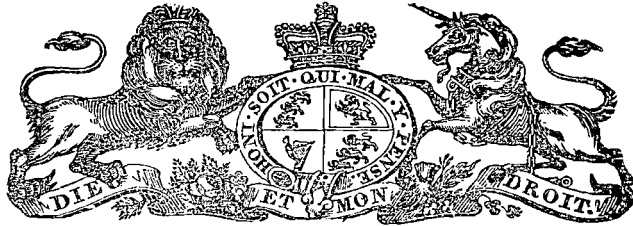


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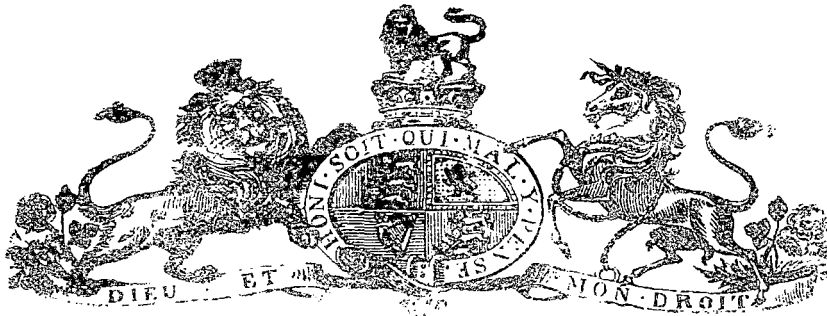
1901.

PARLIAMENT OF TASMANIA.

PAPERS *RE* TECHNICAL TEACHING IN STATE
SCHOOLS.

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PAPERS *RE* TECHNICAL TEACHING IN STATE SCHOOLS.

Education Department,
Hobart, 14th November, 1901.

THE following Memoranda *re* Technical and Kindergarten Teaching in State Schools are submitted for the consideration of Parliament in connection with the proposed vote for Technical Teaching in State Schools.

STAFFORD BIRD, *Minister of Education.*

THE PRESENT TEACHING OF SCIENCE AND ART IN STATE SCHOOLS.

Education Department,
Hobart, 4th September, 1901.

1. *In respect to Teachers:—*

UNDER our new Regulations, which have recently come into force, Science is prescribed as part of the examination to be passed by Teachers of all grades, and in December next, for the first time, Teachers of the lowest grade will be required to take up the subject of Elementary Physics, including such subjects as—The Laws of Motion, the Chief Forces of Nature, the Properties of Solids Liquids and Gases, the Action of the Pump and the Syphon, Heat, Light, Electricity, and Magnetism, with questions on the construction and use of the apparatus employed in illustration.

Teachers of the higher grades are required to deal with more advanced work in Agriculture, Geology, Mechanics, Dynamics, Hydrostatics, Heat, Light, Sound, Electricity, and Magnetism.

2. *In respect to School Instruction:—*

The Reading Books in use in the schools contain, for the higher classes especially, subject-matter relating to various branches of science and art, intended and fitted, if practically used, to give the Scholars an interesting and useful insight into the branches referred to.

The following are a few of the titles of the lessons, and are mentioned merely to indicate the range of the instruction contained in the Reading Books now in use:—"Coal and Sunbeams," "Air Pressure and Barometers," "The Flame of a Candle," "Leather," "Soap," "Pottery Manufacture," "Vegetable Productions of Various Climates," "Vegetable Life: Its Governing Conditions," "The Atmosphere," "Plant Life," "Paper-making," "Botany," "Classification of Plants," "Butterflies," "Ants," "Spiders," &c.

In all schools, the giving of *Object-Lessons in Industrial Arts and Manufactures*, besides *Object-Lessons* in general, is required by the programme, and in the Fifth and Sixth Classes Teachers are required to deal with "Elementary Science." The Text-Books employed are—"Principles of Agriculture," by Tanner; "Elementary Lessons in the Principles of Agriculture," by Nelson and Sons, relating to soils, manures, agricultural chemistry, &c.; "Domestic Economy," by Hassell, including foods, beverages, and clothing, with their production and their uses, dwellings, warming, cleaning, ventilation, cookery, ordinary ailments, domestic economy, &c.; also, Balfour Stewart's "Physics;" and "Elementary Mechanics," by Blackie and Son.

Teachers are expected, in dealing with this subject, to impart an elementary but clear outline of knowledge in relation to the Principles of Agriculture, and to such subjects as Light, Heat, Electricity, Simple Mechanics, &c.; but they are left to their discretion as to the particular branches they may deal with. It has not been thought advisable to restrict Teachers in their choice in regard to any given branches, because they can deal more successfully with those in which they are most interested, and, also, because the choice of a given branch of Elementary Science may often be determined by local conditions or circumstances. In about 80 of the 330 schools in operation, it has been found that the Teachers (who have had little instruction themselves in Science) have not been able to deal with the subjects in a way to give definite results of much value in the judgment of the Inspector examining. In the remaining 250 schools, the results are reported as varying from "fair" to "excellent." The following are the remarks made in respect to Science-teaching by the examining Inspectors, in twelve reports taken almost indiscriminately from the examination reports of last year, and, probably, fairly representing over 200 of the 330 existing schools:—

"Science.—Good answers were given to questions in Agriculture and Elementary Mechanics; general knowledge, satisfactory."

"Science, comprising Properties of matter, and Principles of Agriculture.—Answering, good; general knowledge, satisfactory."

"Science.—Elements of Agriculture and a little Physics, good; general knowledge, satisfactory."

"Science.—Principles of Agriculture, good; general knowledge, good."

"Science.—Principles of Agriculture, good; general knowledge, good."

"Science.—Well and carefully taught; general knowledge, 'fair.'"

"Satisfactory general knowledge."

"A fair knowledge was shown of primary facts of Agriculture; answering to questions on 'The Pump,' 'Plant Structure,' 'Health and Temperance,' very good."

"Much intelligence and knowledge displayed. A very full programme of lessons carefully carried out."

"Mainly Agriculture. The children showed that they possessed much information on the subject."

"A good deal of ground has been covered, and much intelligence was manifested."

"The answers, generally, showed much intelligence."

The Reading Books and Text-Books now used afford to Teachers wide scope, and a large amount of valuable subject-matter for instruction. It is possible that special Reading Books might be provided, which would deal more in detail with given branches of Industrial Arts and Manufactures, but what is most of all needed is that Teachers should themselves have the necessary skill and practical knowledge to enable them to deal with Elementary Science and Object-Lessons in a more distinctly practical and effective manner.

Some of our Teachers make an admirable use of this lesson in the direction of what is called "Nature Study," the children being required to bring for the lesson material collected by themselves, according to previous instruction, such as, for example, different kinds of leaves or of flowers, or of roots, or of varied specimens of stones, or of soils, according to the subject of the lesson to be given. It is in this direction that a great advance may be made, if Teachers themselves have the requisite preliminary scientific training, which, alone, can qualify them to deal effectively with more advanced and practically useful work of this kind.

The subject of Object-Lessons is one of very great importance indeed, and instruction under this head is capable of being extended in many directions indefinitely, and of affording an invaluable preparation for the more advanced "Technical Education," properly so-called, which should come in a later stage in the life of the children.

If our Teachers, generally, were to receive the requisite special training, which it would not be difficult to afford them, excellent work could be done in the direction of technical education on lines already existing, and could be done both without any serious displacement of subjects now on the programme, and without any addition whatever to the sum total of work required from Teachers and Scholars. The training referred to might, by degrees, be afforded by means of courses of instruction given by a specially-qualified instructor, in different centres, to groups of Teachers, to whom travelling and other requisite facilities might be afforded.

Drawing, which has been called the "Mainspring of Technical Education," is also a part of the programme, and is practised in most of the schools, with fair results in many cases, while, in not a few instances, the results range from satisfactory to excellent. The work is chiefly freehand, but some useful geometrical drawing, with perspective, is also taught, and, in some cases, with results reported very satisfactory. In a few cases, the drawing is from models, but is chiefly from copies.

An Expert in Dairying is now authorised to visit State Schools, and to give lectures or lessons of a practical and useful character to such children as are qualified to benefit by them.

These lectures are now being given at intervals in different parts of the country, in districts judged to be most suitable for the purpose by the expert himself. It would be practicable, in the same manner, to obtain the services of a qualified Lecturer in Agriculture, whose instruction would be advantageous to the elder Scholars in many of the country schools, and, also, to some of the Teachers, by way of suggesting how they themselves might best deal with the subject in carrying out the school programme.

The only branches of what is called "Manual Training" now practised, as a rule, in our State Schools, are Drawing and Needlework. It would be quite practicable, and would not involve much

sacrifice of time nor expenditure of money, to introduce such simple branches of Manual Training as working in cardboard, wood-carving, simple modelling, &c. ; such work is being gradually introduced and extended in most of the leading countries of the world, and with results reported highly satisfactory. It is found, in practice, that from one hour to three hours per week of such manual training is, in most cases, sufficient for the purposes required.

The general introduction, however, of such work into our programme would necessarily imply that special training of the Teachers to which reference has already been made.

It is well known that some of our Teachers, with a laudable desire to increase the interest of the children in their school and school work, give practical lessons in Gardening, out of school hours, and in other useful branches of instruction, and in some schools children are allowed to have their own garden plots, and are provided with seeds, and do their work under the superintendence of the Teacher. This is a class of instruction which might be indefinitely extended, under proper necessary conditions, with very great practical advantage.

In the directions indicated above, the work of our State Schools might be made to tell very effectively in the direction of Technical Education, for which, in the proper sense of that term, a primary school is, by general consent, no proper place.

In Germany, where Technical Education occupies such a prominent place, neither the general sentiment of leading educationists, nor the actual practice, favours the introduction of Technical Education into primary schools.

The foregoing statement is intended to furnish information respecting the range of the existing programme, and to indicate those lines of instruction already laid down which may be advantageously extended in the direction of Technical Education. Such extension can be carried out without material alteration in respect to subjects now prescribed. Any violent or considerable changes in the present programme are quite unnecessary, and are to be strongly deprecated.

If it is judged desirable to give to the Elementary Science and Art work already provided for a more distinctly technical character, it will not be difficult to formulate a scheme by which our Teachers may, by degrees, be trained and qualified to do the work.

It may be advantageous, as a general guide in the consideration of this question, to give an approximate estimate of such outlay as would be required during the first year, in order to introduce the work of training Teachers in accordance with the foregoing observations.

One well qualified Teacher might be employed to give courses of instruction, both in Hobart and in Launceston, to groups of Teachers, Assistant Teachers, Pupil Teachers, &c., gathered for the purpose, and also (perhaps at other times) to elder Scholars, who might be drafted from different schools for that purpose.

Two schools, at least, would have to be furnished with appliances and material, the extent and cost of which would be determined by the scale on which the work is begun. If Teachers are required to attend from any considerable distance, their fares would have to be considered, and the aggregate outlay under this head would also be determined by the extent to which Teachers at a distance were brought under the operation of the scheme.

Salary of Teacher	£ 200
Personal and Travelling Expenses.....	150
The equipment of Two Schools with requisite Appliances and Materials	200
Railway Fares for Country Teachers (minimum)	200
Minimum approximate Total.....	<u>£750</u>

It would be safer to put down the total at £1000. In the second year, the same sum of money would suffice to double the equipment of the two central schools. Fresh centres could be established from time to time.

The above-mentioned expenditure would be preliminary only, being required chiefly for the training of teachers. The adequate equipment of our schools, generally, so that the Teachers so trained could utilise their training to any considerable extent, would run into thousands of pounds. But this equipment might be furnished by degrees, and, when once fairly completed, in any given school, would not have to be repeated. The introduction of Manual Training would necessitate, in connection with some of our City schools at least, the erection of classrooms specially adapted to the purpose.

J. MASTERS, *Director of Education.*

The Honourable the Minister of Education.

KINDERGARTEN.

*Education Department,**Hobart, 13th November, 1901.*

THE simplest and most effective mode of introducing Kindergarten instruction into our State Schools would be by operating, in the first instance, on the two principal centres, Hobart and Launceston. A competent teacher might be appointed for each City, and it might be arranged that, besides giving daily lessons in rotation to the City schools, such teachers should give instruction, at stated times, to the young teachers in and around the respective centres, which would qualify them, after a short time, to introduce Kindergarten work into the schools to which they might, subsequently, be transferred. In this manner, instruction would be given, not only to all the children of suitable age attending the nine City schools, but, also, to a considerable number of pupil teachers, assistants of various grades, and teachers already in charge of schools. If this plan were carried out for a short time, it might be arranged that City assistants, who have been duly instructed, should take charge, temporarily or otherwise, of country schools, the teachers of which should be transferred for a short time to City schools, in order to receive similar training.

This would appear to be the most economical way of beginning the work, and, at the same time, the most effective, if a limited scale of operations is adopted. The outlay for material, under such an arrangement, would not be very considerable, as only a comparatively small number of schools would have to be supplied; but this outlay would, of course, progressively increase with the increased number of schools brought under operation.

The equipment of a City school would cost at least £20, but good initial work could be done with a somewhat smaller expenditure. It is to be observed that flat tops would have to be provided for the desks, besides cases for material, &c. The equipment of small country schools would cost much less, as skilled Teachers would be able, at almost nominal cost, to supply much of the fresh material required from time to time, as their work progresses.

The principal items of expense would be the salaries of two Instructors, say, £300, and the equipment of the nine City schools, say £180. In addition to these, if teachers from schools outside the Cities are required to attend, it may be necessary to consider the question of cost of travelling; but teachers residing in the near neighbourhood would, no doubt, be glad to come in at their own cost, and it would not be necessary, and, perhaps, not desirable, to bring teachers from a distance. It seems probable that a fair start might be made with £500 for the first year.

The work above referred to is totally distinct from the Elementary Science training to which reference is made in my memo. of the 4th September, the outlay for which would be much more considerable.

J. MASTERS, *Director of Education.*

The Honourable the Minister of Education.