 61.1 in Murshidabad. Numbers of teachers in the girls' schools are very small, 7 in Howrah, 6 each in Hooghly and Nadia and 1 in Murshidabad and of them 2 in Howrah,

TABLE 13.8 *Number of Teachers in Physics in Classes IX to XI Different Academic Qualifications and Experience.*

Qualifications	Experience (in years)						Experience (in years)					
	—1	—3	—5	—10	10—	Total	1—	—3	—5	—10	10—	Total
	Howrah Boys' Schools						Hooghly Boys' Schools					
M. Sc.	2	1	0	0	0	3(11.1)	3	2	0	0	2	7(15.9)
B. Sc. (Hons.)	3	2	1	1	0	7(25.9)	8	3	1	0	0	12(27.3)
B. Sc.	2	6	2	1	2	13(48.1)	2	7	2	4	7	22(50.0)
Degree in Arts	0	1	0	0	1	2 (7.4)	0	1	2	0	0	3 (6.8)
Under-graduate	2	0	0	0	0	2 (7.4)	0	0	0	0	0	0
Total	9	10	3	2	3	27	13	13	5	4	9	44
	(33.3)	(37.0)	(11.1)	(7.4)	(11.1)		(29.5)	(29.5)	(11.4)	(9.1)	(20.5)	
	Nadia Boys' Schools						Murshidabad Boys Schools					
M. Sc.	0	0	1	0	0	1 (9.1)	3	1	0	1	0	5(27.8)
B. Sc. (Hons.)	0	1	0	0	0	1 (9.1)	2	0	0	0	0	2(11.1)
B. Sc.	2	0	1	1	5	9(81.8)	2	1	1	4	3	11(61.1)
Total	2	1	2	1	5	11	7	2	1	5	3	18
	(18.2)	(9.1)	(18.2)	(9.1)	(45.4)		(38.9)	(11.1)	(5.6)	(27.8)	(16.7)	

1 in Hooghly 4 in Nadia and 1 in Murshidabad possess honours or post-graduate degrees. Nearly 70% of teachers in the boys' schools of Howrah, 60% in Hooghly, 30% in Nadia and 50% in Murshidabad have teaching experience not exceeding 3 years, while about 30% of teachers in the boys' schools of Howrah and Hooghly, 20% in Nadia and 40% in Murshidabad have worked for a year or less.

About 20% of teachers in Chemistry in the boys' schools of Howrah and Nadia nearly 30% in Hooghly and about 60% in Murshidabad possess honours or post-graduate degrees in Science. In none of the schools surveyed there is any under-graduate teacher. Only 1(6.7%) teacher in a boys' school of Nadia possess a degree in Arts. Quite a large proportion of teachers in Chemistry are only pass-graduates, the percentages being 77.8, 67.5, 73.4 and 37.5 respectively in the boys' schools of Howrah, Hooghly, Nadia and Murshidabad. The numbers of teachers in girls' schools are

6, 3, 6 and 1 in Howrah, Hooghly, Nadia and Murshidabad respectively. Out of them 4, 1, and 2 teachers in the first 3 districts possess either honours or post-graduate degrees, the only teacher in Murshidabad being a B. Sc., B. T. A little more than 85% of teachers in boys' schools of Nadia have been teaching for more than 5 years. Percentages of teachers who have been teaching only for 3 years or less are 51.8 and 50.0 in the boys' and girls' schools of Howrah, 40.0 and 66.7 in Hooghly, 13.4 and 66.7 in Nadia and 56.2 in the boys' schools of Murshidabad.

TABLE 13.9 : *Number of Teachers in Chemistry in Classes IX to XI with Different Academic Qualifications and Experience.*

Qualifications	Experience (in years)						Experience (in years)					
	—1	—3	—5	—10	10—	Total	—1	—3	—5	—10	10—	Total
	Howrah Boys' Schools						Hooghly Boys' Schools					
M. Sc.	0	1	1	0	0	2 (7.4)	3	1	0	0	3	7(17.5)
B. Sc. (Hons.)	2	2	0	0	0	4(14.8)	4	1	1	0	0	6(15.0)
B. Sc.	5	4	4	4	4	21(77.8)	3	4	3	9	8	27(67.5)
Total	7	7	5	4	4	27	10	6	4	9	11	40
	(25.9)	(25.9)	(18.5)	(14.8)	(14.8)		(25.0)	(15.0)	(10.0)	(22.5)	(27.5)	
Nadia Boys' Schools						Murshidabad Boys' Schools						
M. Sc.	0	0	0	0	1	1 (6.7)	1	1	0	0	1	3(18.7)
B. Sc. (Hons.)	1	0	0	2	0	3(20.0)	2	3	1	1	0	7(43.8)
B. Sc.	0	1	0	4	6	11(73.3)	1	1	1	3	0	6(37.5)
Total	1	1	0	6	7	15	4	5	2	4	1	16
	(6.7)	(6.7)		(40.0)	(46.7)		(25.0)	(31.2)	(12.5)	(25.0)	(6.3)	

Table 14 gives numbers of whole-time and part-time teachers and of vacant posts of teachers in some of the important subjects.

It is found that the percentages of part-time teachers and of vacant posts of teachers in English and Bengali in different strata are quite small except for English in the girls' schools of Nadia, where 5.7% posts of teachers are filled up by part-timers and 7.5% posts are lying vacant. The percentage is smaller for Bengali. But the total number of posts of teachers in English is

Whole-time, Part-time and Vacant Posts of Teachers

greater than the total number of posts of teachers in Bengali in Hooghly, Nadia and Murshidabad. The percentages of posts of teachers in English filled up by whole-time employees in boys' schools from which data were collected are 97.2, 97.2, 99.4 and 97.9 in Howrah, Hooghly, Nadia and Murshidabad. The corresponding percentages in girls' schools are 98.7, 97.5, 86.8 and 100.0.

With History and Elementary Mathematics the position is slightly worse. There are small numbers of part-time teachers in Elementary Mathematics in boys' schools of Howrah and Nadia and in girls' schools of Nadia and Murshidabad only, the percentages of such teachers in these groups of schools being 0.8, 2.3, 3.3 and 6.3 respectively. About 5% posts of teachers of Elementary Mathematics in boys' schools are lying vacant, the corresponding percentages in girls' schools in Howrah, Hooghly, Nadia and Murshidabad being 9.8, 4.1, 3.3 and 12.5. Nearly 5 to 8 per cent of posts of teachers in History in the boys' schools of the 4 districts and 3 to 5 per cent of posts in the girls' schools of Hooghly, Nadia and Murshidabad have not yet been filled up, no post however remains vacant in the girls' schools of Howrah. No part-time teacher participates in teaching History in any of the schools from which data were collected.

The situation in respect of Civics and Economics, Logic and Psychology, Geography and Elective Mathematics is also unsatisfactory. In this connection, attention should be drawn to the fact that the total numbers of posts of teachers in most of the elective subjects in girls' schools are very small. The percentages of vacant posts of teachers in Civics and Economics are 20.0, 17.5, 12.9 and 11.4 in the boys' schools of Howrah, Hooghly, Nadia and Murshidabad respectively and 7.7, 22.7, 10.0 and 33.3 in the girls' schools of these districts. 2.5% of posts of teachers in this subject in boys' schools of Hooghly, 10.0% (1 out of 10) in girls' schools of Nadia and 33.3% (2 out of 6) in the girls' schools of Murshidabad only have been filled up by part-time teachers. Part-time teachers also participate in teaching Logic and Psychology only in the boys' schools of Howrah (5.0%) and Murshidabad (8.3%). 20% of posts of teachers in this subject in the boys' schools of Howrah lie vacant, the corresponding percentage in Hooghly, Nadia and Murshidabad being 10.5, 25.0 and 8.3. One (7.1%) out of 14 posts of teachers in girls' schools of

TABLE 14 : *Whole-time, Part-time and Vacant Posts of Teachers.*

Number of Posts											
Posts	English	Bengali	Elem. Maths.	History	Civics & Econ.	Logic & Psych.	Geography	Elect. Maths.	Physics	Chemistry	Biology
Howrah Boys											
Whole-time	172 (97.2)	174 (100.0)	111 (92.5)	93 (93.9)	28 (80.0)	15 (75.0)	76 (85.4)	27 (77.1)	23 (67.6)	24 (53.3)	11 (57.9)
Part-time	0	0	1 (0.8)	0	0	1 (5.0)	1 (1.1)	0	2 (5.9)	4 (8.9)	1 (5.3)
Vacant	5 (2.8)	0	8 (6.7)	6 (6.1)	7 (20.0)	4 (20.0)	12 (13.5)	8 (22.9)	9 (26.5)	17 (37.8)	7 (36.8)
Total	177	174	120	99	35	20	89	35	34	45	19
Howrah Girls											
Whole-time	79 (98.7)	80 (100.0)	37 (90.2)	39 (100.0)	12 (92.3)	16 (100.0)	32 (94.1)	9 (69.2)	6 (66.7)	3 (37.5)	6 (60.0)
Part-time	0	0	0	0	0	0	1 (2.9)	0	1 (11.1)	3 (37.5)	3 (30.0)
Vacant	1 (1.3)	0	4 (9.8)	0	1 (7.7)	0	1 (2.9)	4 (30.8)	2 (22.2)	2 (25.0)	1 (10.0)
Total	80	80	41	39	13	16	34	13	9	8	10
Hooghly Boys											
Whole-time	207 (97.2)	187 (99.5)	119 (95.2)	95 (92.2)	32 (80.0)	17 (89.5)	75 (87.2)	60 (88.2)	42 (73.7)	35 (68.6)	21 (77.8)
Part-time	0	0	0	0	1 (2.5)	0	1 (1.2)	2 (2.9)	4 (7.0)	3 (5.9)	1 (3.7)
Vacant	6 (2.8)	1 (0.5)	6 (4.8)	8 (7.8)	7 (17.5)	2 (10.5)	10 (11.6)	6 (8.8)	11 (19.3)	13 (25.5)	5 (18.5)
Total	213	188	125	103	40	19	86	68	57	51	27
Hooghly Girls											
Whole-time	116 (97.5)	96 (100.0)	47 (95.9)	58 (96.7)	17 (77.3)	13 (92.9)	39 (86.7)	13 (86.7)	5 (62.5)	2 (40.0)	2 (66.7)
Part-time	1 (0.8)	0	0	0	0	0	1 (2.2)	0	1 (12.5)	1 (20.0)	0
Vacant	2 (1.7)	0	2 (4.1)	2 (3.3)	5 (22.7)	1 (7.1)	5 (11.1)	2 (13.3)	2 (25.0)	2 (40.0)	1 (33.3)
Total	119	96	49	60	22	14	45	15	8	5	3

TABLE 14 (Contd.)

Posts	Number of Posts											
	English	Bengali	Elem. Maths.	History	Civics & Econ.	Logic & Psych.	Geography	Elec. Maths.	Physics	Chemistry	Biology	
Nadia Boys												
Whole-time	166 (99.4)	137 (100.0)	81 (92.0)	87 (94.6)	27 (87.1)	6 (75.0)	57 (98.3)	34 (82.9)	11 (73.3)	16 (88.9)	8 (80.0)	
Part-time	0	0	2 (2.3)	0	0	0	0	2 (4.9)	2 (13.3)	0	1 (10.0)	
Vacant	1 (0.6)	0	5 (5.7)	5 (5.4)	4 (12.9)	2 (25.0)	1 (1.7)	5 (12.2)	2 (13.3)	2 (11.1)	1 (10.0)	
Total	167	137	88	92	31	8	58	41	15	18	10	
Nadia Girls												
Whole-time	46 (86.8)	42 (97.7)	28 (93.3)	32 (97.0)	8 (80.0)	5 (100.0)	17 (100.0)	7 (77.8)	5 (55.6)	5 (71.4)	2 (50.0)	
Part-time	3 (5.7)	0	1 (3.3)	0	1 (10.0)	0	0	1 (11.1)	2 (22.2)	1 (14.3)	2 (50.0)	
Vacant	4 (7.5)	1 (2.3)	1 (3.3)	1 (3.0)	1 (10.0)	0	0	1 (11.1)	2 (22.2)	1 (14.3)	0	
Total	53	43	30	33	10	5	17	9	9	7	4	
Murshidabad Boys												
Whole-time	137 (97.9)	128 (99.2)	77 (95.1)	62 (92.5)	31 (88.6)	10 (83.3)	53 (93.0)	22 (75.9)	17 (68.0)	14 (82.4)	7 (63.6)	
Part-time	0	0	0	0	0	1 (8.3)	0	3 (10.3)	3 (12.0)	2 (11.8)	2 (18.2)	
Vacant	3 (2.1)	1 (0.8)	4 (4.9)	5 (7.5)	4 (11.4)	1 (8.3)	4 (7.0)	4 (13.8)	5 (20.0)	1 (5.9)	2 (18.2)	
Total	140	129	81	67	35	12	57	29	25	17	11	
Murshidabad Girls												
Whole-time	29 (100.0)	24 (96.0)	13 (81.2)	19 (95.0)	2 (33.3)	3 (100.0)	13 (100.0)	0	0	1 (100.0)	0	
Part-time	0	1 (4.0)	1 (6.3)	0	2 (33.3)	0	0	2 (50.0)	1 (50.0)	0	1 (50.0)	
Vacant	0	0	2 (12.5)	1 (5.0)	2 (33.3)	0	0	2 (50.0)	1 (50.0)	0	1 (50.0)	
Total	29	25	16	20	6	3	13	4	2	1	2	

N.B. Posts of Headmasters/Headmistresses and of assistant Headmasters/assistant Headmistresses have not been considered in this table.

Hooghly only lies vacant. Although a small proportion (1 to 3 percent) of posts of teachers in Geography has been filled up by part-time teachers and that also only in the boys' and girls' schools of Howrah and Hooghly, percentages of vacant posts are not negligible in some strata, being 13.5, 11.6 and 7.0 in the boys' schools of Howrah, Hooghly and Murshidabad respectively and 11.1 in the girls' schools of Hooghly. Percentages of posts of teachers in Elective Mathematics lying vacant are 22.9 and 30.8 (4 out of 13) in the boys' and girls' schools of Howrah, 8.8 and 13.3 (2 out of 15) in Hooghly, 12.2 and 11.1 (1 out of 9) in Nadia and 13.8 and 50.0 (2 out of 4) in Murshidabad. In boys' schools of Hooghly, Nadia and Murshidabad 2.9%, 4.9% and 10.3% of teachers in Elective Mathematics are working on a part-time basis, while the corresponding percentages in girls' schools of Nadia and Murshidabad are 11.1 (1 out of 9) and 50.0 (2 out of 4) respectively, there being no part-time teacher in schools from which data were collected in the other strata.

The difficulty of appointing qualified teachers in Physics, Chemistry and Biology is clearly indicated by large percentages of vacant posts of teachers and part-time teachers in these subjects. Only 68% of posts of teachers in Physics in boys' schools of Howrah and Murshidabad and 74% in boys' schools of Hooghly and Nadia have been filled up by whole-time teachers, the percentages of whole-time teachers in this subject in girls' schools being 66.7 (6 out of 9), 62.5 (5 out of 8) and 55.6 (5 out of 9) in the districts of Howrah, Hooghly and Nadia. The percentages of vacant posts of teachers in this subject in boys' schools are 26.5, 19.3, 13.3 and 20.0 in Howrah, Hooghly, Nadia and Murshidabad respectively, the corresponding percentages for girls' schools being 22.2 (2 out of 9) in Howrah and Nadia and 25.0 (2 out of 8) in Hooghly. In only 1 girls' school in Murshidabad, Science has been introduced and out of the 2 posts one is filled-up by a part-time teacher and the other lies vacant. With Chemistry, the position is worse than that with Physics in Howrah and Hooghly but slightly better in the other two districts. The position in respect of Biology also is not at all satisfactory as revealed by large percentages of part-time teachers and of vacant posts of teachers in this subject in the different strata. One distressing fact is that there is no whole-time teacher for Physics, Elective Mathematics and Biology in the girls' schools of Murshidabad.

Table 14 gives clear indication that in some of the schools the same teacher has to teach the same subject in all the three classes IX to XI and the same science teacher has to look after both theoretical and practical classes. In a few schools the same teacher teaches more than one science subjects. All this coupled with a considerably large percentage of pass-graduates and even a handful of undergraduates among teachers pointedly brings out the difficulty of appointing qualified teachers.

Much attention has been drawn to the inadequate pay of teachers in recent times. Table 15 presents the distribution of monthly emoluments of whole-time teachers other than Headmasters and Assistant Headmasters.

Salary of Teachers Figures for monthly emoluments (including dearness allowance) could not be collected in respect of 14(3.0%), 6(1.1%), 19(5.4%) and 4(1.3%) teachers working in the boys' schools of Howrah, Hooghly, Nadia and Murshidabad respectively and 12(5.2%) and 2(1.5%) teachers in the girls' schools of Hooghly and Nadia. These teachers have not been considered in the calculation of percentages in Table 15. A teacher in the boys' or in the girls' schools of Howrah receives on an average Rs 144/-. The average emolument of a teacher in the boys' schools of Hooghly is Rs 155/-,

TABLE 15 : *Monthly Emoluments of Whole-time Teachers.*

Emoluments in Rs.	Percentage of Teachers in schools							
	Howrah		Hooghly		Nadia		Murshidabad	
	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls
— 75	.2	0	.9	4.1	.3	5.5	.6	0
76—100	2.9	5.1	2.4	4.6	2.7	4.7	3.2	1.8
101—125	28.6	26.2	27.2	31.3	25.1	10.9	26.2	33.3
126—150	21.9	19.0	16.7	20.3	21.6	25.2	19.5	17.5
151—175	34.6	39.5	32.4	31.3	35.0	26.6	33.2	45.6
176—200	7.4	7.7	10.3	7.4	8.4	17.2	10.5	1.8
201—225	3.8	2.6	2.9	.9	5.4	5.5	3.8	0
226—250	.4	0	1.1	0	.9	3.9	.6	0
251—300	.2	0	3.8	0	.6	1.6	2.2	0
300—400	0	0	2.4	0	0	0	0	0
Average Remuneration	144.6	144.0	155.4	135.4	148.3	151.2	148.9	140.6

Rs. 149/- being the average monthly emolument of a teacher in the boys' schools of Nadia and Murshidabad. The average monthly remuneration of a teacher in the girls' schools of Nadia is Rs. 151/- while teachers in the girls' schools of Hooghly and Murshidabad earn on the average Rs. 135/- and Rs. 141/- respectively. The low income of teachers is clearly indicated from the findings that nearly 50% of teachers in the boys' and girls' schools of Howrah, boys' schools of Hooghly, boys' and girls' schools of Nadia and Murshidabad earn emoluments not exceeding Rs. 150/-, the corresponding percentage being as high as 60 among teachers of girls' schools in Hooghly. Total emoluments of about 3% of wholetime teachers in the boys' schools of Howrah, Hooghly, Nadia and Murshidabad do not exceed Rs. 100/-, the corresponding percentages for girls' schools being about 5, 9, 10 and 2. No teacher in the girls' schools of Murshidabad receives a monthly emolument of more than Rs. 200/-. Percentages of teachers receiving monthly emolument of Rs. 200/- or more are 4.4, 10.2, 6.9 and 6.6 in boys' schools of Howrah, Hooghly, Nadia and Murshidabad, the corresponding percentages among teachers in girls' schools of Howrah, Hooghly and Nadia being 2.6, 0.9 and 11.0.

These details clearly indicate the extremely poor pay and the sad plight of school teachers. This is definitely one of the main causes responsible for dearth of qualified teachers. It must be noted here that monthly emoluments considered in Table 15 relate to figures before the recent revision of pay-scales of teachers. Implementation of the revised pay-scale has definitely improved the situation to some extent. But it has not been possible to examine the extent of this improvement.

Information regarding the number of teachers who have joined the institution during the last 3 years (1959 to 1961) and of those who have left the institution during the same period due to resignation or to retirement or to any other reasons was collected from schools in Nadia and Murshidabad. On an average, 10 teachers have joined a boys' school during this period of 3 years, the corresponding figures for girls' schools being 6 and 9 in Nadia and Murshidabad respectively. The average numbers of teachers who have left a school are 7 for boys' schools and 4 for girls' schools in Nadia, while in Murshidabad these numbers are 6 for both boys' and girls' schools. In Nadia, more than

80% of teachers who have left the schools investigated have resigned from their services, the corresponding percentage being about 75 in Murshidabad.

In Muffasil areas, teachers must include among them some people who have joined the institution from some distant areas. It is desirable that arrangements be made for the residence of such teachers. Some schools have arranged for quarters for teachers, while in some other schools teachers have organised messes for them. Percentages of schools making some arrangements for the residence of teachers are 23.9 and 25.0 in the boys' and girls' schools of Howrah, 36.0 and 41.7 in Hooghly and 31.2 and 28.6 in Nadia. Provision for teachers' residence exists in 50.0% of boys' schools in Murshidabad, there being no such arrangement in any girls' school in Murshidabad.

Table 16 presents total weekly hours of work of whole-time teachers. It is found that work-load is not evenly distributed and there are considerable variations in the pattern of this distribution between different groups of schools. A considerable percentage of teachers (except in the girls' schools of Howrah) have to teach for more than 20 hours a week. The largest percentage of teachers has to teach for 1001 to 1200 minutes a week, in each stratum except in the girls' schools of Howrah where the largest percentage (51.6) of teachers has to teach for 801 to 1000 minutes a week.

TABLE 16 : *Total Weekly Hours of Work of Whole-time Teachers.*

Time (in Minutes)	Number of teachers in schools							
	Howrah		Hooghly		Nadia		Murshidabad	
	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls
-600	14 (3.1)	6 (3.3)	14 (2.6)	6 (2.8)	3 (0.9)	2 (1.8)	12 (3.9)	0
601-800	15 (3.4)	9 (4.9)	44 (8.1)	6 (2.8)	12 (3.5)	10 (9.1)	15 (4.2)	1 (1.8)
801-1000	71 (15.9)	95 (51.6)	65 (11.9)	12 (5.6)	49 (14.3)	12 (10.9)	95 (31.2)	5 (9.2)
1001-1200	276 (61.7)	69 (37.5)	325 (59.7)	104 (48.1)	180 (52.5)	74 (67.3)	155 (51.0)	41 (74.5)
1201-	71 (15.9)	5 (2.7)	96 (17.6)	88 (40.7)	99 (28.9)	12 (10.9)	27 (8.9)	8 (14.5)
Total	447	184	544	216	343	110	304	55

About 60% of teachers in the boys' schools of Howrah and Hooghly and a little over 50% of teachers in the other two districts have to teach for 1001-1200 minutes a week. The corresponding percentages for teachers in girls' schools are 37.5, 48.1, 67.3 and 74.5. The percentage of teachers who have to teach for 10 hours or less a week is only about 3 in the boys' and girls' schools of Howrah and Hooghly, 1 and 4 in the boys' schools of Nadia and Murshidabad, 2 in the girls' schools of Nadia and 0 in the girls' schools of Murshidabad. Weekly hours of work for some (97 in all) teachers could not however be ascertained as there was no fixed routine for such teachers at the time of investigation.

It is needless to assert that a school should provide sufficient accommodation to its pupils. But it is found that a small proportion of schools are not housed in buildings owned by them. Out of the schools from which data

School Building were collected one boys' school in Howrah and one boys' and another girls' school in Hooghly are housed in wholly rented buildings, while one boys' and one girls' school in Nadia are situated in buildings partly owned and partly rented. All other schools possess their own buildings. All boys' and girls' schools in Nadia and Murshidabad and all girls' schools in Howrah and Hooghly are housed in pucca buildings, while 4% of boys' schools in Hooghly are housed in kutcha huts, and one boys' school in Howrah is accommodated in a semi-pucca house. As indicated in the earlier report, the position in this respect has much improved now-a-days owing to financial aids extended by the government to schools for the construction and extension of their buildings.

Owing to difficulty of suitable accommodation two schools are sometimes housed in the same building. In about 10% of boys' and girls' schools in Howrah some other schools are housed in the same buildings along with the schools investigated. These percentages are 16.0 and 8.3 in the boys' and girls' schools of Hooghly and 6.2 and 12.5 in the boys' schools of Nadia and Murshidabad. None of the girls' schools in Nadia and Murshidabad, however, shares building with any other schools. Most of these schools are primary schools, although in a few buildings boys' schools hold classes during the day and higher secondary schools for

girls hold classes in the morning. Almost all schools provide for a common room for teachers, while in some schools there are common rooms for students also. Information about common rooms was collected from some of the schools in Nadia and Murshidabad only. Percentages of schools having common rooms for teachers are 90.0 and 80.0 in the boys' schools of Nadia and Murshidabad and 75.0 and 100.0 in the girls' schools of these two districts. In 22.2 and 40.0 per cent of boys' schools in Nadia and Murshidabad there are common-rooms for students, the corresponding percentages for girls' schools being 20.0 and 0 respectively. Some schools arrange for students' residence in hostels. Percentages of schools providing hostel facilities to students are 17.4, 30.8, 31.2 and 61.5 for the boys' schools of Howrah, Hooghly, Nadia and Murshidabad and 11.1, 25.0, 28.6 and 0 in the girls' schools of these districts from which data were collected. A very small fraction (less than 2%) of the total number of students in schools from which data were collected resides in hostels. However, about half of the seats available in the hostels of boys' and girls' schools in Nadia and girls' schools in Murshidabad are lying vacant.

Table 17 gives information about the total roll-strength of schools from which data were collected. Average total number of students in boys' schools is less than that in girls' schools in Howrah and Hooghly, while the other two districts present the opposite picture. The average total roll-strengths in boys' schools are 546 in Howrah, 486 in Hooghly, 518 in Nadia and 469 in Murshidabad. The corresponding figures for girls' schools are 656, 529, 487 and 410. According to the Secondary Education Commission, 500 is 'the optimum number of students in a school', 750 is the maximum number, while in multipurpose schools providing tuition in a number of streams this number may go up to 1000. The percentage of schools with total roll-strength not exceeding 500 is about 50 except for girls' schools in Howrah (33.3%) and boys' schools in Murshidabad (64.7%). In no girls' school in Nadia and Murshidabad the total roll-strength exceeds 750. In about 25% of boys' schools in Howrah, Hooghly and Murshidabad and about 45% of girls' schools in Howrah and Hooghly and boys' and girls' schools in Nadia the total roll-strength

**Over-crowding in
Class-rooms**

TABLE 17 : *Total Roll-strength.*

Total roll-strength	Number of Schools							
	Howrah		Hooghly		Nadia		Murshidabad	
	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls
— 500	14 (56.4)	3 (33.3)	15 (55.6)	6 (46.2)	9 (50.0)	4 (57.1)	11 (64.7)	2 (50.0)
501— 750	7 (28.0)	4 (44.4)	7 (25.9)	6 (46.2)	8 (44.4)	3 (42.9)	4 (23.5)	2 (50.0)
751—1000	2 (8.0)	1 (11.1)	4 (14.8)	1 (7.7)	1 (5.6)	0	2 (11.8)	0
1000—	2 (8.0)	1 (11.1)	1 (3.7)	0	0	0	0	0
Total	25	9	27	13	18	7	17	4
Average number of Students	546	656	486	529	518	487	469	410

varies between 501 to 750 ; the corresponding percentage for girls' schools in Murshidabad being 50. In only 2 girls' schools one (11.1%) in Howrah and the other (7.7%) in Hooghly, the total roll-strength varies between 751 to 1000. Percentages of such boys' schools in Howrah, Hooghly, Nadia and Murshidabad are 8.0, 14.8, 5.6 and 11.8 respectively. In about 10% of boys' and girls' schools in Howrah and in about 4% of boys' schools of Hooghly only there are more than 1000 students.

As indicated in the first report, one of the long-standing criticisms against the educational institutions in our country is the excessive number of students in a class. In the opinion of the Secondary Education Commission the number of pupils in a class should be 30 and the maximum number should not exceed 40. Table 18 reveals that the proportion of cases with number of pupils in a class exceeding 50 or even 60 is not negligible. In about one-fourth of all classes in the boys' schools, one-third of all classes in the girls' schools of Howrah and Nadia and two-fifths in the girls' schools of Hooghly and Murshidabad the number of students exceeds 40. In the boys' schools of Howrah, roll-strength is not less than 50 in 6% of classes VI to VIII and 12.4% of classes IX to XI. Congestion is very high in classes IX and XI with 8.2% of cases for classes IX accommodating more than 59 students each, and 6.1% of cases having roll-strengths lying between 50 and 59

TABLE 18 : *Number of Students in Different Classes.*

No. of Students	Percentage of Cases		Percentage of Students		Percentage of Cases		Percentage of Students	
	Cases	Students	Cases	Students	Cases	Students	Cases	Students
Class—VI								
	Howrah Schools				Hooghly Schools			
	Boys		Girls		Boys		Girls	
—40	66.7	59.6	65.2	61.1	86.2	83.5	65.6	59.1
41—49	26.3	30.3	34.8	38.9	13.8	16.5	28.1	32.2
50—59	7.0	10.1	0	0	0	0	6.3	8.1
60—	0	0	0	0	0	0	0	0
	Nadia Schools				Murshidabad Schools			
—40	76.2	71.1	60.0	53.0	74.4	67.7	62.5	56.0
41—49	23.8	28.9	33.3	38.2	18.0	20.5	37.5	44.0
50—59	0	0	6.7	8.8	5.1	7.5	0	0
60—	0	0	0	0	2.5	4.3	0	0
Class—VII								
	Howrah Schools				Hooghly Schools			
—40	75.0	67.4	69.6	65.4	78.3	73.5	40.0	32.9
41—49	16.1	19.2	30.0	34.6	15.0	17.3	56.7	60.8
50—59	7.1	10.3	0	0	6.7	9.2	0	0
60—	1.8	3.1	0	0	0	0	3.3	6.3
	Nadia Schools				Murshidabad Schools			
—40	71.8	64.3	53.3	46.5	68.8	60.9	37.5	30.1
41—49	17.9	21.2	46.7	53.5	18.8	21.6	62.5	69.9
50—59	10.3	14.5	0	0	12.4	17.5	0	0
60—	0	0	0	0	0	0	0	0
Class—VIII								
	Howrah Schools				Hooghly Schools			
—40	73.1	66.5	59.1	53.9	69.1	63.2	51.9	42.6
41—49	25.0	30.8	40.9	46.1	30.9	36.8	37.0	40.5
50—59	1.9	2.7	0	0	0	0	3.7	4.7
60—	0	0	0	0	0	0	7.4	12.2
	Nadia Schools				Murshidabad Schools			
—40	70.3	63.3	81.3	78.3	67.7	59.8	66.7	62.9
41—49	21.6	24.7	18.7	21.7	22.6	26.5	33.3	37.1
50—59	8.1	12.0	0	0	9.7	13.7	0	0
60—	0	0	0	0	0	0	0	0

while 14% of classes XI include 50-59 students. Total roll-strength also exceeds 60 in 2% of cases for class VII. In the girls' schools of Howrah, the number of pupils is less than 50 in all the classes VI to VIII. But the percentages of cases with roll-strength higher than 40, are not negligible being 38.9, 34.6 and 46.1 for classes VI, VII and VIII respectively. Situation is again unsatisfactory for class IX with 40% of cases having more than 40 pupils and as large as 33.3% of cases having 50 or more students in a class. About 16% of classes X and 21% of classes XI accommodate 50 or more students, while in 14% of classes IX and XI the number of students exceeds 60. In none of the classes VI and VIII of boys' schools in Hooghly from which data were collected roll-strength exceeds 49, while 7 to 10 per cent of cases for other classes record more than 49 pupils in a class. Nearly 25% of classes IX and X and about 30% of classes VIII have roll-strength greater than 40. Percentages of cases with more than 40 pupils are 34.4, 60.0, 48.1, 54.5, 21.1 and 7.7 for classes VI, VII, VIII, IX, X and XI respectively in the girls' schools of Hooghly. In about 30% of classes VII, VIII and IX in the boys' schools of Nadia the number of students in a class is more than 40, the percentages being 23.8, 39.4 and 4.0 in classes VI, X and XI. Roll-strength does not exceed 49 in any of the classes VI and XI the percentages of cases with 50 or more students are 10.3, 8.1, 20.0 and 9.3 in classes VI, VIII, IX and X. In the girls' schools of Nadia lower classes are more congested than the upper ones, 40 and 47 per cent of classes VI and VII respectively having roll-strength greater than 40. Class X provides a bad picture with 31% of cases having more than 50 pupils, this percentage being 14 for class IX. Class XI presents satisfactory conditions, 90% of classes having less than 40 students. In Murshidabad, about 25% of classes VI and IX, 30% of classes VII and VIII and 15% classes X and XI in boys' schools have to accommodate more than 40 pupils. Roll-strength in 3% of classes VI and IX equals or exceeds 60. In about 8% of all classes there are 50 or more students. Classes X and XI are not much crowded. Congestion is noted markedly in the girls' schools of Murshidabad. Nearly 40% of classes VI, VIII, IX and X accommodate more than 40 students, the percentage being as high as 62 in class VII. However in none of the schools roll-strength is greater than 40 in class XI, and does not surpass

49, in any of the classes VI, VII, VIII and X, although in class IX 40% of classes accommodate more than 49 pupils.

To create healthy environments for study schools should provide enough accommodation to their students. It is generally recommended that class-rooms should be large enough to provide a minimum area of 10 sq. ft. for each student. But quite a large proportion of class-rooms fails to meet this standard. In table 19 floor space available per student has been calculated by dividing the total floor area of the class-room by the number of students in it. It is found from the table that class rooms in girls' schools are generally more crowded than class rooms in boys' schools in each of the 4 districts surveyed. While percentages of class-rooms large enough to provide an area of at least 10 sq.ft. to each student are 61.3, 56.1, 61.6 and 60.0 in the boys' schools of Howrah, Hooghly, Nadia and Murshidabad respectively, the corresponding percentages in the girls' schools are only 31.0, 23.4, 38.9 and 44.5. The percentages of class rooms which are so small that floor space available per student does not exceed 6 sq. ft. are 8.4, 5.3, 1.5 and 3.0 in the boys' schools of Howrah, Hooghly, Nadia and Murshidabad and 11.0, 29.7, 2.8 and 11.1 in the girls' schools of these districts. 17.2 and 29.7 per cent of class rooms in boys' and girls' schools of Howrah provide an area varying between 6 to 8 sq. ft. to each student. These figures are 17.2 and 28.8 in Hooghly, 13.1 and 23.6 in Nadia and 3.8 and 22.2 in Murshidabad. In the boys' schools of Howrah and Hooghly little more than 25% of students have to read in classes that can provide 8 sq. ft. at the most; in Nadia and Murshidabad the figures stand at 18.5 and 16.5 respectively. In the girls' schools of Howrah, 50% of students in classes VI and IX, 60% in classes VII and VIII and 40% in classes X and XI are huddled up in rooms that cannot afford more than 8 sq. ft. to a student. In Hooghly 30% of students in class X, 40% in class XI, 60% in class VI and 80% in the other classes have to read in such rooms. In Nadia percentages of girl students accommodated in rooms that can provide an area of 8 sq. ft. per head at the most are about 10 for class VII, 20 for class XI, 25 for class VI, 35 for class IX and 65 for classes VIII and X. Figures in Murshidabad are 15 for class VIII, 30 for class VI, 50 for classes VII and 80 for class IX and 0 for class XI. Classes VI

TABLE 19 : *Floor Space Available per Student in Different Classes.*

Floor Space (in Sq.ft.)	Percentage of Cases	Percentage of Students	Percentage of Cases	Percentage of Students	Percentage of Cases	Percentage of Students	Percentage of Cases	Percentage of Students
Class—VI								
Howrah Schools				Hooghly Schools				
	Boys		Girls		Boys		Girls	
—6	14.8	15.9	0	0	5.4	5.3	20.7	19.8
6—8	14.8	17.1	52.6	52.3	28.6	29.3	37.9	40.0
8—10	14.8	16.6	26.3	27.9	23.2	23.8	24.1	22.8
10—	55.6	50.4	21.1	19.8	42.8	41.6	17.3	17.4
Nadia Schools				Murshidabad Schools				
—6	2.4	2.5	0	0	5.4	8.4	12.5	16.1
6—8	12.2	12.8	23.1	26.1	10.8	12.5	12.5	13.1
8—10	34.1	38.2	7.7	9.9	16.2	16.8	37.5	38.3
10—	51.2	46.5	69.2	64.0	67.6	62.3	37.5	32.5
Class—VII								
Howrah Schools				Hooghly Schools				
—6	9.6	11.7	26.3	27.5	11.1	12.7	48.2	51.8
6—8	13.5	15.2	31.6	33.5	25.9	26.7	33.3	33.3
8—10	25.0	25.1	36.8	34.7	29.6	28.5	11.1	9.6
10—	51.9	48.0	5.3	4.3	33.4	32.1	7.4	5.3
Nadia Schools				Murshidabad Schools				
—6	2.6	2.7	0	0	3.3	5.2	0	0
6—8	18.4	22.5	7.7	8.7	6.7	8.9	50.0	53.4
8—10	29.0	28.3	69.2	70.6	33.3	35.0	25.5	28.6
10—	50.0	46.5	23.1	20.7	56.7	50.9	25.5	18.0
Class—VIII								
Howrah Schools				Hooghly Schools				
—6	4.1	4.3	10.5	10.9	6.0	7.5	37.5	45.6
6—8	18.4	20.2	47.4	50.7	14.0	14.4	37.5	32.4
8—10	24.5	27.1	26.3	26.6	26.0	27.5	12.5	10.9
10—	53.0	48.4	15.8	11.8	54.0	50.6	12.5	11.1
Nadia Schools				Murshidabad Schools				
—6	0	0	0	0	0	0	0	0
6—8	13.9	15.3	57.2	62.0	17.2	21.0	16.7	14.8
8—10	30.6	31.8	21.4	18.3	27.6	30.3	33.3	37.1
10—	55.5	52.9	21.4	19.7	55.2	48.7	50.0	48.1

TABLE 19 : (Contd.)

Floor Space (in Sq.ft.)	Percentage of		Percentage of		Percentage of		Percentage of	
	Cases	Students	Cases	Students	Cases	Students	Cases	Students
Class—IX								
	Howrah Schools				Hooghly Schools			
	Boys		Girls		Boys		Girls	
—6	8.9	15.0	17.6	29.6	2.0	2.0	36.8	47.0
6—8	11.1	12.0	17.6	23.1	10.0	13.6	31.6	29.5
8—10	17.8	21.2	5.9	6.7	24.0	29.1	15.8	16.5
10—	62.2	51.8	58.9	40.6	64.0	55.3	15.8	7.0
	Nadia Schools				Murshidabad Schools			
—6	0	0	8.3	24.9	3.2	5.7	40.0	50.5
6—8	23.5	31.7	8.3	10.9	6.5	12.0	20.0	27.3
8—10	8.8	11.8	33.4	42.1	16.1	19.6	0	0
10—	67.7	55.5	50.0	22.1	74.2	62.7	40.0	22.2
Class—X								
	Howrah Schools				Hooghly Schools			
—6	7.3	10.8	0	0	2.4	3.6	5.9	13.0
6—8	4.9	8.7	26.7	43.1	7.3	10.6	11.8	15.8
8—10	4.9	6.0	33.3	37.6	12.2	19.6	35.3	31.2
10—	82.9	74.5	40.0	19.3	78.1	66.2	47.1	40.0
	Nadia Schools				Murshidabad Schools			
—6	0	0	9.1	16.3	0	0	20.0	15.3
6—8	6.3	9.0	27.3	53.2	0	0	20.0	30.1
8—10	31.2	43.0	63.6	30.5	16.7	23.3	20.0	27.0
10—	62.5	48.0	0	0	83.3	76.7	40.0	27.6
Class—XI								
	Howrah Schools				Hooghly Schools			
—6	3.1	4.9	9.1	18.5	2.9	7.5	16.7	27.5
6—8	12.1	20.0	9.1	19.4	11.8	22.3	8.3	12.1
8—10	15.1	19.8	18.2	24.2	5.9	8.3	0	0
10—	69.7	55.3	63.6	37.9	79.4	61.9	75.0	60.4
	Nadia Schools				Murshidabad Schools			
—6	4.0	5.3	0	0	5.9	10.7	0	0
6—8	0	0	11.1	17.2	5.9	11.2	0	0
8—10	0	0	11.1	16.2	88.2	78.1	0	0
10—	96.0	94.7	77.8	66.6	0	0	100.0	100.0

in the boys' schools of Howrah and classes VI and VII in Hooghly are a little more overcrowded than the other classes in the boys' schools of these districts. Nearly 33% of students in these classes are in rooms providing 8 sq. ft. at the most. Corresponding percentages in classes VII and IX in the boys' schools of Nadia are about 25 and 30. Accommodation may be regarded as nearly adequate only in respect of class X in the boys' schools of Howrah, classes X and XI in the boys' schools of Hooghly, class XI in the boys' and girls' schools of Nadia, class X in the boys' schools and class XI in the girls' schools of Murshidabad.

Importance of physical training, games and athletics has been gradually growing. To this end, all the schools must have play-grounds and gymnasiums of their own.

**Physical Training
and Medical
Check-up**

All boys' schools in Nadia and Murshidabad have playgrounds, while 96.0 and 92.6 per cent of boys' schools in Howrah and Hooghly possess grounds. In girls' schools these percentages are 88.9 (8 out of 9), 76.9 (10 out of 13), 85.7 (6 out of 7) and 50.0 (2 out of 4) in the 4 districts. Playgrounds in girls' schools are just adjacent to the school buildings except for two schools in Hooghly, in one of which playground is within a mile of the school building and in the other it is more than a mile from the school. In about 30% of schools in Howrah and Murshidabad, 15% of boys' schools in Hooghly and 50% of boys' schools in Nadia the playground is situated within a mile from the school, while in 1 (4.0%) boys' school in Howrah and 1 (5.9%) boys' school in Murshidabad the playground is more than a mile from the school. The remaining playgrounds in boys' schools are adjacent to the school buildings. No girls' school in Howrah and Murshidabad has any gymnasium and 92.3% of girls' schools in Hooghly also have none, while a gymnasium exists in each of the girls' schools in Nadia. Percentages of boys' schools which have gymnasiums are 40.0, 18.5, 5.9 and 31.2 in Howrah, Hooghly, Nadia and Murshidabad respectively.

Every school should preferably employ a whole-time game teacher/physical instructor. Provision should also exist for imparting N. C. C./A. C. C. training to students. Information in these respects was collected from most schools in Nadia and Murshidabad. In about 50% of girls' schools (3 out of 6) in Nadia and

boys' schools in Murshidabad from which data were collected there is no provision for appointing a game teacher. Provision for the appointment of a game teacher exists in 1 out of 3 girls' schools in Murshidabad and 11 out of 12 boys' schools in Nadia from which figures were collected. In none of the girls' schools a part-time teacher has been appointed, corresponding percentages being 33.3 and 28.6 in the boys' schools of Nadia and Murshidabad. 90% of boys' schools in Nadia and 78.6% of boys' schools in Murshidabad arrange for training in N. C. C./A. C. C., while arrangement for training exists only in one girls' school in Nadia.

Schools should arrange for medical examination of all students at regular intervals and should carry out necessary follow-ups of ailing students. But in a very large proportion of schools especially in girls' schools medical examination of students is not carried out even in a perfunctory manner. Nearly 40% of boys' schools in Howrah and Hooghly and 60 and 75 per cent of boys' schools in Nadia and Murshidabad do not arrange for medical check-up. Corresponding percentages in girls' schools of the first 3 of these 4 districts are 77.7 (7 out of 9), 69.2 (7 out of 10), and 85.7 (6 out of 7). In none of the 4 girls' schools in Murshidabad there is any provision for medical examination of students. Percentages of schools where medical examinations are arranged annually or more frequently are 48.0 and 22.2 in the boys' and girls' schools of Howrah, 30.8 and 23.1 in Hooghly, 16.7 and 14.3 in Nadia and 23.5 and 0 in Murshidabad. According to information supplied by school authorities a few boys' schools from which data were collected in Howrah (16%), Hooghly (23.8%) and Nadia (22.2%) and one (7.7%) girls' school in Hooghly however arrange for occasional medical check-up of their students. It may be noted that such medical examinations are not always carried out thoroughly.

With a view to encouraging the desire and habit of general reading among students every school should possess a well-equipped library. The school library should be enriched in all possible ways. It should contain several copies of text-books and books of reference recommended by the Board of Secondary Education in addition to books of general knowledge and interest. It should be placed in charge of a qualified and trained librarian who can inculcate on

young minds the useful habit of reading. The library should be housed in a separate spacious room and should offer enough accommodation to students. In order that students may utilise the school library the school routine should provide for a period for the use of library by the students. The proportion of schools employing a part-time librarian is generally greater than that employing a whole-time librarian. In a very large proportion of schools there exists no provision for appointing a whole-time or even a part-time librarian and the person in charge of the library is a teacher or a clerk. In each of the four girls' schools in Murshidabad the library is left to the care of a teacher or a clerk. In 80% of boys' schools in Howrah there is no provision for appointing a whole-time or a part-time librarian. The percentages are even larger for girls' schools, in Hooghly (11 out of 13) and Nadia (6 out of 7). The percentage is smallest (51.8) for boys' schools in Hooghly, the percentages in the boys' schools of Nadia and Murshidabad and in the girls' schools of Howrah being 61.1, 58.8 and 55.6. The proportion of schools having no separate room for library is not negligible. In these schools books are kept in the office room or in the teachers' common room or in the headmaster's room. The percentages are large for boys' schools in Nadia (22.2) and Murshidabad (23.5) and girls' schools in Hooghly (5 out of 13) and Murshidabad (2 out of 4). Information was collected about library room size. The library room size does not exceed 250 sq. ft. in a sizeable proportion of schools specially in Howrah and Hooghly. In none of the girls' schools there is a separate reading room. The percentages of boys' schools having a separate reading room are 8.0, 3.7, 5.8 and 17.6 in the districts of Howrah, Hooghly, Nadia and Murshidabad. In a small proportion of schools the school routine provides for a period for the use of library by students of some or all classes. The percentages of boys' schools which do not arrange for a period for the use of library are 68.0, 55.6, 88.9 and 64.7 in Howrah, Hooghly, Nadia and Murshidabad respectively. Among girls' schools from which data were collected numbers of schools not providing a period for the use of library are 4 (out of 8) in Howrah, 7 (out of 13) in Hooghly, 3 (out of 7) in Nadia and 1 (out of 3) in Murshidabad. An important index of library facilities is the number of books in the library. In only one girls' school in Hooghly the number of books exceeds 5000, while in a

TABLE 20 : *Library Facilities Available in Schools*

Library Service	Number of Schools							
	Howrah		Hooghly		Nadia		Murshidabad	
	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls
1. Librarian :								
Whole-time	1 (4.0)	0	3 (11.1)	0	1 (5.6)	1 (14.3)	1 (5.9)	0
Part-time	4 (16.0)	2 (22.2)	4 (14.8)	1 (7.7)	5 (27.8)	0	4 (23.5)	0
Teacher-cum librarian	16 (64.0)	5 (55.6)	11 (40.7)	11 (84.6)	11 (61.1)	6 (85.7)	10 (58.8)	3 (75.0)
Clerk-cum librarian	4 (16.0)	0	3 (11.1)	0	0	0	0	1 (25.0)
Vacant	0	2 (22.2)	6 (22.2)	1 (7.7)	1 (5.6)	0	2 (11.8)	0
Total	25	9	27	13	18	7	17	4
2. No library room								
	3 (12.0)	1 (11.1)	2 (7.4)	5 (38.5)	4 (22.2)	1 (14.3)	4 (23.5)	2 (50.0)
*3. Library room size (in sq.ft.)								
—250	8 (36.4)	4 (50.0)	7 (28.0)	3 (37.5)	2 (14.3)	1 (16.7)	1 (5.9)	0
251—500	7 (31.8)	4 (50.0)	14 (56.0)	3 (37.5)	11 (78.6)	4 (66.6)	7 (53.8)	1 (50.0)
501—	7 (31.8)	0	4 (16.0)	2 (25.0)	1 (7.1)	1 (16.7)	5 (38.5)	1 (50.0)
Total	22	8	25	8	14	6	13	2
4. Reading room								
	2 (8.0)	0	1 (3.7)	0	1 (5.8)	0	3 (17.6)	0
5. Period for use of library :								
For all classes	6 (24.0)	2 (25.0)	11 (40.7)	1 (7.7)	2 (11.1)	2 (28.6)	5 (29.4)	0
For some classes	2 (8.0)	2 (25.0)	1 (3.7)	5 (38.5)	0	2 (28.6)	1 (5.9)	2 (66.7)
For none of the classes	17 (68.0)	4 (50.0)	15 (55.6)	7 (53.8)	16 (88.9)	3 (42.9)	11 (64.7)	1 (33.3)
Total	25	8	27	13	18	7	17	3

*Percentages have been calculated with respect to the total number of schools having a library room.

TABLE 20 : (Contd.)

Library Service	Number of Schools							
	Howrah		Hooghly		Nadia		Murshidabad	
	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls
6. Number of books in the library :								
—1000	2 (8.0)	3 (37.5)	4 (16.7)	3 (27.3)	4 (22.2)	0	5 (31.3)	1 (25.0)
1001—2000	11 (44.0)	3 (37.5)	9 (37.5)	5 (45.5)	6 (33.3)	3 (42.9)	4 (25.0)	2 (50.0)
2001—5000	12 (48.0)	2 (25.0)	11 (43.8)	2 (18.2)	8 (44.4)	4 (57.1)	7 (43.7)	1 (25.0)
5001—	0	0	0	1 (9.1)	0	0	0	0
Total	25	8	24	11	18	7	16	4
7. Text books and reference books recommended by Board								
All	3 (12.0)	1 (12.5)	5 (18.5)	0	4 (22.2)	1 (14.3)	3 (17.6)	0
Most	16 (64.0)	6 (75.0)	12 (44.4)	6 (50.0)	10 (55.6)	3 (42.9)	4 (23.5)	0
Half	1 (4.0)	0	4 (14.8)	3 (25.0)	0	1 (14.3)	2 (11.8)	2 (50.0)
Some	4 (16.0)	1 (12.5)	5 (18.5)	2 (16.7)	4 (22.2)	2 (28.6)	7 (41.2)	2 (50.0)
Nil	1 (4.0)	0	1 (3.7)	1 (8.3)	0	0	1 (5.9)	0
Total	25	8	27	12	18	7	17	4

N.B. Information in respect of some of the items could not be collected from a few schools. Percentages are based on the total number of respondent schools.

considerable proportion of schools the number is even less than 1000. In this connection it may be also noted that the proportion of schools possessing only half or less than half of text-books and books of reference recommended by the Board of Secondary Education, West Bengal, is quite large in almost all the strata.

Data were collected in respect of the number of teaching days, duration of school hours and time devoted to the study of some of the important subjects. According to the recommendation of the Secondary Education Commission the total number of working days in a year should not be less than 200 and the working hours per week should be at least 1575 minutes (35 periods of 45 minutes each) including time spent on co-curricular

**Teaching Days,
Teaching Hours and
Time Devoted to
Different Subjects**

activities. Weekly total working hour (exclusively for teaching) in some of the schools from which data were collected falls short of 1575 minutes. Percentages of boys' schools where the total working hour in class XI is less than 1575 minutes are 24.0, 33.3, 33.3 and 64.7 in the districts of Howrah, Hooghly, Nadia and Murshidabad while percentages of girls' schools are 22.2, 30.8, 42.9 and 75.0. Percentages are larger for classes IX and X. It is also found that in a considerable proportion of schools especially in Murshidabad the number of teaching days in a year is less than 200, the percentages being 44.0, 40.8, 61.1 and 94.1 in the boys' schools of Howrah, Hooghly, Nadia and Murshidabad. The numbers of such girls' schools are 8(88.9%), 6(46.2%), 2(28.6%) and 3(100.0%) in these districts. In some schools, the number of teaching days does not even exceed 175, the percentages of such boys' schools being 12.5 in Howrah, 11.2 in Hooghly, 16.7 in Nadia and 70.6 in Murshidabad. Corresponding percentages for girls' schools are 55.6 (5 out of 9), 15.4 (2 out of 13), 14.3 (1 out of 7) and 66.7 (2 out of 3) in these districts. The annual total number of teaching days exceeds 210 in about 50% of boys' schools in Howrah and girls' schools in Nadia, 40% of boys' and girls' schools in Hooghly, 10% of girls' schools in Howrah and 15% of boys' schools in Nadia. In this connection it may be noted that the number of teaching days reported includes days on which classes were held during the first half of the day and in some schools days on which examinations were held. So the effective number of teaching days is generally less than what has been reported above.

To study the distribution of time over the different subjects, the latter were grouped as (1) languages, (2) core subjects other than languages and (3) elective subjects (further classified in case of science subjects into theoretical and practical lessons). Since for different elective groups and even for different combinations of subjects belonging to the same group, hours devoted to elective subjects and total teaching hours per week may vary, it was decided to study a few important combinations in the Humanities and Science groups only. In the Science group two combinations viz. Physics, Chemistry and Mathematics and Physics, Chemistry and Biology and in the Humanities group three combinations viz. Civics & Economics, History and Logic & Psychology ;

History, Geography and Civics & Economics ; and History, one classical language and Civics & Economics have been studied and will be referred to as combinations 1, 2 and 3, 4 and 5 respectively. For each stratum the average percentages of the total time devoted to the different groups of subjects in each of these 5 combinations were examined separately for the classes IX, X and XI. Distribution of the total available time among different groups of subjects in a particular class follows more or less the same pattern in the different strata, although some variation has been noticed from one school to another within the same stratum. The fact that such average percentages are for some combinations based on a small number of schools causes some irregularity in the pattern of distribution also. Within the same elective group, however, the pattern remains sensibly constant from one combination to another.

In combination 1 a little more than half of the total time available in class IX in boys' schools of Howrah, Hooghly and Murshidabad and girls' schools of Nadia and Murshidabad is devoted on an average to languages, while the corresponding time in the other three groups of schools is slightly less than half of the total working hours a week. Of this, as much as 20% to 27% of the time is spent on English while about 20% of time is devoted to the study of Bengali. Nearly 20% of time is given to the study of other core subjects except in the boys' schools of Murshidabad where the percentage is 17.3. About 25% of time is spent on theoretical lessons on elective science subjects (except in girls' schools of Nadia where the percentage is only 13.2) while only 3 to 5 per cent of total time is devoted to practical lessons. At the time of collection of data it was noticed that routine of class IX did not provide for any practical class for Physics or Chemistry in four schools. In all these schools, however, Science course had been introduced for not more than one year. The proportion of total time devoted to the study of languages (English 22 to 29 per cent, Bengali 16 to 23 per cent) in class X is slightly less than that in class IX. The percentage of total time devoted to other core subjects does not differ very much in class X. In class X percentage of time devoted to practical classes in elective subjects (5 to 11) registers a slight increase possibly owing to the fact that the study of third language and of craft is discontinued at the end of class IX. In class XI, 47

to 55 per cent of time goes to languages (English 25 to 30 per cent, Bengali 19 to 27 per cent) and percentages of time devoted to theoretical (31 to 41) and practical (11 to 15) classes both increase. In combination 2 due to the inclusion of a third practical subject time devoted to practical classes is greater, although time devoted to theoretical lessons on elective subjects remains more or less the same. Time devoted to core subjects remains almost the same as in combination 1. Attention may be drawn to the fact that in class XI a greater portion of time is devoted to languages than in class IX although the number of languages to be studied is less in class XI.

In combination 3 (belonging to the Humanities group) nearly half of the total available time in class IX is given to the study of languages (English 20 to 25 percent, Bengali 16 to 22 percent). In boys' schools a smaller proportion of time is devoted to other core subjects than in girls' schools. Consequently, girls' schools can spare less time to elective subjects than boys' schools. In class X percentages of the total time devoted to languages vary between 43 to 47 in boys' schools and 47 to 50 in girls' schools, while percentage of working hours spent on other core subjects does not change appreciably. In class XI percentages of total time devoted to elective subjects are about 46 and 48 in the boys' and girls' schools of Howrah, 50 and 42 in Hooghly, 49 and 46 in Nadia and 42 in both boys' and girls' schools of Murshidabad. Average percentages of time devoted to languages vary between 50 and 60 (English 26 to 32 percent, Bengali 20 to 28 percent). Combination 4 gives almost the same picture. In combination 5 languages take up greater time, the percentage ranging from 52 to 61 in class XI.

It has been noted that a very small proportion of the total working hours is devoted to practical classes on elective science subjects particularly in class IX. An examination of information regarding the duration of a practical class shows that the duration does not differ remarkably between classes IX, X and XI. It is found that in one-third of boys' schools in Howrah and girls' schools in Hooghly and Nadia a practical class in Physics or Chemistry extends over only one period of 40 or 45 minutes, the percentages being 40 and 48 in boys' schools of Hooghly and girls' schools of Howrah and 22 and 14 in boys' schools of Nadia and

Murshidabad respectively. Except in 13.4% of boys' schools in Howrah where a practical class covers more than two hours, practical classes in other schools vary between 80 and 90 minutes. In about 33 to 40 per cent of boys' and girls' schools in Howrah and Hooghly the duration of a practical class in Biology is not more than 40 or 45 minutes, the corresponding percentages in the boys' and girls' schools in Nadia and boys' schools in Murshidabad being 25.0, 100.0 and 50.0 respectively. The duration of a practical class in Geography is even less. Except in 9.1 and 16.7 per cent of boys' schools in Hooghly and Nadia where the duration is 90 minutes at the most, practical classes in other schools cover one period only.

In this connection it will be of some interest to note the duration of time devoted to instructions in craft which has been a new feature of the revised syllabus. In most of the schools the weekly total time varies between 80 and 90 minutes. Percentages of schools where only one period of 40 or 45 minutes is devoted to instructions in craft are 8.7, 12.5, 14.3 and 40.0 in the boys' schools of Howrah, Hooghly, Nadia and Murshidabad and 22.2 (2 out of 9) and 16.7 (1 out of 6) in the girls' schools of Hooghly and Nadia. In about 12% of boys' and girls' schools in Howrah and Hooghly the duration of a class on craft instructions exceeds 2 hours. One boys' school in Howrah, another in Hooghly and a third in Nadia do not provide for a period for craft instructions.

From a study of the distribution of total available time it may be said that emphasis laid on a particular group of subjects varies from one school to another. It is worthwhile to note that only about one-fourth of the total time in classes IX and X is devoted to the teaching of elective subjects since languages require nearly half or more of it. This is partly due to the greater emphasis on English. Remarkable also is the fact that in the Science group only a small proportion of time is spent on practical classes, especially in class IX. Heads of some higher secondary schools have characterised the present syllabus as somewhat heavy and have expressed the opinion that craft, social studies and general science may be dropped from the syllabus of classes IX and X, in view of the broad syllabus and the limited time available, and that more time be spent on the study of elective subjects.

Annual examinations and half-yearly or terminal examinations have been a regular feature of schools in our country. But some schools also hold examinations at monthly, fortnightly or weekly intervals and conduct tutorial classes. Percentages of boys' schools conducting such examinations are 24.0, 37.0, 55.6 and 29.4 in the districts of Howrah, Hooghly, and Murshidabad, while the corresponding percentages for the girls' schools are 88.9 (8 out of 9), 46.2 (6 out of 13), 71.4 (5 out of 7) and 0. Percentages of boys' schools arranging tutorial classes are 44.0, 66.7, 44.4 and 35.3, and those of girls' schools are 22.2, 61.5, 42.9 and 50.0. However, it must be noted that these tutorial classes are not arranged regularly, not for all subjects and not in all classes and the results of such periodical examinations are not always considered for promotion.

An attempt was made to study the performance of students in the annual examinations held in schools, specially in classes IX, X and XI. Information in this respect could be collected from 16 boys' and 4 girls' schools in Nadia and 13 boys' and 4 girls' schools in Murshidabad. The standard of examination varies from one school to another, although it has not been possible to examine the extent of this variation. It is found that the percentage of students passed in all subjects increases steadily from class IX to class XI and that a large percentage of students who fail in one or more subjects in a class is promoted to the next higher class. In the boys' schools of Nadia percentages of students passed in all subjects are about 27, 35 and 50 for classes IX, X and XI. Out of them 11, 16 and 19 per cent have secured 50% or more marks in the aggregate. However, a little more than 40% of students who fail in at least one subject in class IX and slightly more than 30% of those who fail in class X are promoted to classes X and XI respectively. Nearly 83% of students in class XI are allowed to sit for the public examination, thus allowing about one third of students, who failed in at least one subject in the test examination, to appear in the public examination. In the girls' schools of this district only 14 and 19 per cent of students in classes IX and X passed in all subjects but the percentage is, however, 60 in class XI. As many as 54% of students in classes IX and X who failed in one or more subjects were given promotion. About 14% of students who failed in one or more subjects in class

XI were sent up. In the boys' schools of Murshidabad, 6 to 9 per cent of students secure 50% or more, while 40% of students, even in class XI who fail are sent up. Percentages of students passed in all subjects are 26.7 in class IX, 33.5 in class X and 45.5 in class XI. Nearly 86% of students in class XI are allowed to appear in the Higher Secondary Examination. In the girls' schools of Murshidabad nearly 7 per cent of students in classes IX and X and only 4 per cent of students in class XI could score a total of 50% marks or more. While the percentage of passes is only 34.1 in class IX, it is 44.2 in class X and 64.6 in class XI. About 52% of students in class IX failing in one subject or more subjects are promoted, the corresponding percentage being about 35 for class X. 99% of students in class XI are sent-up for public examination. Attention is naturally drawn to the fact that while regular tutorial classes or periodical examinations are not held in a considerable number of schools, in almost all schools a considerable proportion of students who fail in at least one subject even in higher classes is promoted to the next higher class.

TABLE 21 : *Average Percentge of Passes in Different Divisions.*

Higher Secondary Examination, 1961								
Division	Howrah		Hooghly		Nadia		Murshidabad	
	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls
First	1.4	1.3	5.0	4.1	3.8	0	1.0	2.7
Second	15.0	22.0	24.9	30.2	25.4	10.8	14.9	24.7
Third	26.3	29.2	33.4	28.4	32.3	40.5	49.1	47.9
Total	42.7	52.5	63.3	62.7	61.5	51.3	65.0	75.3

School Final Examination, 1961					
Division	Boys	Nadia		Murshidabad	
		Boys	Girls	Boys	Girls
First	3.0		2.8	1.9	2.6
Second	18.4		15.3	14.3	26.9
Third	26.2		36.7	16.3	32.0
Total	47.6		54.8	32.5	61.5

Table 21 presents average percentages of students passing higher secondary and school final examinations in 1961 in different divisions. During this period of transition, no student in some schools appeared in any public examination in 1961. Students of

some schools appeared in the School Final Examination while in others they sat for the Higher Secondary Examination. In consequence the average percentages are sometimes based on a small number of schools. Since students of very few schools in Howrah and Hooghly appeared in the school final examination, average percentages for these districts have not been shown. It is found that only a small proportion of students passed the public examination in the first or in the second division. More than half of the successful students are placed in the third division.

Information was also collected in respect of tuition fees in classes IX to XI. Compared to schools in Calcutta, schools in these 4 districts charge moderate fees for tuition. In some 85 to 95 per cent of boys' and girls, schools of Hooghly, Nadia and Murshidabad tuition fees in classes IX to XI do not exceed Rs. 5/-, corresponding percentages in the boys' and girls' schools in Howrah being 55.1 and 36.7. In about 75% of schools of Howrah, tuition fees are Rs. 6/- at the most. In no girls' school in Nadia and Murshidabad is the tuition fee more than Rs. 7/- and excluding 6.4 and 20.0 per cent of boys' and girls' schools in Howrah the tuition fee does not exceed Rs. 8/-. About 20 to 30 per cent of students enjoy stipends, concessions and free studentships. Nevertheless, in view of the stringent economic conditions of the people in the neighbourhood, heads of higher secondary schools have expressed the opinion that such concessions and free-studentships are insufficient.

The foregoing pages give a brief account of facilities for study and work that are made available to students and teachers in the higher secondary schools in four districts of West Bengal—Howrah, Hooghly, Nadia and Murshidabad. It must be noted, however, that not all the relevant aspects of the problem have been examined in this report. All the same, findings of this present round of the survey, like those of the earlier round, indicate ample scope for improvement in the state of affairs prevailing in higher secondary schools. Below are reproduced some of the observations that are warranted by the findings of the present survey.

**Concluding
Remarks**

The revised syllabus attempts to cater for the diverse academic interests, vocational aptitudes and general abilities of students. But since a student is to study only one particular

group of subjects and since a selection of the group is to be made as early as class IX—while this selection was to be made only at the time of entry into the college till the recent past—facilities for teaching in an adequate number of streams should exist in each school. But existing conditions do not allow the students adequate freedom of choice of their elective subjects. With its minimum of requisities, 'Humanities' has been introduced in all schools. In a sizeable proportion of schools provision exists for teaching 'Humanities' only. In about 80% of boys' schools in Howrah, Nadia and Murshidabad (the percentage being as high as 96.3 in Hooghly) provision exists for teaching in 2 or more streams; the corresponding percentages in the girls' schools of the 4 districts being 66.7, 38.5, 85.7 and 25.0. Facilities for choice in favour of Science are provided by 76.0, 96.3, 55.6 and 70.6 per cent of boys' schools. The position is worse in girls' schools. Arrangements for teaching technical subjects exist in only a small proportion of schools in Howrah, Hooghly and Nadia. Commerce has not been introduced in any girls' school, while only about 10% of boys' schools provide for instructions in this stream. It may be noted alongside that facilities for teaching Commerce exist in many of the degree colleges. It is found that in boys' schools the proportion of students who have taken up 'Commerce' or 'Technical' or 'Agriculture' course is very small, being 7 at the most. This is partly due to small number of schools providing tuition in these groups. Percentages of students following Humanities in schools providing instructions in Humanities, Science and Technical or Humanities, Science and Commerce courses are smaller than the over-all percentage of students following Humanities. It is found that the percentages of students following Technical course in schools where this stream has been introduced is quite large, and given proper opportunity a larger proportion of students will take up this course. Crude estimates of the increase in such proportions are 12% in Howrah, 20% in Hooghly and 30% in Nadia. It is desirable that arrangements should be made for teaching almost all the subjects belonging to a particular group. From this point also there remains much scope for improvement. More schools should introduce classical languages, Logic & Psychology, Geography, Mathematics, Physiology & Hygiene, Biology and Mechanics.

Craft and General Science are some of the new features of the revised syllabus, but existing facilities for teaching these new subjects are hardly adequate. A very large proportion of schools except girls' schools in Howrah impart instructions in one craft only. 'Printing Technology' has not been introduced in any school while 'Radio' is taught in 1 (5.6%) boys' school in Nadia only. 'Metal work' is taught in only one boys' school in Howrah and another in Hooghly. The position is exactly the same with 'Workshop Practice'. Some 6% of boys' schools in Hooghly and Nadia do not provide for the post of a craft-instructor. The difficulty of appointing qualified craft teachers is also evident from the facts that in some schools in Howrah and Nadia the posts of craft-instructors are lying vacant while in a few schools in each district only part-time instructors have been employed. In a considerable proportion of schools (76.9% and 100.0% in the girls' schools of Hooghly & Murshidabad) there is no separate craft-room. A separate laboratory for general science exists in about 70% of boys' schools in Howrah and Hooghly, 60% of boys' and girls' schools in Nadia, 30% of girls' schools in Hooghly and boys' schools in Murshidabad, 40% of girls' schools in Howrah and no girls' school in Murshidabad. In a sizeable proportion of schools experiments in theoretical classes are demonstrated only occasionally, while in a small proportion of schools experiments are not demonstrated at all. The position is slightly better in respect of showing of charts and models. In about 20% of boys' schools in Howrah, Hooghly and Nadia and girls' schools in Howrah, about 30% of girls' schools in Nadia and boys' schools in Murshidabad, 40% of girls' schools in Hooghly and in all girls' schools in Murshidabad only half or less of equipments recommended by the Board of Secondary Education are possessed.

Due emphasis should be given to regular demonstration of experiments, charts and models in theoretical classes on science subjects and to proper arrangements of practical classes. Here one would feel necessary to set up well-equipped and spacious (not less than 20 ft. by 25 ft. for 20 students in Physics class and not less than 20 ft. by 30 ft. for 20 students in Chemistry or in Biology class) laboratories. This was the recommendation of the Calcutta University for the now-abolished Intermediate course. It is also desirable that the number of students doing practical work under the guidance of one teacher should not be

excessively large. Existing conditions leave room for betterment from these points. In 9 out of 12 schools from which data in these respects could not be collected Science course has been introduced for not more than one year, and in 4 out of these 9 schools practical classes have not yet been started. In two-thirds of boys' schools in Howrah, four-fifths of boys' schools in the other three districts and in all girls' schools from which data were collected experiments are arranged regularly in theoretical classes on Physics and Chemistry. Since non-response rates which are considerable in some of the strata are not the same everywhere, comparison between strata is not plausible. In Biology, charts and models are shown regularly in all boys' schools in Nadia and Murshidabad and in 75% of boys' schools in Howrah and Hooghly. Showing of charts and models in Geography classes presents a slightly worse picture. The situation in respect of the size of the laboratory and the number of students working under the guidance of the same teacher is not satisfactory in a large proportion of schools.

One of the greatest obstacles to the successful running of a school is the difficulty of securing the whole-time services of qualified, trained and experienced teachers, specially in elective subjects. A little less than half of whole-time teachers (excluding Headmasters and Assistant Headmasters) in the boys' schools of Howrah, Hooghly and Murshidabad, about two fifths of teachers in the girls' schools of Howrah, Nadia and Murshidabad and about 55% of teachers in the other 2 strata are pass graduates. The percentages of undergraduate teachers are about 25 in boys' schools and 20 in girls' schools, except in the girls' schools of Murshidabad where the figure is 31.6. About 2% of teachers in boys' schools are part-timers, the percentages for girls' schools being 11, 3, 12 and 14. Among part-timers the proportion of teachers having honours or post-graduate degrees is higher than the corresponding proportion among whole-timers in boys' schools, while in girls' schools the position is exactly the reverse. The percentages of undergraduates among part-time teachers are not negligible in some strata, specially in the girls' schools of Howrah, Hooghly and Nadia (43 to 57). In English the percentages of teachers in classes IX to XI with master's or honours degrees are 52.2, 43.4, 29.6 and 29.3 in the boys' schools and 75.7, 63.4, 57.2 and 58.8 in the girls' schools. A considerable proportion of teachers (12 to

22 per cent in boys' schools and 14 to 44 per cent in girls' schools) mostly with honours graduate and post-graduate degrees have experience not exceeding 3 years. The position is almost the same in Bengali. In Elementary Mathematics 60 to 75 per cent of teachers (except in the girls' schools of Nadia and Murshidabad where these figures are 33.4 and 100 respectively) are pass-graduates. The difficulty of appointing qualified teachers in elective subjects is evidenced from the large percentage of pass-graduates and a small percentage of even undergraduates among teachers in these subjects. The position is however slightly better for History. Quite a number of posts in many of the elective subjects are lying vacant. It goes without saying that pay-scales of teachers are not satisfactory. The low income of teachers is clearly indicated from the fact that 50 to 60 per cent of teachers earn monthly emoluments not exceeding Rs. 150/-. The recently revised pay-scales will definitely ameliorate the sad plight to some extent, although the extent of improvement has not been examined. Apart from this there are other difficulties of appointing qualified teachers in Mufassil areas viz. lack of residence facilities, less opportunity to supplement income through tuition and like job, irregular payment of salaries etc.

Although it has been generally recommended that the number of pupils in a class is to vary between 30 and 40, it is found that the proportion of cases with number of pupils in a class exceeding 50 or even 60 is not negligible. In about one-fourth of all classes in boys' schools, one-third in the girls' schools of Howrah and Nadia and two-fifths in the girls' schools of Hooghly and Murshidabad the number of students exceeds 40. The recommendation of allotting an area of 10 sq. ft. to each student is satisfied in about 60% of classes in boys' schools, the corresponding percentage varying between 23.4 and 44.5 in girls' schools. In a sizeable proportion of classes the per capita floor area does not exceed 8 sq. ft. Even the proportion of classes sparing 6 sq. ft. at the most to a student is not negligible. And in such overcrowded classes one would hardly expect that the teacher will be able to pay personal attention to each student.

On a study of the time devoted to different subjects it has been found that languages take up about half of the total available time, nearly one-fourth of the time can be devoted to the study of

elective subjects and only a very small proportion (3 to 5 per cent) of time is spent on practical classes on elective science subjects, in class IX. Although, in classes X and XI a greater portion of time is devoted to elective subjects (both theoretical and practical), about half the time is spent on languages. In this connection, heads of some higher secondary schools have characterised the present syllabus as somewhat heavy and have opined that the syllabus on languages requires about half the total time that is allotted to it.

In a very large percentage of schools there is no provision for appointing a whole-time or even a part time librarian and the library is left to the care of a teacher or a clerk. In some other schools the post is lying vacant. In about one-fourth to one-half of schools (except in Howrah where the figures are 7% and 14% for boys' and girls' schools) there is no separate library room. No girls' school provides for a separate reading room, and only 4 to 18 per cent of boys' schools make the necessary provision.

Tutorial classes are not arranged in 56, 33, 56 and 65 per cent of boys' schools and in 78, 38, 57 and 50 per cent of girls' schools. Periodical examinations also are not held regularly in a large percentage of schools. It is also found that the percentage of students passed in all subjects in the school annual examinations increases steadily from class IX to class XI and that a large percentage of students who fail in one or more subjects are promoted to the next higher class. In the public examinations (School Final or Higher Secondary) in 1961 only a small proportion of students passed in the first or in the second division. More than half of the successful students were placed in the third division. In view of this unsatisfactory performance at the public examination and of the opinions expressed by heads of institutions one might suggest a reconsideration of the present syllabus and curriculum.

Facilities other than those for teaching are also not ample. Common-room and residence facilities for students and teachers are not adequate. Provisions for regular medical check-up, physical culture, NCC/ACC training, games and athletics do not exist in all schools.

One can hardly deny that many shortcomings and drawbacks in teaching facilities available in schools existed even before.

At the same time one must admit that the introduction of the new system is attended with many other difficulties. The crux of the situation is that with whatsoever ulterior objective the recent changes in the field of secondary education might have been made in regard to the syllabus and curriculum, method of teaching and of evaluating performances, etc., greater attention should be paid to surmount these drawbacks. The problems of introducing more streams of study, of securing the services of qualified and trained teachers, of equipping the existing schools adequately with libraries laboratories and gymnasiums, of extending facilities for teaching science subjects, of holding tutorial classes and periodical examinations regularly and many other problems of the like nature will have to be taken up readily.

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