al & Munl. (1896) Department.

MISCELLANEOUS.

G.O., No. 1952 L

DATED 20-10-96

INDEXED

[Despatch Abstract.]

Technical Institute, Madura

Reading Progs. of the Direct
of Public Instruction reviewing the
reports on the working of the —
during 1895-96

BACK PAPERS.

G.O.	No.	Department.	Date.	G.O.	No.	Department.	Date.

FURTHER PAPERS.

G.O.	No.	Department.	Date.	G O.	No.	Department.	Date.

Local & municipal
Educational

~~Financial~~ (1896) Department.

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SUBJECT.

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A 18/10

BACK PAPERS.

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G.O.	No.	Department.	Date.

No. 10248.

PROCEEDINGS OF THE DIRECTOR OF PUBLIC INSTRUCTION, dated 18th September 1896.

Technical Institute, Madura.

READ the following letter from the Inspector of Schools, Southern Circle, to the Director of Public Instruction, Madras, No. 289-M., dated 30th March 1896.

I have the honour to submit the tabular inspection report of the Madura Technical Institute for 1895–96.

2. *Finance.*—The total cost for 1894–95 was Rs. 14,175–2–11 and the receipts were Rs. 8,728–12–10. The value of materials and manufactured articles on hand together with the total outstanding being Rs. 2,472–13–11, the net cost to the Board amounted to Rs. 2,973–8–2.

3. *Staff.*—There were several changes in the staff of teachers during the year under report as the following table will show. These changes were unavoidable.

It appears to me that the present scale of salaries of the teachers is low and does not afford sufficient inducement for the right kind of men to apply when there are vacancies—to say nothing of the discouragement to some of the existing men who are efficient and of long standing. The scale of pay adopted in Government and aided schools should be introduced. There has been a decided improvement in the qualifications of teachers. The Assistant Superintendent and the carpentry instructor had at the time of my inspection applied for the advanced examination in cabinet-making. The drawing master had also applied for the elementary examination in design to secure a group certificate in drawing, as also the gymnastic and blacksmith instructors for the elementary examination in geometrical drawing. The results, subsequently published, show that all of them, excepting the carpentry instructor, have passed in the examinations for which they had respectively applied. The Assistant Instructor, general educational branch, who was required to qualify himself for a teachers' certificate in Proceedings, No. 4140, dated 6th September 1895, has completed his course of training and having passed the written test has also applied for the practical test. It is satisfactory to note that the teachers, especially those in the special department, have all secured the highest qualifications that might be expected of them. This is creditable to the Superintendent who must have spared no pains in inducing these artisan teachers to pass the examinations—a class of men whose indifference to passing public examinations is well-known—and in explaining to them the advantages of holding Technical teachers' certificates. He is thoroughly conversant with the affairs of the industrial department. But I consider that a course of training in drawing and agriculture, as remarked in paragraph 3 of Proceedings, No. 13470, dated 16th December 1895, will not only enable him, with greater facility, to do his work of superintendence, but the interests of the institute, in other ways, will be greatly furthered thereby. To this end I would strongly recommend that M.R.Ry. G. Subbuswami Aiyar be sent for training for a period of three months in continuation of the summer vacation. He may be given three months' privilege leave to which he is entitled, especially as he has not, I understand, availed himself of the summer holidays, since the opening of the institute. During his absence the work of the institute may be entrusted to the Assistant Superintendent of the various departments, any important matters being left to be attended to by him in Madras.

Serial number.	Names of appointments.	Names of permanent incumbents from 1st April 1895.	Names of persons acting for the permanent incumbent.	Periods of acting		Remarks.
				From	To	
1	Second Master, Normal Department.	M.R.Ry. K. Duraisami Aiyar	(a) H. Anantanarayana Sastri	9th Aug. 1895.	20th Aug. 1895.	The permanent incumbent who returned to duty on 1st January 1895 went away again as Acting Sub-Assistant on 9th August 1895.
			(b) M. Subramanya Aiyar	21st ,,	,,	
2	Third Master, Normal Department	M.R.Ry. M. Subramania Aiyar	(a) N. Sesha Aiyar	4th July	24th July 1895.	Was on leave on loss of pay from 4th July to 30th August, the 4th eligible 1 r privilege leave, on account of serious illness of his wife and then on deputation as Acting Second Master.
			(b) H. Anantanarayana Sastri	25th ,,	8th Aug. ,,	
			(c) R. Subbaraya Aiyar	9th Aug.	,,	
3	Fourth Master, Normal Department.	M.R.Ry. N. Sesha Aiyar ..	(a) M. K. Subramania Iyer	4th July	8th Aug.	Was Acting Third Master from 4th to 24th July and then 5th school to act as Inspecting Schoolmaster, who was appointed Inspecting Schoolmaster, Trichinopoly, in place of R. Subbaraya Aiyar who was made to take his place in the Institute. (*Vide* Nos. 3 (a) and 5) on other duty.
			(b) C. N. Govindasami Iyer	9th Aug.	,,	
4 5	Headmaster, Practising Branch Headmaster, General Education Branch, Industrial Department.	M.R.Ry. M. K. Subramania Iyer, Sastri till 24th July 1895. (a) M.R.Ry. H. Anantanarayana Sastri till 9th July 1895. (b) M.R.Ry. R. Subbaraya Aiyar from 25th July 1895.	(a) M. S. Ramasubba Iyer	4th July	3rd July 1895.	M. K. Subramania Iyer, appointed headmaster, practising branch, on the 8th April 1895.
			M. K. Subramania Iyer ..	9th Aug.	8th Aug. ,,	A. Alyasami Iyer, who was appointed under training; hence acting arrangements. He returned to duty on the 18th January last.
				8th April	27th Sept. 1895.	
				4th July	6th Oct. ,,	
				9th Aug.	14th Jan. 1896.	
6	Assistant Instructor, General Education Branch, Industrial Department.	(a) M.R.Ry. M. K. Subramania Iyer till 7th April 1895. (b) M.R.Ry. Alyasami Iyer, from 8th April 1895.	(a) M. S. Ramasubba Iyer	8th April	4th July 1895.	
			(b) C. N. Govindasami Iyer	4th July	9th Aug. ,,	
			(c) M. N. Sesha Iyer	9th Aug.	27th Sept. ,,	
			(d) Vacant	27th Sept.	7th Oct. ,,	
			(e) R. Nagarani Iyer	7th Oct.		

4. The Assistant Instructor, general education branch of the agricultural department, was not sent to the College of Agriculture for training pending the re-organization of that department which has been postponed—*vide* paragraph 4 of Proceedings, No. 13470, dated 16th December 1895.

5. Two new appointments—a separate headmaster for the practising branch and a short-hand teacher—were made in the year under report.

6. *Industrial Department.*—There was again an increase in attendance in the department, the number on rolls on the day of my inspection being 78 as against 62 in the preceding year; it is satisfactory to note that all the industries had a fair share of increase. There were 21 Muhammadans, two Panchamas, 30 non-Brahmins, two Brahmins, one Eurasian and 22 Native Christians. The various occupations were fairly represented. The number of artisans rose from 12 to 15. There were more of these artisans for admission to the industrial department, but on account of their insufficient age they were kept in the practising branch. About 88 per cent. of the pupils were of the poorer class. I examined the several classes and the results were good as usual. No results grants were passed on the results of my examination as the department is in receipt of salary grants. There was no noticeable improvement in the general make of the models and other articles. Of the four industries, metal-work classes did best, carpentry and blacksmithy were equally good. Rattan classes did very fairly. The articles made and kept were well done. The progress made in the new industries, wood-carving, casting and fitter's work was fair; one boy had already passed the elementary examination in fitter's work in the first class as first in the Presidency.

7. The tools are yet to be purchased and an indent has been submitted for them.

8. The results of the various public examinations of 1894 are compared with those of 1895 in table (*h*). The results in cabinet-making were very good and in the other industries fair. As the results of the various examinations of 1895 are just published, I give them below:—

Industry.	Number appeared.		Number passed.						Remarks.
			I Class.		II Class.		Total.		
	1894.	1895.	1894.	1895.	1894.	1895.	1894.	1895.	
Cabinet-making	2	5	2	3	..	1	2	4	Good.
Fitter's work	..	1	..	1	..	..	..	1	Very good.
Blacksmith's work	..	2	..	..	..	2	..	2	Very fair.
Free-hand drawing	3	3	..	2	2	..	2	2	Good.
Geometrical drawing ..	..	3	..	..	..	3	..	3	Very fair.

These results are, on the whole, good. It is noted that in the case of the blacksmithy students they stand foremost among those of their class sent up from other industrial schools, the two candidates above them in the list having passed from *private study*.

9. *Literary Class.*—These classes were examined by the Sub-Assistant Inspector of Schools with fair results. Four students were sent up for the first time for the lower secondary examination and three of them passed. This is satisfactory considering the fact that the boys devote only $1\frac{1}{2}$ hour a day to general education subjects. The primary examination results are not yet published.

Special Class.—There were five students as in last year. I examined them in the industries they had learnt with the following results:—

Standard C.—Carpentry.

1. Ramaswami Aiyar ... ... Good.
2. Visvanatha Aiyar ... ... Poor.
3. Muhammad Ismail ... ... Good.

Standard B.—Carpentry.

4. Sundaram Aiyar ... ... Fair.

Standard D.—Metal-work.

5. Dadamiah Sahib ... ... Good.

All these students appeared for the elementary examination in ... drawing and three of them passed in the II class. Two appeared for the ... examination in free-hand, but they failed. The views of the Superintendent ... the class as observed in the Assistant Inspector's report for 1894–95 are fully ...

10. *Short-hand Classes.*—A class for giving instruction in short-hand was ... in the year under report. There were two sections at the time of my inspection. ... occupations of the students are given below :—

Class.	On rolls.	Number present.	Schoolmasters.	Clerks.	Pleaders.	Merchants.	Pupils.	Unemployed.	...
Senior	11	6	1	1	2	..	4	1	...
Junior	22	14	2	3	..	2	15	..	...

I examined the classes in the morning and gave them dictation. They ... 272 words in 4½ minutes. I asked them to read what they had written in short-hand. They did fairly in both. The teacher is the short-hand writer of the local District Court. He has passed the vernacular branch of the B.A. Degree examination and ... advanced examination in short-hand. I consider him a very efficient teacher. ... students were being prepared for the elementary examination in short-hand to be held next month.

11. *Normal Department.*—There were 43 pupils on rolls on the day of my inspection as against 50 in the previous year. The Superintendent further explained that students from 35 to 30 in the year. The number of stipendiaries was reduced especially for the lower secondary class, prefer seeking admission into Government training schools in the adjacent districts, as by doing so they think it more advantageous to them. For the students trained in the Madura Board training department are required to serve as teachers for the prescribed period in the Madura district, whereas in the case of those trained in the Government training schools they may serve out the period as teacher in any district.

There were as in the last year five Panchamas, eight were Native Christians, 23 Brahmins and seven non-Brahmins. All the students excepting six have passed the general education test. These six students were admitted under Article 15, section VI of the Madras Educational Rules. They have appeared for the primary examination; 22 students have also gone in for the V Standard examination.

The number of pupils who have come from the various taluks and municipalities of the district are shown below :—

	Lower Secondary.	Primary.
Madura taluk	1	3
Dindigul	2	13
Tirumangalam	...	4
Mélúr	1	3
Ramnad	2	5
Sivaganga	...	1
Madura Municipality	...	5
Periyakulam Municipality	...	2
Palni	...	1
Total ...	6	37

Madura, Mélúr and Sivaganga were poorly represented.

As usual the students gave lessons before me and their teaching struck me as fair. Maps were all well drawn and kindergarten specimens were numerous and good. The technical subjects taught were the same as last year. No considerable advance was made by the students, as my inspection in September was within two months of their admission into the school.

A criticism lesson was given by a lower secondary student, the other students being engaged in writing critical remarks on the teaching. These remarks were subsequently read out and the headmaster summarized at the close. Generally the result was satisfactory. I must not omit to mention here a circumstance which struck me as unusual. The lower secondary grade students who were able to read their remarks in English were not able to make them in Tamil! This requires attention.

Two of the students discharged in May 1895 remained unemployed—one has subsequently secured an appointment; the other is endeavouring to become a teacher. The student reported to be without employment in the previous year has also been appointed a schoolmaster.

The results of public examinations for 1894–95 are compared below :—

	Number sent up.		Number passed.				Total.	
			Trained.		Untrained.			
	1894.	1895.	1894.	1895.	1894.	1895.	1894.	1895.
Lower secondary	9	8	..	2	6	3	6	5
Primary	39	38	12	24	17	10	29	34

These results were very creditable to the teachers concerned.

The results of the practical test are shown below :—

	Number presented.		Number passed.				Total.	
			Trained.		Untrained.			
	1894.	1895.	1894.	1895.	1894.	1895.	1894.	1895.
Lower secondary grade	6	10	2	1	3	1	5	2
Primary grade.	38	10	12	4	17	3	29	7

The results of the primary grade are satisfactory, while those of the lower secondary grade are poor. This want of greater success is attributed to the frequent changes in the staff. Better results will, it is hoped, be shown in future.

12. *Practising Branch.*—The strength of the practising branch rose again from 161 in the previous year to 204. The results of the primary examination are not yet published. The other classes which were examined by the Superintendent for promotion are reported to have done fairly. The Sub-Assistant's results of examination are favourable.

13. *Agricultural Department.*—The number decreased from ten to eight, this is the maximum number as at present sanctioned by the President, for the number of scholarships in this branch was reduced from 12 to 8 so as to increase the rate of stipend from Rs. 2½ to Rs. 5 and thereby induce boys of 16 and 17 years of age to join the class. Seven students were present at my examination. They were able to manage the plough and cattle much better than last year. The Sub-Assistant Inspector of Schools examined the students in the general education subjects with fair results. Three of the four students in the fourth class appeared for the primary examination and the results are not yet known. The operations of this department for the year were progressing fairly. The Superintendent expects to show an increase of revenue next year.

14. *Accommodation.*—Various improvements to the school-building have been made. A tiled shed for the workshop and a thatched one in the gymnasium have been constructed. The practising classes should be provided with sufficiently ventilated rooms. I understand that the roof of the workshop has since been covered with tiles as required in paragraph 2 of Proceedings, No. 4140, dated 6th April 1895.

15. The registers were all well and neatly kept.

16. The clerical work in the institute is increasing. The tone and discipline of the school were satisfactory. The efficient working of the institute reflects great credit on M.R.Ry. Subbuswami Aiyar, the Superintendent, of whom I have formed a very high opinion. He is a very hard working officer and a man of active habits.

Read the following letter from the Acting Superintendent, School of Arts, Madras, to the Director of Public Instruction, No. 359, dated Madras, 4th May 1886.

With reference to Proceedings, No. 12625, dated 26th November 1885, I have the honour to submit this report on the working of the industrial section of the Technical Institute, Madura, which I inspected on the 12th and 13th of March.

The institute comprises a normal department for training of teachers, a school of agriculture and an industrial school, all under the management of the Superintendent, M.R.Ry. G. Subbuswami Aiyar. My report, as stated above, is only in connection with the industrial section. Here the four trades or handicrafts still taught are (1) *cabinet-making*, comprising joinery, turnery and carving; (2) *metal work*, that is, manufacture of plain brass and copper ware; (3) *blacksmith's work* and (4) *rattan work*, comprising manufacture of mats and rattan furniture. The arrangement of classes in these departments is in accordance with that prescribed in the Grant-in-Aid Code, each comprising the four standards A, B, C and D. Besides the standards there are two higher classes for preparing students for the Government Technical Examinations.

The total number of regular students in the industrial branch at the time of my inspection was 76. This was distributed as follows: Cabinet-making class 28, metal-work class 15, blacksmith's class 17, and rattan-work class 15. There were also five students from the normal department who attended the industrial section for a few hours a day; four in the cabinet-making class and one in the metal-work class, making up a total of 81 students. The classification of these according to caste or creed and parent's occupation is exhibited in the following tabular statement:—

Classes.	I.—Caste or creed.					II.—Parent's occupation.					
	Christians.	Muhammadans.	Brahmans.	Other Hindus.	Total.	Officials.	Inferior servants.	Traders.	Land-holders.	Artisans.	Total.
Cabinet-making class	9	10	1	8	28	4	17	..	2	5	28
Metal-work "	4	4	1	6	15	..	8	1	3	3	15
Blacksmith's "	1	6	..	10	17	1	8	1	1	5	17
Rattan-work "	7	2	..	6	15	2	11	..	..	2	15
Normal students ..	..	2	3	..	5	..	5	..	..	..	5
Total ..	21	24	5	31	81	7	49	2	7	15	81

From classification I in the above statement it will be seen that a very large proportion of the total strength was composed of Christians and Muhammadans and though the total number of Hindus was greater than either of the above, yet not sufficiently so for a large Hindu town like Madura. The number of the artisan class too, as exhibited in classification II, is very small, and I doubt if any among this small number belongs to the real artisan or Kammala caste; the usual appellation of *Asary* or *Pather* is not found added to any of the names in the list given to me.

As the students in the classes preparing for the Government Technical Examinations had recently been promoted when I visited the school and as the progress of these classes is tested by the results of the Government Examinations, I did not hold any special examination for them, but confined my inspection as usual to the work of the four standards in each industrial branch. The results are shown in the following tabular statements.

Cabinet-making.

Standards.	Number examined.	Number passed.		
		Merit.	Ordinary.	Total.
A	7	4	3	7
B	6	1	3	4
C	8	4	2	6
D	1	1	..	1
Total ..	22	10	8	18

Metal-work.

Standards.	Number examined.	Number passed.		
		Merit.	Ordinary.	Total.
A	6	3	2	5
B	2	1	1	2
C	2	1	1	2
D	4	1	3	4
Total ..	14	6	7	13

Blacksmith's work.

Standards.	Number examined.	Number passed.		
		Merit.	Ordinary.	Total.
A	3	1	2	3
B	5	1	1	2
C	2	1	1	2
D	3	..	2	2
Total ..	13	3	6	9

Rattan work.

Standards.	Number appeared.	Number passed.		
		Merit.	Ordinary.	Total.
A	5	4	1	5
B	4	2	1	3
C	3	2	..	2
D	2	..	2	2
Total ..	14	8	4	12

The results shown above compare favourably with those of last year, except in the case of blacksmith's work to which I shall allude under this head in the following general remarks regarding the working of each department.

Carpentry Class.—The total strength of this class was 33, that is, 29 regular students and 4 from the normal department. Of this number six were preparing for the Government Technical Examination and were not examined, five from the standard classes were absent and the remaining 22 were examined, including the four students from the normal department, only one of whom passed according to standard C. The work of the students at the examination was generally good and showed that they had been fairly well taught to execute the work prescribed for the standards, that is, plain carpentry joints; but as regards the finished work done during the year, I think there is much room for improvement particularly as regards design. Some of

Drawing is taught to all the boys in the industrial classes and there is also a drawing class held in the mornings attended by 21 students, 13 of whom pay a fee of annas 8 a month and the remainder a fee of annas 4. In the shorthand classes there are 56 students, of whom 10 are preparing for the Intermediate examination and 46 for the Elementary examination. They pay fees varying from Rupee 1 to annas 4 a month. All the boys in the industrial classes are paid stipends, the details of which are shown in the following table:—

TABLE II.

Industrial class and amount of stipend.		Number of stipends and source.				Total
		Local funds.	Provincial funds.			
	Rs. a. p.					
Intermediate	5 0 0	(a) 4	1	..		5
Do.	6 0 0	3	1	..		4
Elementary	5 0 0	6	..	1		7
Standard IV	4 0 0	10	..	1		11
Do. (C)	3 0 0	11	..	1		12
Do. (B)	2 0 0	20	..	1		21
Do. (A)	1 8 0	20	(b) 1	2		23
Total		74	3	(c) 11		88

In the Agricultural department there are eight boys, each of whom receives Rs. 7 a month.

(a) Each draws a scholarship grant of Rs. 6 from Government.

(b) Draws a scholarship of Rs. 5 for drawing.

(c) Are boys who have failed once in the examinations and are allowed to continue a second year in the same class.

The total monthly expenditure on stipends is Rs. 282, of which amount Rs. 45 is derived from Provincial funds. I have not been furnished with any details of the wages earned by non-stipendiary boys, but it is probably not very much.

4. Appended to this report is a statement giving full details of the teaching staff and their qualifications. Most of them appeared for the Technical Teachers' certificate examination and, though I cannot remark on the results of the examination, it may not be out of place to briefly allude to their capacity for teaching. The artizan instructors were able to sketch fairly well on the black-board, and as the certificates they hold indicate were evidently skilled workmen, but of the art of teaching they understood very little and were unable to clearly explain the processes and methods of their trade though they had a thorough practical acquaintance with them. Considering the very slight nature of their general educational attainments it could hardly be expected that it should be otherwise and till some means are devised for training technical teachers it is useless to expect any material improvement in this respect. The teaching of free-hand drawing appears to me to be conducted on most unsatisfactory lines and as though the production of a number of ornamental outlines was the end aimed at instead of being the means employed for training certain faculties. Everything is done by first constructing a geometrical pattern of guide lines which utterly and completely destroys the educational value of the outline drawing. No doubt by this method neater and more correct copies are made, but the training of hand and eye is almost nothing. In the initial stages there is a legitimate use for guide lines but to nothing like the extent they are employed by teachers trained in the School of Arts who have adopted methods of instruction most ingeniously contrived to frustrate the objects of their teaching and render it futile.

In previous reports on the teaching of drawing in industrial schools I have drawn attention to this matter and I venture to suggest that probably a reform in the methods of training teachers in the School of Arts is desirable. It is a point on which I know there is much difference of opinion, and I have only drawn attention to it because I find that the free-hand drawing courses of industrial schools are of little practical value and do not materially facilitate the progress of artizan classes in the higher branches of their trades.

5. The industrial classes of this institution have been frequently inspected by the Acting Superintendent of the School of Arts, and I have perused all the reports which he has submitted. With much that he has written I agree and most of his suggestions have been carried out; but through all his reports there appears to be a desire to introduce work which is very appropriately being done in the School of Arts in Madras but which is eminently out of place in a mofussil industrial school. The main object of such an institution should be to train up a body of skilful and intelligent artizans and not the production of *articles de luxe* for which there is absolutely no local market. There is no scope for wood-carving in the orders executed by the carpentry class and it appears to me waste of time and money to teach boys to do work for which there is no demand.

The copper and brass vessels made by the metal working class meet with a ready sale, but if they were covered with repoussé work no native would buy them. The necessity for working in silver is not very apparent and would add greatly to the expense unless there were, and apparently there is not, a market for such work.

6. It seems desirable to draw attention to the fact that owing to the restriction of trades to particular castes it is very difficult for persons outside a caste to learn the trade of that caste and in consequence probably the most important result that is being achieved by industrial schools is the breaking down of these trade restrictions and the removal of obstacles which have hitherto prevented the acquisition of skill in a trade by persons not belonging to the particular caste who practise the trade. It therefore by no means follows that an industrial school is not doing very useful work though the education given in it and the work done is no better than can be obtained in the bazaar. As a general rule industrial schools are superior to the bazaars in the facilities they offer for teaching and it is probable that their value would be more readily recognized by the artizan classes themselves were it not for the fact that too great a departure from the established customs of the country has in many cases been attempted. It should be remembered that though a few of the boys may be employed in workshops or establishments where European methods are in vogue, the majority must look to small native workshops for employment and the most useful preparatory training will be that in which utilitarian and not artistic principles are predominant. For these reasons I consider that it is advisable to let an industrial school like this at Madura, which is on the whole very well managed, to develope itself along lines which the Superintendent may find most adapted to the local circumstances. It will be a fatal mistake to try to model the industrial schools after the fashion of the School of Arts in Madras. The demand for artistic furniture and ornamental metal work is comparatively small and the existing supply of skilled artizans is fully capable of meeting it. There is therefore no reason for urgency in adopting many of the suggestions of the Acting Superintendent of the School of Arts.

7. The workshops are very cramped and any convenient extension and re-arrangement of them is rendered impossible by the normal school buildings which divide the compound into two unequal halves. The metal working class is a very noisy one and the din from the many hammers which are always going must be a great nuisance to the other classes and to the normal school. The carpenter's shop and the smithy are in the same shed and the wood store is too near the forges to be quite safe from the danger of some day catching fire. If it were probable that funds would be forthcoming to improve the place I would suggest certain alterations and additions, but there is no likelihood of this for a long time and it seems therefore to be scarcely worth while discussing the matter. I am not inclined to regard it as very important, and I would strongly advise that any money which can be obtained should be spent on the equipment of the shops rather than upon new buildings.

8. *Carpenter's class.*—The work turned out is strong and neat without any pretension to ornament and as it is apparently all executed to order the Superintendent can hardly be held responsible for the designs which in most cases are supplied to him. The head carpenter in conjunction with the drawing instructor might do something to improve the taste of the people who buy furniture from the school by preparing drawings or sketches of the articles in most common demand in which a variety of minor

improvements might be introduced without materially enhancing the cost of manufacture. The boys all learn drawing, but they are not taught to work from drawings and it would, I think, be quite feasible to make every boy who has passed through the four standards prepare drawings or sketches of all work he takes up. A drawing of everything that is made should be kept for future reference and the boys and instructors should be encouraged to make designs of their own. Such drawings may be executed comparatively roughly in pencil on common paper and will do much to raise the standard of skill and intelligence and will give the boys a more thorough knowledge of the principles of carpentry than can at present be obtained.

The quantity of timber in stock was, at the time of my inspection, much larger than is usually the case at industrial schools, and I consider this an excellent feature as, if proper stock accounts are kept, there is less waste and the wood is better seasoned. At a place like Madura timber is very expensive, and I have suggested to the Superintendent that he should | try getting some timbers from Messrs. Brown & Co. of Calicut. Not long ago I procured some for the College of Engineering from that firm and though some of the wood was but partially seasoned, the quality was excellent and the cost, after paying the very heavy freights to Madras, less than what would have been charged here. It is very desirable that industrial schools should use as many varieties of Indian timber as possible instead of confining themselves to teak which though an excellent wood is very dear. By so doing working expenses may be slightly reduced, the practical experience of the boys greatly increased and possibly in time a greater demand created for jungle woods, as they are generically called, than at present exists. In this matter the Superintendent might receive considerable assistance from the Deputy Conservator of Forests, who in Madura has, I believe, large tracts of valuable forest on the Pulney Hills. At present the arrangements for stacking timber are very bad and some other method should be adopted even though it entail additional expense at the outset. The Superintendent and Instructor know what is wanted and should work out a better plan. The shop is fairly supplied with tools, but there are, curiously enough, no oil stones ; a defect which should be at once remedied. The benches are good, but they require vices and if a set of wood-screw taps were procured, the rest could be done in the shops without difficulty. I think we could make these in the College of Engineering workshop and I will shortly see whether we can do so advantageously. A side philister and some beeding planes are the most important small tools required and, as they will not cost very much, I should recommend the purchase of them in Madras as soon as possible.

9. *Blacksmith's class.*—I saw some very good specimens of work done by the boys, but it was all comparatively small and I fancy it will be difficult to turn out really good smiths in an industrial school as it will be impossible to get heavy work for the boys to practise on. Such smiths can only be trained in iron works and are not to be found in the bazaar, and it may be assumed that ordinarily there is little demand for their services. Ability to do fitter's work is a very necessary addition to the qualifications of a good smith and at Madura it is very properly being taken up but the course of instruction requires developing and I think the Superintendents of this and other schools might with advantage pay a visit to the workshops of the College of Engineering when they happen to be in Madras where they will be able to see a fairly completely arranged course.

In connection with the smith's and fitter's work a lathe will be found very useful, and I would recommend the addition of a 6-inch screw-cutting lathe to the equipment of the school as soon as practicable. Such a lathe should not ordinarily be used for wood work, as there ought always to be more than enough metal work to keep it fully occupied and the wood-turning should be done in a much simpler and cheaper type of lathe. I do not think it is at present necessary to spend money on the smith's shop, but the fitter's benches require to be improved and supplied with proper tools such as files, callipers, squares, a marking-out gauge and a surface plate. Many of them could be supplied from the College of Engineering workshops for little more than the cost of the raw materials if an application were made.

10. *Metal working.*—The bulk of the work done is in hammering sheet copper and brass into the various household utensils used by Hindus and for them the Superintendent informed me there was a very ready sale. Brass casting is also taught and I saw some very fair specimens of work ; but still there appears to be room for considerable improvement, and this will probably be effected when the school possesses a good lathe and fitting is more extensively taught. It seems to me that in this class, at a very small expense, a most important experiment might be made which, if successful, would lead to very considerable results. I mean the substitution of aluminium for copper and brass in the manufacture of the household utensils of the wealthier natives. If a few hundred pounds of sheet aluminium were distributed among the schools of the Presidency where hammered metal work is done, the boys might be taught to work in aluminium, and I should be greatly surprised if the products of their work, as soon as the initial difficulties were overcome, did not meet with a very ready sale. Sheet aluminium can, I think, be procured for about 3/6 per lb. and as, owing to its low specific gravity, one pound of aluminium is equal in bulk to about three pounds of copper, the value of the raw material in finished vessels and plates would only be a little more than twice as great as if they were made of copper. As I hope to be going to England shortly on furlough I shall be glad to render any assistance I can in the way of procuring a supply of the sheet metal, if it is thought desirable to carry out the experiment. The initial outlay need not exceed five or six hundred rupees which would be recouped at once if the experiment were successful and a new and important industry would be created through the agency of industrial schools which would materially contribute to their popularity.

11. *Rattan work.*—I do not consider that this is a very suitable industry for industrial schools as it is a very badly-paid trade and is more suited to physically weak or mentally deficient boys than to those who are strong and healthy both in mind and body. The class at Madura is now a small one, the numbers having been practically stationary for some years. The instructor knows his business and the boys do good enough work ; but there is no great scope for development and it does not appear to me to be desirable to alter in any way the existing arrangements.

12. *New industries.*—There is always a tendency in institutions of this kind to add to the number of trades instead of working up to a high standard one or two trades. This tendency has been wisely suppressed at Madura, and I think, for some time to come, the Superintendent will find sufficient work in developing the present classes. Later on, however, it may be practicable to extend the sphere of operations and as it is desirable that the Superintendent should be fully acquainted with the general nature of the trades, the teaching of which he has to supervise, I would suggest that the possibilities of it eventually being found desirable to introduce weaving and goldsmith's work into the number of trades taught in the school should be considered and whenever opportunities occur the Superintendent should avail himself of them to acquire information about these industries. It is better to look some distance ahead in this way than, later on, to hurriedly and without proper preparation start teaching new industries which may not really be suitable to the locality. I have suggested weaving because it is the staple industry of the town and goldsmith's work because of the great demand there is in districts which are rapidly growing in wealth for jewellery.

13. *The farm.*—In September 1895 the agricultural class and farm was inspected by the Acting Principal of the Madras College of Agriculture, who submitted a report in which he suggested certain improvements but in your Proceedings, No. 13470, dated 16th December 1895, you were of opinion that action may be deferred till the decision of the Government of India is known in regard to the establishment of farm schools. On the 25th ultimo I inspected the farm in company with Mr. Nagoji Rau, the Inspector of Schools, Southern Circle, and we both came to the conclusion that owing to the small area, the poverty of the soil and the system on which it is being worked that the eight boys who receive each a stipend of Rs. 5 a month, might just as well have stayed in their native villages as the opportunities for learning anything on the farm were probably less rather than greater than would occur in their own villages.

The present occasion does not appear to be a fit one for placing before you such opinions, as I have had an opportunity of forming on the subject of farm schools; but I would suggest that the present arrangement at Madura is a distinctly unsatisfactory one and that, whatever may be determined on in the future, it is very desirable to place agricultural schools under separate management and quite distinct from industrial schools.

14. *Shorthand class.*—The numbers in this class are considerable and it is apparently supplying a local need, but why it should be attached to an industrial school I cannot understand. It is probably a relic of the days of the commercial classes and it ought to be transferred, as they were, to some other educational institution which is more in touch with such work. Years ago I used to write shorthand a good deal and in examining the candidates for the Teachers' certificates I found the methods of teaching far from satisfactory, the most obvious defects being due to inability to pronounce English words correctly. Pitman's system of shorthand being based on the phonetic character of words, it is absolutely necessary that those who teach it should acquire a less slovenly method of pronouncing words than prevails at Madura. The result was seen in a class which could write fairly well from the instructor's dictation but got on very badly when I read to them myself. For reporters it is essential that they should get over this difficulty and that can only be done by constant practice in reporting English speakers opportunities for doing which do not frequently occur in mofussil towns.

15. The official designation of the school is the Madura Technico-Normal Institute which is very misleading as there is really no technical instruction carried on in the place. It is an industrial school pure and simple, and should I think be called so and the name would not then be used as a pretext for tacking on to it on miscellaneous classes which have really no connection with the main work which is the education of artizans.

16. From the foregoing it will be seen that I have formed a rather high opinion of the work which has been done during the last six years by Mr. G. Subbuswami Aiyar and I think that he has made the most of the means at his disposal. I can only suggest that he should continue to work on the same lines as heretofore and that he should pay more attention to the improvement of the qualifications of his teaching staff. His work seems to be rather heavy, and if in any way he could be relieved of that part which does not affect the industrial school, he would probably be able to secure even better results than he has been able to so far.

ENCLOSURE.

STATEMENT showing the qualifications of the industrial teaching staff of the Technical Institute, Madura.

No.	Name of teacher.	Designation.	Age.	Examinations (general and technical) passed.	Service as teacher.	Present salary.	Amount of Government grant.
					YS. MS.	RS. A. P.	RS. A. P.
1	G. Subbuswami Aiyar ..	Superintendent.	37	B.A., '88, L.T. 1893. Higher Examinations in Book-keeping, Correspondence and Mensuration.	15 8	150 0 0	102 1 4
	Industrial section proper.						
2	Charles Woolridge ..	Assistant Superintendent.	41	Advanced cabinet-making..	9 2	54 0 0	26 0 0
3	P. Narayanaswami Achari.	Drawingmaster.	38	Group certificate in drawing and elementary in silversmith's work. Carpentry, wood engraving and etching.	9 11	30 0 0	15 0 0
4	T. R. Ekambara Asari ..	Carpentry Instructor, senior.	30	Intermediate—Cabinet-making and Trained Special Upper Primary.	12 2	25 0 0	15 0 0
5	M. Vedamuthu	Carpentry Instructor, junior.	25	Higher Examination in Carpentry, 1891.	3 9	15 0 0	..

Statement showing the qualifications of the industrial teaching staff of the Technical Institute, Madura—*cont.*

No.	Name of teacher.	Designation.	Age.	Examinations (general and technical) passed.	Service as teacher.	Present salary.	Amount of Government grant.
					YS. MS.	RS. A. P.	RS. A. P.
6	I. Appavu Asari ..	Blacksmith Instructor.	37	Intermediate—Blacksmith's work and Elementary in Geometrical Drawing and Special Upper Primary examination.	9 0	20 0 0	10 0 0
7	Suppan Asari	Metal work Instructor.	34	Do, ..	2 2	20 0 0	6 10 8
8	Subramania Pillai ..	Rattan Instructor.	55	Elementary in rattan work, 1892.	10 0	10 0 0	5 0 0
	Shorthand section.						
9	A. V. Swaminatha Aiyar.	Shorthand Instructor.	25	B.A. Vernacular Branch. Advanced Shorthand and Intermediate—Type-writing.	1 6	30 0 0	10 0 0
	General Education Branch.						
10	M. K. Subrahmanya Aiyar.	Headmaster, G. E.B.	23	Matriculation, 1887. Trained but holds an Untrained Teachers' certificate.	6 2	19 0 0	4 12 0
11	A. Aiyaswami Aiyar ..	Assistant Instructor.	28	Matriculation, 1881. Trained and passed the written portion of the Teachers' certificate examination.	7 1	12 0 0	..
	Agricultural Department.						
12	S. Ramaswami Aiyar ..	Farm Manager.	36	Matriculation, 1876 and certificate from the College of Agriculture.	12 0	50 0 0	25 0 0
13	L. Sundararaja Sastry ..	Literary Instructor.	31	Trained Middle school, II class, and Lower Examination in Book-keeping.	4 5	10 0 0	3 5 4

N.B.—The gymnastic instructor of the Normal Department who holds a first-class certificate of the Field Games' Association, Madras, teaches also the Industrial Department in gymnastics.

No. 386-C.

Forwarded.

(Signed) H. D. LOVE, Major, R.E.,
Principal, College of Engineering.

12*th August* 1896.

The above reports, which deal with the working of the several sections of the Technical institute, are clear and exhaustive. It would have saved much time and inconvenience if Mr. Flanagan's tabular report had been submitted in the form prescribed for training schools.

2. *Staff.*—The staff underwent several changes, mostly of a temporary character; it possessed the requisite qualifications and showed a fair outturn of work on the whole. A special teacher was employed for the newly opened shorthand class and also a separate Headmaster for the general education (not the practising branch as stated by Mr. Flanagan) classes attached to the industrial section. This is satisfactory. The Drawing master's work has not been reported on favourably either by Mr. Holder or by Mr. Chatterton. If he cannot do better he should be replaced by a more qualified person. Mr. Flanagan's remarks regarding the inadequate scale of salaries in force are noted; but it has to be observed at the same time that the cost to the Board on the upkeep of the institution is already very heavy.

3. *Accommodation.*—The Director is glad to note that the workshops have been provided with a tiled shed and that a new room has been constructed for the drawing

classes. Mr. Chatterton is of opinion that the arrangement of the workshops requires attention if only more space were available. Steps should be taken to improve the ventilation in the practising classes.

4. *Apparatus and appliances.*—Mr. Holder and Mr. Chatterton consider the stock of tools and fittings to be inadequate. The supply should be increased so as to meet the requirements of each class. The students should be taught to use their tools and apparatus with proper care and to keep them sharp and clean, the quality of work depending in a great measure on the tools employed.

5. *Library.*—The library is not suitable, but the steps taken to improve it are noted.

6. *Strength and Attendance.*—The strength of the various sections for the past two years is compared below :—

Sections.	Strength in 1894-95.	Strength in 1895-96.
Training section	50	43
Industrial branch	62	* 76
Special class	5	5
Practising section	161	204
Agricultural class	10	8
Shorthand class	...	33
Total ...	288	369

* Exclusive of five students from the training section.

The practising and industrial sections received an accession to their strength, while the training section suffered slightly in this respect, in consequence of the fewer supply of students of the lower secondary grade. Satisfactory reasons have been assigned by the Inspector in paragraph 11 of his letter for students of the above grade not resorting to this institution in larger numbers. It is gratifying to note that the increase in the industrial section was shared by each class as will appear from the figures in the margin. The shorthand class was 33 strong and consisted of two sections. The particulars relating to race or creed do not present any noteworthy variations from those of the year previous; the increase in the number of Panchama students from five to seven is encouraging. Five of these attended the training and two the industrial section.

	1894-95.	1895-96.
Carpentry class	26	29
Rattan-work class	12	15
Blacksmith's do.	13	17
Metal-work do.	11	15
Total ...	62	76

7. *Examinations—Training Section.*—The results secured at the written examinations for Teachers' Certificates were on the whole good, but at the practical test the lower secondary students figured badly. Mr. Flanagan's observation that the students of this grade were unable to express in Tamil their remarks on the criticism lesson shows that they were not being trained, as they should have been, to make a sufficient use of their vernacular. The students, who were tested by the Inspector, generally gave evidence of fair teaching capacity.

Practising Section.—This section acquitted itself fairly well at the examination conducted by the Sub-Assistant Inspector of Schools, Madura Range.

Industrial Section.—At the standard examinations held by Mr. Holder the several classes acquitted themselves satisfactorily, with the exception of standard B of the blacksmith's class. Mr. Flanagan was also favourably impressed with the results at his inspection. The results of the Government Technical Examinations in cabinet-making, fitter's and blacksmith's work and in freehand and geometrical drawing, as summarised in paragraph 8 of the Inspector's letter were equally satisfactory. Mr. Holder's complaint that the work executed by the institute is wanting in finish and symmetry is worthy of attention. The advice he gives is in no way inconsistent with that given by Mr. Chatterton in paragraph 5 of his report. Instruction in fitter's work requires to be made more efficient, and this cannot be done without more and better apparatus. Mr. Chatterton's remarks on the use of aluminium are commended to

the consideration of the Committee. The condition of the special class which was composed of five students left room for improvement. The general education classes attached to the industrial section have been reported on favourably by the Sub-Assistant Inspector of Schools, Madura Range, and satisfactory results were also obtained at the Lower Secondary Examination.

Agricultural class.—The reduction in the number of stipendiaries from twelve to eight, with a view to set free funds for enhancing the rate of stipend, commends itself to the Director. It is not known whether the students are prepared for the Elementary Examination in agriculture and whether any steps have been taken towards the extension of the farm with reference to Proceedings, No. 13470, dated 16th December 1895. The general education classes working in connection with this department are reported to have shown fairly good results at the examination held by the local Sub-Assistant. The yield of the farm during 1894–95, including the value of straw consumed by the cattle, was estimated at Rs. 221. This section requires to be placed on a more satisfactory footing.

Shorthand classes.—These classes acquitted themselves fairly well at the inspection. The students are prepared for the Elementary Technical Examination in the subject. The Director concurs with Mr. Chatterton in thinking this class somewhat out of place in an institution like this.

8. *Finance.*—The actual receipts for 1894–95, including the sale-proceeds of manufactured articles and farm productions, aggregated Rs. 9,184, and the charges Rs. 14,694. The net cost to the Board, exclusive of the cost of raw materials, &c., thus amounted to Rs. 5,510.

9. *General.*—The selection of students for training was mostly in accordance with the provisions of the Educational Rules. All the students but one who had completed their training in previous years are following the teachers' profession, but the Inspector's report is silent as to how far the pupils of the industrial and agricultural sections have succeeded in their respective walks of life. Information on this point should invariably be furnished in future reports. It is hoped that arrangements will be made next year to depute M.R.Ry. G. Subbuswami Aiyar, the Superintendent, to the School of Arts and to the Colleges of Engineering and Agriculture. The Director would be glad to have Mr. Holder's views on Mr. Chatterton's criticisms on the method of teaching free-hand drawing. The Director would again urge on the Board the necessity for employing an additional clerk. If this be not found feasible a temporary clerk may be sanctioned on Rs. 12 *per mensem* for a period of not less than four months in the year. The Inspector's suggestion for taking over the Institute under departmental management cannot be considered at present.

10. The satisfactory working of the institute during the past year is creditable to the Superintendent and his staff of assistants.

(True Extract.)

(Sd) Q. Duncan.

Director of Public Instruction.

(True Copy)

Director of Public Instruction

To the Inspector of Schools, Southern Circle.
" other Inspectors of Schools.
" the Inspectresses of Girls' Schools.
" the Assistant Inspector of Schools, Madura-Tinnevelly Division.
" the Principals, College of Agriculture and Engineering.
" the Superintendent, Technical Institute, Madura.
" the Superintendents, School of Arts and Reformatory School.
" the Principal, Lawrence Asylum, Ootacamund.
Copy to the President, District Board, Madura,
" the Collector of Madura,
" the Government, with covering letter,
} for information.

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