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The Philippine Craftsman

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No. 7

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The normal school tries to quicken professional enthusiasm. It endeavors to enlarge the student's conception of life. Its purpose is to transmute knowledge into wisdom.

—*C. F. Thwing.*

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THE EVOLUTION OF INDUSTRIAL WORK IN THE NORMAL INSTITUTES.

By HENRY S. TOWNSEND, Division Superintendent of Schools, Rizal.

The first normal institute in the Philippines was conducted at Manila by Dr. David P. Barrows, assisted by forty-seven American teachers. It began on April 10 and ended on May 5, 1901. Six hundred teachers and prospective teachers, from Ilocos Norte, Zamboanga, and twenty-one intervening provinces, assembled to receive instruction. Great importance attaches to this first institute because of the fact that it was the beginning made by a man who had a remarkably clear view of both the present and the future.

It is significant of the interest in education at that time, that 497 of those in attendance came from provinces other than Manila. The fact that a number of companies operating inter-island steamers gave free transportation to teachers who desired to attend the institute, is also worthy of note.

The sessions of this institute were held in the present Manila High School building, and in the building which was formerly occupied by the old School of Arts and Trades on what is now General Luna Street. Assemblies were held daily at the beginning of work, and then the teachers, divided into thirty-three classes, went their ways to their several classrooms.

At the assemblies talks were given on the duties of Filipino teachers, by Dr. Barrows; on the new school law, by Dr. Fred W. Atkinson; on American Education, by J. W. Taylor; on gymnastics, by Dr. Ageo, of Manila; and on lower forms of life which occasion contagious diseases, by "Captain" N. M. Saleeby. Papers on manual training, the kindergarten, nature study, and art work in the schools were prepared and read by teachers having charge of such work in the classes. Music was a marked feature of all the assemblies. Professor Bernard Moses, the first American Secretary of Public Instruction, addressed the final assembly.

All of the thirty-three classes were taught English, and a few classes well instructed in United States history, geography and arithmetic as direct preparation for work in the schools. Courses were also given in manual training, physiology, nature study, and in kindergarten work, as subjects which would eventually become necessary. Each person enrolled was furnished a copy of Baldwin's Primer; and Dr. Barrows assures us that all mastered this text at least. Some read Montgomery's *Beginners' American History*, Frye's *Elementary Geography* and Wentworth's *Primary Arithmetic*. It is significant that Dr. Barrows commended this last book because of its adaptability to the teaching of English. Those who find amusement in contemplating a set of teachers struggling with these textbooks may need to be reminded that they were young men and women attacking the problem of teaching in a new language.

Of all the extra courses, the kindergarten seems to have excited the greatest interest, with its little children learning to sing and play, to build and sew. Of the course in manual training, the report told nothing beyond the fact that three classes were conducted by Mr. H. G. Squier.

Before the end of the same year, 1901, institutes were held in Iba and Laoag. The report does not specify the kind of work undertaken, but it is safe to say that it was chiefly English, and of the grade found necessary in Manila.

For 1902, forty-seven institutes and two considerable conventions of American teachers are recorded. These were organized and conducted by the division superintendent in the best manner each was able to devise. Reports are brief and very general, including little more than a statement of the place and date. A little advance in English marked the chief difference between these institutes and the first one, conducted and reported by Dr. Barrows. In at least three cases there was some instruction in sewing but in no other industrial work. Probably the other institutes were much like these three.

The two conventions of American teachers, were held in Iloilo and Cebu. In both, papers on very practical subjects were presented. Among those read at Iloilo were one on "Care and Improvement of School Grounds," by Mr. Coddington and another on "The Place of Sewing in the Schools and How to Direct it," by Mrs. Salmon. In Cebu, Mr. Linderman read a paper on "Industrial Work and to What Extent It Can Be Introduced in the Schools of This Division," and the subject was freely discussed. These papers indicated fairly the general attitude of American teachers toward industrial work in 1902.

It was assumed that something was to be done; but what, when, and how, were questions.

Reports for 1913 are much fuller; and from them the fact that in nearly all cases no work of an industrial character was undertaken, may be safely inferred though the writers give no evidence of consciously omitting mention of industrial work. Rather the fullest report is that of two institutes held in Batangas. Attendance here was restricted to those who would pledge themselves to become teachers at the end of the term of eight weeks, and who had had "some instruction in English." It was explained that this instruction should be the equivalent of a term in day school. Remembering that this was nearly two years after the arrival of large contingents of American teachers, one can see what a formidable problem English offered.

In 1904 practically the first uniform course of study for all schools was prescribed, and adjustment to this was the great problem for the institutes of that year. The requirements for the primary grades were much more specific regarding academic than industrial work; and this fact had its bearing upon the development of the work in the institutes. In fact primary industrial work was so tentative and experimental in character that many a division superintendent felt sure only that gardening and sewing were being taught at all.

Most of those who struggled with Baldwin's Primer in the first institute were the product of the old system of education. But by 1904 it became necessary to depend chiefly upon the new schools for a teaching force; and thus the necessity for better training for the profession arose. For the next five years, the teachers' class and the institute were the principal means to this end.

At an early date the majority of the municipal teachers completed the primary course; but no one regarded this as sufficient qualification, they must go into or through the intermediate course. Now the industrial requirements of this course were from the first much more definite than those of the primary; and they were such that they could not be met by the teachers in their homes or in the teachers' class. Accordingly, academic work was done at home and in the teachers' class; and carpentry and cooking became of importance in the institutes, intermediate equipment being used. At the same time primary industrial work was becoming more common and this considerably affected the program of the institutes.

During this period the assemblies in the Philippine Normal School came into existence, the first one being held during the

long vacation of 1906. In the beginning much that was done at these gatherings had very definite reference to the passing of grades. Yet from the first there was also much work which aimed solely at preparation for primary teaching; and a good bit of this was industrial. The attention to grades gradually disappeared as increasing attention was given to professional training. All of this was reflected in the provincial institutes where returned teachers were called upon to give instruction in what they had learned.

By 1910 most of the teachers in the more advanced divisions had finished the intermediate course. In some cases an effort was made to advance them into the secondary course; but this was soon given up. Before long, all effort to raise their grades was abandoned at the institutes. These now became strictly professional gatherings. Many institutes were made purely industrial, but most of them retained some academic work. Specialists were first sent out from the General Office to assist in the conduct of institutes in 1910. All of them promoted industrial work, as they do to the present time.

The last step in the development of the institutes was their coördination with the assembly at the Philippine Normal School. This became possible only when the Director assumed control of both the institutes and the assembly. About this time a reaction set in, in favor of a better balance of the work. At present both the industrial and academic work of each institute are balanced in about the same manner as they are in the schools.

In any country native designs are in danger of being forgotten when foreign influences assert themselves. For example, all over the Islands the short skirts called "patadiong," were originally woven of native cotton, in native designs. These are now made of Chinese or Japanese machine-made cotton yarn, which is sold ready-dyed in every barrio shop among the Christian Filipinos. Foreign designs along with foreign materials predominate because they are easier to use. There can be little doubt that those articles made among the non-Christian tribes which still retain the primitive motifs would go the way of the coastal weaving industry unless something were done to preserve them. The Filipinos in their handicrafts make use of fewer indigenous designs than other Eastern peoples because they have been longer subject to European influences, and have progressed farther. Therefore every effort is being made by the Bureau of Education to preserve the primitive designs that remain. (J. R.)

THE VACATION ASSEMBLY.

By H. A. BORDNER, Superintendent, Philippine Normal School.

The vacation assembly held annually at Manila for Filipino teachers, is the means used by the Bureau of Education to meet certain definite needs. Systematic efforts are made to improve the attainments and to increase the efficiency of the teachers attending; also to prepare them to solve satisfactorily the many problems constantly arising in connection with their work in the classroom. Special emphasis is given to the training of instructors for the division normal institutes.

The assembly this year will be the twelfth one conducted by the Bureau. It is to be held in the Philippine Normal School building from April 16 to May 18, 1917, inclusive. Both professional and industrial courses will be offered as in previous years, but some of the subjects formerly given have been abandoned and a few new ones have been added.

The advancement made in methods of instruction and the results achieved in the public schools of the Philippine Islands are clearly indicated in the quality of the teachers who attend the annual vacation assembly and in the character of the different assemblies held during the past twelve years. The first two were intended primarily for American teachers, and many of the courses offered were of university grade. On account of the heat prevailing during the months of April and May and because of the inadequacy of transportation facilities at that time, the attendance was not so large as might have been wished, and this necessitated a change in plan. In 1907 it was decided to hold two assemblies; one in Manila especially planned for Filipino teachers, and another in Baguio for both American and Filipino teachers.

The Manila assembly of 1908 was noteworthy. The 612 teachers in attendance came from thirty-three provinces. In addition to offering the usual academic courses, an attempt was made to give systematic instruction in music, gardening, school-house decoration, and industrial work including courses in cooking and in sewing. The minimum entrance requirement for Filipino teachers at that time was the completion of the fifth grade.

During the succeeding years the assemblies continued to grow

not only with respect to the number of teachers matriculated, but also in the variety of courses offered, in the character of instruction provided, and in the quality of results obtained. Courses were improved; academic attainments of teachers were advanced; and new subjects were added. The attendance increased so rapidly that in 1912 more than 1,700 teachers matriculated, notwithstanding the fact that several other large institutes or assemblies were conducted at centrally located points.

In 1913 it became apparent that radical changes in the organization and plans were imperative if over-crowding was to be avoided, and if a high standard of instruction was to be maintained. In that year the attendance was materially reduced, and those permitted to matriculate were selected because of superior attainments and special professional aptitude. The practice of holding large assemblies other than the one at Manila was discontinued, and division normal institutes were prescribed for all provinces. It became necessary to change the work of the vacation assembly so as to make it a training school for men and women into whose hands must be placed the instruction at the provincial institutes. There was an imperative need for standardizing and correlating industrial instruction; so in the 1913 vacation assembly, emphasis was placed on industrial subjects, especially domestic science, embroidery, lace, basketry, and gardening. The general plan of this assembly proved so successful that there has been little further change in the scope and character of the instruction offered; but since 1913 increasing attention has been given to academic and professional courses.

The 1917 assembly will be similar to the one held in 1916. Plans to insure its success are already complete. A large amount of preliminary work must be done in order to make sure that a vacation assembly will begin promptly and proceed without loss of time. The courses to be offered are determined months in advance so that the printed outlines and the required materials may be ready for use on the opening day. Material, much of which is purchased in distant provinces, is ordered and shipped to Manila early, so that everything will be available when needed. Foreign goods are purchased, blue prints and perforated patterns prepared, designs and models determined, and blocks and forms made ready. All loss of time must be avoided, because the period of five weeks allotted to the assembly is so short that every minute must be utilized in order to obtain results commensurate with the expenses incurred.

It is very necessary that the instructors be in close touch and sympathy with the teachers in attendance, and that they be

thoroughly conversant with conditions prevailing in the field. For this reason, wherever possible, they are selected from among the teachers in the provinces who are most successful in the particular work which they are expected to handle at the assembly.

In order to avoid monotony, social features, receptions, excursions, lectures, entertainments, picnics, and even dances are each year made a regular part of the assembly program. The teachers from the provinces get a broader view of life through a five weeks' stay in Manila. They come from all parts of the Philippines and speak many different dialects; but owing to the diffusion of English throughout the Archipelago, they are able to converse in a common language, which serves as nothing else could do, to promote unity in purpose and spirit. The progress of the schools is discussed, ideas are exchanged, old acquaintances renewed, and new friendships formed. The teachers return to their homes with increased energy and a much higher conception of their duties and their mission. The assembly is indispensable because of the opportunity it affords to the Bureau of Education to promote efficiency and to put into the field new work and the most modern methods of instruction.

Altman & Co., of New York, on being visited recently by a representative of the Bureau of Education, gave all the information that they thought would help lace makers in the Philippines. Among their employees there is a Belgian woman, who was considered one of the best lace makers in her own country. She exhibited a bobbin which is much smaller and lighter than those used here, and which avoids much snapping of threads. She also submitted a piece of green mounting board which is claimed to be the best as far as color and weight are concerned. The Belgian workers reel either 2 or 3, usually 3, threads on the upper edge of valenciennes or finer laces to keep it from pulling out of shape. In ironing such lace, the iron is not rubbed over but is put down and raised repeatedly; later each point is pulled and rubbed outward with the finger nail. All real valenciennes laces are made of thread that is cotton with a linen finish. The Belgians do not speak of pairs of bobbins but say exactly so many bobbins. They never use frames for any embroidery, as it is considered that these pull the work out of shape.

METHODS OF TEACHING AT NORMAL INSTITUTES.

HOUSEKEEPING.

By Mrs. NERTIE S. JOHNSON, Teacher of Domestic Science, Tacloban, Leyte.

The normal institute, made up of teachers whose influence extends to all parts of a province, can become a factor of prime importance in raising the common standard of living. The instructor in domestic science should possess vigorous health and a nervous system under perfect control. To these prerequisites must be added a knowledge of the subject gained by study and experience, a deep interest in the work to be presented, and so great an enthusiasm for helping others that it will be contagious.

Such an instructor appears on the first morning of the institute fully equipped to present the initial lesson from a carefully planned program for the term's work. Not content with the mere statement of facts, she adopts a method of procedure which reveals principles, and leads teachers to see the reason for giving the lessons prescribed in the housekeeping course and for performing processes according to established rules. The quickest and most convincing way to demonstrate why drinking water should be boiled, is by making a microscopic examination of a drop of water taken from a near-by surface well, and the best way to show the method of exterminating mosquitoes, is by pouring petroleum on the surface of a small pond. The few minutes devoted to the performance of such tasks is worth far more than hours spent in laboriously memorizing the words of the text pertaining to these and similar subjects, the content of which is too frequently not understood.

Among the necessary qualifications for the teachers who are to receive instruction may be mentioned the best of health, energy, receptive minds, and a cheerful disposition to work, for the duties of the housekeeper are many and sometimes tedious.

The domestic-science building in the town where the institute is held, meets the demand for a place to carry on the housekeeping activities; but when such a building is not available, an ordinary dwelling house may be made to serve. If the necessary equipment cannot be borrowed from the domestic-science department of some school, the importance of the work justifies

the province in making the expenditure for such supplies. Later these can be stored for similar use in future years, or they can be made a part of the equipment in some school within the jurisdiction of the province.

The materials needed should be furnished by the province, or the expense should be shared equally by the municipalities represented. The time for instruction is so short that teachers should not be burdened with the raising of funds to carry on the work; but if absolutely necessary, money may be raised by donations, fees, food sales, and entertainments. All equipment and neces-



Measuring dry ingredients in the cooking class of the Leyte High School, Tacloban, Leyte.

sary supplies should be ready for use on the opening day of the institute.

Since the effective teaching of housekeeping implies much individual instruction, efficient work can be done only in classes where the enrollment is limited. A class of twelve is interesting and can be managed easily by one instructor; the number should never exceed fifteen. The knowledge gained through actual work in this course is of so much value, that the organizing of practice classes of grade pupils for observation would seem scarcely necessary.

The early morning hours are best adapted to housework, and

the first four periods of the program for the day may well be devoted to it; in which case the teachers may come to the class appropriately dressed for work, and thereby save time.

Cooking is of such a nature that most of the housekeeping activities grow out of it, and it seems fitting that this subject should be selected as the basis for the housekeeping lessons in the institute and in the schools. Sweeping and dusting, ventilation, the selection of materials and the making of household linens, the proper use of the washbasin, the boiling of water, the washing of dishes, the use and care of equipment, setting the



The thrifty housewife fashions the garments for her family while she waits for the kettle to boil.

table and serving, the storage of food, the extermination of household pests, and laundry work, are all correlated with cooking. Every cooking lesson properly taught, is a lesson in sanitation, and frequently careless, or unfortunate members of the class become subjects for demonstrations of first aid to the injured when they require treatment for burns, cuts, bruises, the removal of foreign particles from the eye, or fainting. As a character-builder, the study of cooking takes high rank. Unselfishness, punctuality, accuracy, neatness and order, are qualities necessary to the successful cook.

The influence of cooking and household methods as taught in

the schools often fails to reach the home, for lack of equipment. The pleasure to be derived from the ownership of proper utensils would lead many an otherwise indifferent girl to put her knowledge into practical use. Sometimes she is willing and able to buy equipment, but she does not know how or where to get it. In this matter, the instructor may give valuable aid to teachers through the use of catalogues and price lists; or better still, she may get some firm to detail to the institute a representative with an exhibit of kitchen furnishings and cooking utensils.



Soap making by the cold process, High School, Tacloban, Leyte.

The subject of home decoration furnishes material for interesting lessons, and the teachers will take pride in working out decorative schemes, with well-selected pictures, simple yet appropriate draperies, and ornamental plants.

The wide-awake teacher of housekeeping has excellent opportunities for keeping girls under the influence of the school for a longer period of years than is common at present, and she may devise plans for getting well-selected books, magazines and newspapers into the homes of the people.

With the cooperation of the Bureau of Health, the services of a provincial doctor or of a graduate nurse may be secured to place a health exhibit at the disposition of the teachers, and to

give practical demonstrations in the prevention and treatment of disease, and in the care of children.

Round-table discussions of home problems held as often as once a week will prove beneficial, especially to beginning teachers. A well-kept notebook containing helpful suggestions, tested recipes, and information on securing necessities for the home, will furnish the teacher with valuable reference matter. With the knowledge gained through suggestions and practical work, the teacher of housekeeping should leave the normal institute with loftier ideals and with a renewed determination to do her full duty.

GARDENING AND SCHOOL-GROUND IMPROVEMENT.

By GILBERT S. PEREZ.

The value of gardening and school-ground improvement in barrio and central schools will be determined largely by the attitude of the teacher. If these courses have been presented to him in the best possible manner in the normal institutes, he will return to his school eager to have his classes excel in the work of caring for growing things and beautifying buildings and premises. Instead of being an extra burden in an already crowded program, the school-ground improvement and gardening periods will be a time of physical activity and mental rest, and they will be anticipated with pleasure by teacher and pupils.

Gardening in the primary school is not a textbook course. It is essentially a subject for field and laboratory. The less time spent on textbooks and the more time spent out of doors, the better will be the results. The average garden teacher is familiar with the contents of Bulletins Nos. 31 and 37 before coming to the institute or assembly. What he needs is not more theory, but more experience in field work and in seed germination; more practice in the methods of teaching what he has already learned from bulletins and textbooks, more instruction in methods of making gardening a thing of vital interest to the school and to the community.

As one of the purposes of the gardening course in the institutes is to develop the active and creative instincts of the teachers rather than the reflective and receptive, the person in charge of the classes should be temperamentally fitted to bring out these qualities. It is comparatively easy to find an instructor who can follow all outlines and who can lay out the gardens and lawns in the most exact dimensions; but it is more difficult to find one who can cultivate powers of observation, give the teachers an insight into the methods of acquiring information,

and demonstrate the reason for either failure or success. The ideal instructor should not only know how to make a garden, but he should know how to make things grow; he should be able to connect the work in gardening with real life so as to instill in the minds of the teachers a love and respect for agriculture, a better understanding of the laws of nature, and a greater appreciation of its beauties. Above all, he must not be afraid of the soil: one who says that he likes to teach agriculture but that he hates to put his hands into the mud, is unfit for the work. The instructor in charge of school-ground improvement should have a certain amount of artistic ability, but it is more



Such a school garden as this at Nain, Cavite, would serve well as a model at a normal institute.

essential that he be a man with an eye for order and cleanliness.

It is a mistake to enroll only men in the gardening classes. In a number of schools, both barrio and central, there are none but women teachers to direct gardening as well as other industrial work; and some of the best barrio gardens are those under their supervision.

It would be a good plan to divide the institute work in gardening and school-ground improvement into three parts giving weight to each as follows: Field work, 75 per cent; laboratory work, 15 per cent; and conferences, 10 per cent. The lectures and recitations may very well be done away with entirely, as it requires an exceptionally well-trained teacher to hold the interest of these classes for two successive periods of 45 minutes each.

But it is easy to secure the interest of all in the field, in the laboratory, and in the conferences, where each teacher has an opportunity to tell his experiences and to ask for suggestions concerning the solution of problems which are peculiar to his province or town. Some of the best ideas on school-ground improvement, advanced in the assembly at Manila during the past three years were the result of suggestions made in such conferences. Conditions vary so much in different sections of the Islands that any instruction that is purely theoretical not only fails to satisfy the requirements of the average primary-school teacher, but even hinders efficient work by inducing attempts at projects which are impossible in many districts.

The success of gardening, as of all other courses in normal institutes, depends considerably upon the amount of time spent in outlining the work. All plans should have been made during the first part of January. The circular for the 1916 normal institute in Bohol contained a complete schedule of classes, and a map of the institute grounds, showing exact positions of buildings, gardens and athletic fields. From it the instructor knew beforehand exactly in what kind of soil the garden was to be made and what special provision he would have to make for equipment.

The following materials should be ready on the opening day of the institute: Sufficient nipa or cogon for constructing the roofs of the seed house, rest house and model outhouse; enough bamboo and rattan for 16 meters of bamboo fence and the frameworks of the seed house and the model building; sufficient nails for making seed boxes, tables and floors; 350 linear feet of 1 by 6 inch lumber, and 72 linear feet of 2 by 4 inch lumber for seed tables, molds for concrete posts, and the floor of the model outhouse; two dozen good sharp bolos; garden tools needed for the preparation of model school gardens; carpenter tools; 6 empty petroleum cases with covers, for seed boxes; 1 cubic meter of gravel for walks and posts; 1 barrel of cement; 12 pieces of reënforcing iron, each about 2.35 meters in length for making concrete posts; 1 bundle of 0.5 millimeter wire; 1 cubic meter of sand for the walks and posts; 10 meters or more of standard woven wire fencing. A tract of land 15 by 20 meters in area should be reserved for the model central-school garden; a plot 20 meters square for two home gardens; a plot 12 by 16 meters for two outhouse grounds.

The following will be needed for experimental and laboratory work: Ten ears of corn for exercises in corn selection; 4 or 5 bundles of different kinds of rice for rice selection; 2 dozen

empty tomato cans; a few empty baking-powder or milk cans; a lot of small bottles; a collection of typical soils; 4 small lamp chimneys; iodine, saltpeter, soda, ammonia, caustic potash, denatured alcohol, litmus paper and potassium chlorate for starch, protein, oxygen, and nitrogen tests. The expenses for material and equipment in gardening and school-ground improvement should be borne by the people of the municipality in which a normal institute meets.

It is desirable to hold the institutes in a building and on grounds as much as possible like those of the average primary school. The use of the entire school plant should be given to the teachers, the intermediate pupils being housed in separate buildings during the four weeks. In Loay, the entire school plant was turned over to the principal of the institute to be used as a laboratory and not merely as a place to accommodate classes. This enabled the teachers in methods so to arrange the furniture and pictures that the classrooms became object lessons for the whole teaching body. There was a separate building in which first and third grade model classes were held. Back of this schoolhouse, the barrio teachers in the gardening classes laid out and planted a standard-sized barrio garden and two home gardens; they also built a sanitary outhouse of bamboo. Central-school teachers worked on the central-school garden and grounds. The work given to all was exactly such as they would have to undertake at the close of the normal institute.

The teacher comes to the institute to learn methods, and not to receive instruction in the higher branches of agriculture. Such high-sounding and difficult words as "capillarity," and "productivity" should be reduced to their simplest terms so that they may be understood by all. This applies particularly to explanations in the case of laboratory work during rainy days. It may be best not to use the expression "laboratory work," but to speak of "experimental work," as some may interpret the former to mean difficult investigation in a large laboratory. The statement that the class "will now see how different soils drink different amounts of water," will convey infinitely more meaning than the announcement of "an experiment showing the porosity of the soil." The terms "rich," "poor," "sour," and "thirsty" as applied to soil, are just as effective as "fertility," "sterility," "acidity," and "porosity." Good work in gardening and school-ground improvement awakens the boys and girls to the knowledge that they are members of a community, and that they should do their share toward improving the appearance of the locality in which they live.

It is sometimes said that considerable time is wasted by primary pupils during their gardening period. In a few schools this is true, and the trouble can usually be traced to unsatisfactory normal institute training. During the first part of the year when the pupils are preparing the soil and building or repairing the garden fences, they are usually busy throughout the period; but after the plants have begun to grow and there is less need of labor, considerable time is lost. This can be remedied by giving the teachers at the institutes more experimental work; also weather observation and plant and insect surveys.

The experiments should be conducted in the rest house or in the seed-bed house. This work may consist of tests for protein and acidity of the soil, seed selection, seed testing, and simple soil analysis. If a teacher has a series of such experiments with which to vary the garden work, he will be able to sustain the interest of the pupils, and to keep them busy at all times.

For weather observation only a thermometer and a barometer need be purchased. A rain gauge and a weather vane can be made by pupils. The former need not be standard and can easily be put together from a piece of bamboo about 10 centimeters in diameter, another piece about 2.5 centimeters in diameter, and a tin funnel. A weather chart can be drawn, and four or five pupils should be assigned to make the entries.

Plant and insect surveys in the vicinity of the school garden would add to the attractiveness of the work. A summary showing the varieties of weeds found by different groups of pupils, and the total number found by all of the groups, would be helpful and interesting. The same plan could be followed with reference to insects. It would not be necessary to use any except native names. A list of the birds found near the garden might be made, and their value as allies of man in the extermination of insects, should be made clear.

The marked improvement in academic classes during the past three years is largely attributable to the benefit gained by teachers from observing practice classes in assemblies and institutes. The application of these methods to gardening and school-ground improvement at normal institutes would bring about equally good results.

BOBBIN LACE.

By Miss VICTORIA CIUDADANO, Assistant Division Industrial Supervisor, Batangas.

Division normal institutes are in session for only four weeks and as this does not allow more than twenty recitations in lace

making, it is almost impossible to make the class in this subject beneficial and productive unless the instructor and the teachers enrolled cooperate most heartily. Qualities needed to make the instructor's work successful are a strong personality, great executive ability, a pleasant disposition and a readiness to help.

Since there are forty-eight lace patterns, excluding those for the eleven exercises in basic stitches shown on lace sheet No. 5511, it would not seem wise to attempt teaching them all. To plan her work properly, the instructor should find out which patterns the Bureau considers to be in greatest commercial demand, and for what articles orders may be placed in the division. Giving preference to these, she should pick out at least eight advanced patterns if she is to teach advanced classes, or she should select the same number of elementary patterns, in addition to the eleven exercises on basic stitches if she is to conduct elementary classes. Then all her efforts should be directed toward making the work conform with the Bureau of Education models and patterns studied at the vacation assembly. All models should be made by the instructor in order that she may acquire confidence in her own ability to carry out any of the patterns.

Those enrolling in division normal institutes should come determined to make the most of the opportunity offered, in order to lay a strong foundation for their whole year's work. After having received the initial instructions and having witnessed the demonstration on the first day, in order to economize time, the teachers should do the following work outside of school hours; prepare bobbins, perforate patterns and work out such parts of them as may be possible without help. If they weave each pattern with the minimum of aid from the instructor, they will be the better able to teach the subject to their pupils.

All materials needed to make the required models should be bought beforehand and kept ready for distribution at the opening of the institute. The threads should be of the counts specified on the lace sheet.

The equipment should be supplied partly by the school and partly by the teachers enrolled. The school or the instructor should furnish a folder of lace models, outlines, complete sets of all the patterns to be introduced already mounted on cardboard, folders to mount samples on, wrapping paper, and some extra lace sheets. The instructor should be sure that the models to be copied by the class are absolutely correct, and that they have a uniform length of about 10 centimeters and contain at least one complete unit of the design. Every model should bear information as to the proper count, the number of bobbins, the

names of the lace stitches, and the design number and letter, if any. Each teacher should bring with her a pillow of the size, shape and color specified, 50 pairs of standard bobbins, a fine perforator, a pair of scissors, a metric measure, a towel, and a notebook.

There is nothing that delays the work in lace-making classes so much as teachers reporting with incomplete equipment. To avoid this trouble the supervisors should check the outfits of the teachers recommended, to see that they bring with them the articles specified in the division normal institute circular.

The space occupied by the class ought to be large enough so



How a well-organized and well-equipped bobbin-lace class should appear at the opening of the normal institute.

that the instructor can permit the workers to change their places in order to secure better light or more comfortable positions. The room should be well ventilated and the light neither dim nor very strong. Curtains ought to be placed at the windows to regulate the light and to give a homelike appearance. There ought to be a washstand, washbasins, soap, a pitcher of water, racks or nails for hanging up pillows, working tables, and chairs or comfortable desks.

The expenses for lace materials and for part of the equipment, should be paid from the normal institute fund whether appropriated by the provincial board or accumulated from matriculation fees.

The methods of teaching lace making in the normal institute

should be different from those used in ordinary schools. The enrollment in a class should be not more than eight, the instruction being individual so that each teacher may receive the utmost benefit. In ordinary school work, after obtaining a thorough knowledge of the basic stitches, a girl can at once be set to work on a pattern which she is to make throughout the year; while at the normal institute, the instructor has to start every teacher on at least eight different patterns during the four weeks. In order to accomplish this she must lose no time in giving necessary aid and correcting errors. To facilitate the work, the instructor should require teachers to take up the patterns according to their sequence in the plan for the lessons,



A model lace-making class. All busy; uniform equipment; correct methods.

and in issuing them she ought to call attention to the parts on which mistakes are most likely to be made.

That time may be spent to the best advantage, the first ten minutes of the recitation period should be devoted to an inspection of whatever work may have been done since the last recitation period and to the distribution of materials. The next five minutes should be occupied with a discussion of the names of lace stitches, and matters connected with materials and equipment. The rest of the time ought to be spent in actual work. During the last five minutes the instructor, without disturbing the whole class, should inspect each teacher's work so as to determine whether the weaving will have to be continued or whether the thread can be cut and materials for the next pattern prepared. In bobbin lace classes it is very necessary to give

definite assignments for each day's lessons, otherwise not only time but also materials may be wasted.

The instructor should require every teacher to continue on one design until she can weave it independently, and until she has completed 10 centimeters correctly. Defective models should be destroyed. It is worse for a teacher to carry home wrong models and introduce them into a school than it is for her to have none at all.

Practice classes are as necessary in presenting this work at normal institutes as they are in academic subjects. By means of these, the best methods in the teaching of bobbin lace may be demonstrated. Economy of material, time and energy, and the securing of excellent workmanship should be the principal aims in the conduct of a model class. The following points should be emphasized: The orderly marching of pupils to and from their seats in getting their materials or pillows; arrangement of pupils in correct positions with relation to the light; training girls to weave by using only the forearm and wrist movements so as to avoid useless motion; the best way to keep the class quiet and busy during the industrial period; and proper methods of keeping work firm, white and clean. The teachers observing should be required to hand in written criticisms, and afterwards they should discuss the management of the class.

BASKETRY.

By BENJAMIN F. BENNINGTON, Division Industrial Supervisor, Cebu.

For the best results, it is frequently advisable to have at least two instructors in charge of each class in basketry; one should keep the attendance and other records, while the other should be free to devote his entire time to individuals of the class. Great care should be exercised in selecting the instructors. Many teachers are able to make baskets themselves, but fail in showing others how to do the work. In general, the teacher who is able to turn out from his school a large number of first-class baskets will make a success of basketry at the normal institute. Attendance at the vacation assembly should be required of all who expect to act as instructors at institutes.

The number in each class should not exceed twenty. What teachers are to be enrolled and the kind of basket each of them is to make, should be determined in advance by the industrial supervisor or the division superintendent.

It is generally considered more satisfactory for the normal institute to furnish all raw materials and for teachers to prepare

them under the supervision of the instructors, than it is for teachers to supply finished materials from home. The output of the class will be greater if previously prepared materials are brought, but the quality may not be so good, as it will be more difficult to make articles of the same design uniform. Teachers are also more likely to request a change in assignment when materials from home are required, as they often fail to provide these.

A blue print and a form supplied to each teacher will often prevent delay and thus have a tendency to bring about greater efficiency. When the low cost of this additional equipment is compared with the greater results attainable by its use, it will be readily seen that it is false economy to try to get along without it. In normal institute work the study of the blue print to the point of understanding it perfectly, is considered almost as valuable as the actual making of a basket. The teacher who has mastered one blue print and is able to follow the directions which it bears, will have little difficulty in making articles without the aid of models from any blue print which he will have occasion to use in school work. A careful study of blue prints will prove especially valuable in those cases where it is likely to become necessary to change the work of a school during the year. Model baskets are valuable, but they should not be used to the exclusion of blue prints. It should be realized that the model and the blue print are complementary, the one of the other.

The holding of practice classes in basketry is perhaps not so necessary at normal institutes as at the vacation assembly where only the best qualified teachers, who are frequently already familiar with the technic, are to be found. But since so many teachers at the institutes lack the necessary technical knowledge of basketry, it is considered best for the instructor in most cases to confine his attention wholly to teaching the making of baskets, and to allowing the student teachers to gather such ideas as they may regarding methods, from the way in which the instructor handles the class at the institute. Wherever it seems inadvisable to hold practice classes in basketry it is evidently all the more necessary that the class be as nearly a model in the matter of methods, materials, equipment and order, as careful planning and supervision can make it.

A daily period of not more than 120 minutes should be quite sufficient for the basketry work at an institute. Some teachers will be able to finish the required work in a shorter period, but many will need the entire time. If all plans are properly matured it should be possible for each teacher while at the

institute, to complete at least one of the more difficult or two of the easier baskets of Bureau of Education design.

EMBROIDERY.

By G. GLENN LYMAN, Principal, Industrial Department, Philippine Normal School.

The success of embroidery classes at division normal institutes depends upon the thoroughness with which preparations are made before the date of opening. One of the first things to be considered when planning for the work is the rooms that are to be occupied. Those selected should be well ventilated and lighted; but the direct rays of the sun should not enter. Other industrial work ought not to be carried on where embroidery classes are in session.

The equipment provided must be suitable. Ordinary school desks are not to be used unless it is absolutely impossible to secure better seats. Chairs or stools should be of different heights to suit individual workers. The following should be provided: Rigid racks on which to rest the work, and substantial embroidery frames for large articles; at least one large table for stamping designs, and a case with drawers in which to store supplies and finished work; several washbasins with plenty of clean water and ivory soap; a can of talcum powder for preventing excessive perspiration of the hands; a flatiron and a small tub for laundering. A sewing machine is a requisite where garments are to be made up.

Each teacher assigned to embroidery should be definitely informed several months previous to the time of the institute as to just what supplies she will be expected to bring. Ordinarily she should furnish a standard embroidery frame made of smooth straight pieces of wood other than bamboo, crossed at the corners and joined with half-lap joints; four sticks for fastening work in the frame, these being long enough to rest against the sides of the frames; a tape measure preferably graduated in both metric and English scales; a thimble that fits; a pair of sharp-pointed embroidery scissors; an emery bag; a stiletto; an individual towel; and a notebook.

Materials should be furnished by the province or purchased with funds obtained from fees. The most unsatisfactory method is to require teachers to supply them. The goods and equipment needed will depend upon the number of teachers enrolled, the designs and articles prescribed for the division, and the general advancement of the class. Needles, embroidery thread, and material for samplers, ought generally to be supplied by the

institute. Other necessary articles may be obtained by the teachers themselves. In many cases it will be found advisable to keep a small quantity of standard embroidery materials for sale. The goods for samplers should be purchased early and hem-stitched some time beforehand.

The most competent embroidery teacher in the division should be placed in charge of the work at the normal institute. She ought by all means to attend the vacation assembly at Manila in order to be thoroughly conversant with everything new in styles, methods, and interpretation of Bureau of Education designs. She should be given enough assistants so that there will not be more than ten girls working in any one group.

The methods of instruction will depend upon the degree of skill that the teachers have previously acquired, the difficulty of the articles to be made, and the output expected by the General Office. If a majority of those enrolled are beginners, ordinary classroom methods will be best; but if experienced, they may be assigned to work on designs which are to be taught during the coming school year. Enough should be done on each article to impress a correct idea of all stitches used. The materials should be those prescribed by the Bureau of Education, and every piece started ought to be finished later, so that it may be used as an example.

One or two model classes conducted by successful teachers of embroidery for a few periods each day, will help materially in preparing new teachers for good work in their own schools. Particular attention should be given to order, system, neatness, discipline and correct methods of instruction.

In embroidery classes the chairs or stools and racks should be of such height that pupils will find it inconvenient to get their eyes too close to their work while maintaining a comfortable position. The supplies and individual equipment should be uniform.

Pupils should pass and be seated, and materials should be given out and collected in an orderly manner. Time will be saved if work is distributed before the class enters the room. Girls at the same assignments should be seated together. At the close of the period all embroidery should be covered on both sides with clean paper, and put away. Needles and pins ought to be carefully removed from the work and placed in the binding before frames are collected. These should be carefully piled on tables or suspended from hooks when the class is not in session.

Neatness is of the utmost importance. Just before the beginning of a session each pupil should wash and wipe her hands

quickly and quietly and hang up the towel. The work must be kept clean, and bits of thread, cloth, and paper, should be deposited in wastebaskets and not thrown on the floor. Unless pupils are required to keep the embroidery room tidy at all times, a splendid opportunity to encourage orderly habits is lost.

Discipline is just as necessary in industrial as in academic work; but because of the difference in the character of the instruction, it is not advisable to maintain exactly the same standard of deportment in an embroidery class as obtains in a well ordered academic class. The pupils should be allowed to relax and even to talk or sing softly so long as they keep busy. This does not mean that they may be permitted to become noisy, leave seats without permission, neglect work, or interfere with their companions.

Before giving any instruction, the teacher should see that all supplies are on hand; that the work is properly laid out; that each girl has the individual equipment required; that the pupils' hands are clean; and that the class is attentive. Models should be placed where they may be readily inspected by all, and the teacher should encourage pupils to bring their work to her whenever they meet with difficulties. The instructor must ever be on the alert to correct mistakes. When starting a new exercise, especially in elementary work, it will often be found advisable to let the more apt pupils assist those who are backward. Sometimes if difficult exercises and motifs are partially worked out on coarse cloth with colored thread of two or three times the size required in the perforation, the girls will learn more quickly than with only finished motifs to serve as models. Designs ought to be transferred under the immediate supervision of the teacher, and bluing should be used instead of stamping compounds containing wax or tallow. Much work is ruined through carelessness in stamping, and this should be guarded against.

Teachers of embroidery both at institutes and in regular school work, should understand that careful planning must be followed up with painstaking effort; that attention to detail is essential; and that success depends upon their ability to apply to embroidery the pedagogical principles that underlie all instruction.

PLAIN SEWING.

By Miss MYRTLE COOK, Teacher of Sewing, Philippine Normal School.

Many girls who take up teaching come from schools that do not offer special courses in housekeeping, and for this reason

normal institutes are giving them the training that they lack in such domestic arts as sewing.

An instructor in sewing should have a very definite outline prepared for her classes before the opening of the institute. She should also provide patterns and a representative model of each garment to be made. If they are to be had, other styles of the same garment will be found helpful in making suggestions. The materials may be furnished either by the student taking the course or by the school. If it is possible for the girls to furnish their own goods, the instructor has a better opportunity to explain the kind of materials best suited to the particular garment, and the girls have a better chance to apply the information.

The classes should not be large. No teacher can successfully handle more than eighteen girls; and the ordinary room used for sewing does not provide space for a greater number. Fifteen is an ideal number for a class in sewing. The sections should be of such a size that the instructor can carefully inspect each girl's work daily, and so give the necessary individual attention. Then, too, when garments are being fitted in a large class, some girls are sure to lose time while awaiting their turn.

A properly equipped sewing room should have at least one long cutting table and smaller sewing tables, the number necessarily depending upon the size of the class; sewing machines, preferably foot power; drawers or lockers where each may put away her work; comfortable chairs, a stationary washstand, washbasins, towels; a properly equipped fitting room; an ironing board and flatiron, meter sticks, two or three pairs of scissors, tape measures, tracing wheels, a skirt marker or two; some well-chosen books and magazines on sewing and textiles. A small basket or two on each sewing table will be found quite useful for holding waste ends of thread and scraps of cloth which might otherwise litter the floor.

The cutting table will vary in length with the dimensions of the room; but a convenient size is 4.26 meters long, 1.21 meters wide and 91 centimeters high. The sewing tables should be lower; about 76 centimeters is the right height for the average worker. They may be short enough so that six girls can work around each, or long enough to be used for cutting when more space is needed. A saving of room is made possible by fitting the sewing tables with drawers at the ends and one on each side, and the cutting table with twelve on each side. Tracing boards made to slide above the drawers will be found useful. A sewing machine will be needed for every four girls. It should be one of simple mechanism for which repairs can easily be ob-

tained. A supply case should be provided for the teacher, and it is absolutely necessary that each girl have some sort of locker where her work may be kept clean and safe.

One corner of the sewing room may be inclosed for use as a fitting room, the walls of which need not extend above the floor for more than two and a half meters. Screens may be used when nothing better can be secured, but these are not entirely satisfactory. This room should contain a full length mirror, a triplicate mirror being the best; a fitting platform about 76 centimeters square; also a small stool for the one who is turning the bottom of a skirt. The equipment for the sewing room should be provided for in the same manner as is all the



A part of the sewing room at the Philippine Normal School.

other equipment for the school, and a small fund should also be set aside for the purchase of sewing needles, pins, machine needles and oil.

The methods of teaching sewing at institutes should differ very little from those in use by the best industrial teachers in any school. One conducting the class in sewing must present the subject in such a way that the teachers in turn will be able to present it. A class of teachers should be taught to recognize the limitations of the girls in the different grades, but they should also be able to give them more advanced instruction whenever they are qualified to receive it. If the teachers attending the institute have done a great deal of careful sewing, and if they have the principles well in mind, then the instruction may be much broader in character; but if their early training

has been neglected, they must go back to get the fundamentals before they take up the more advanced steps. The garments which the teachers make for themselves should be fitted to them before the class, the instructor seeing to it that the work is done properly. When making children's garments the girls can easily bring younger brothers and sisters from home and fit the garments to them.

A normal institute class will have time, perhaps, to make only a small model of a certain seam, this to be used by each teacher merely to show how it should be formed. For practice a sewing class in a municipal school may make the same seam on a waste piece of cloth before applying it to a garment. Instruction should be so given that short methods which may be used at the institute on account of the briefness of the time allowed, will not be used in place of the ordinary method when the teachers take up work with their regular classes. A normal institute sewing class will of necessity have to do much outside work.

Practice classes should be conducted as model classes or little will be accomplished, since there will be time for only about twenty recitations during the entire institute.

A daily period of not less than eighty minutes should be devoted to sewing; if less time is allotted, too much of the period will be lost in putting away the work and dismissing. If sewing is not given an equal weight with other subjects, the teachers will not take the interest in the course which they should. The equipment should be so abundant and kept in such perfect order, that the fewest moments will be lost by girls in waiting on each other. There ought to be time sufficient not only for doing the actual sewing, but for a certain amount of lecture work on textiles.

ELEMENTARY HAND WEAVING IN PAMPANGA.

By J. A. ROBBINS, Division Industrial Supervisor, Pampanga.

The elementary hand-weaving course at the Pampanga division normal institute consisted principally of work in hard strips in which lapat was used. The instructor in charge of the class was sent to Manila to attend the vacation assembly where she took the course as a preparation for her work at the normal institute. Her grade at the vacation assembly was 99 per cent.

As a further preparation, two teachers were detailed to have a quantity of lapat on hand at the opening of school so that the work could be started on the first day of the institute. Also, before the teachers arrived at the school building on the first day,

they knew that they were to take the course, and they came prepared. Each one was required to provide himself with a sharp knife and a metric measure.

Those assigned to the course were to teach in barrios and in the first grades of central schools, where they would have to handle the subject in their own classes. Over 100 were enrolled. The instructor in charge kept a daily class record of attendance, and each evening this was submitted to the principal of the institute. Regular attendance was insisted upon, and all teachers who came tardy were required to present to the instructor an excuse signed by the principal before they were allowed to enter the class.

The work was conducted in the same manner as in a class in a regular school. Special emphasis was placed upon order with respect to the care of materials and the seating of pupils. Equal weights were given the various industrial courses. The hard strips class was taught with the same care as were the classes in lace making, basketry, or of any of the other courses.

For the greater part of the work, the lapat was purchased already prepared. This was considered necessary, as the institute was in session for only four weeks—too short a time for the class to prepare material. But the instructions given in the preparation of the lapat were so definite, that many of the teachers, with the help of pupils, are now able to prepare their own materials. The hard strips course was completed by the entire class during the four weeks. The exercises for the whole class were uniform in color and workmanship.

The advisability of holding practice classes in all industrial courses has received consideration. Where the class in hard strips can be kept to an enrollment of forty, it would be of benefit to give practice lessons in teaching. Where the number is larger, it is doubtful if the benefit the teacher receives from such work equals the advantage to be derived from doing the exercises himself.

Where possible, it is believed best to have practice classes in both academic and industrial subjects, in a separate building near the one in which the institute is being held. The teachers of industrial subjects might be assigned to observation at least once or twice each week and occasionally given actual practice in teaching.

The industrial work of the normal institute consists to such an extent of instruction in new designs that are assigned to the schools for the ensuing year, that only a part of the sessions can be devoted to practice classes. Nor would it seem so necessary

to have daily practice classes for industrial courses as for academic work, since the methods of obtaining the coöperation of pupils are the same for academic and industrial subjects. An occasional practice class would be of great assistance in demonstrating the best manner of conducting industrial classes.

The matter of financing the various courses of the division normal institute is of importance, especially when no aid comes from the province as was the case in Pampanga. A matriculation fee of ₱1 was charged each teacher enrolled. This was not sufficient to meet the expenses of the institute, and it was decided to charge the cost of the various samplers made, to the pupils' funds of the schools where they were to be used. In this manner, every school from which a teacher was assigned to the hard strips course, received a sampler for its own use.

INDIGO PRODUCTION.

From the Apparel Criterion (Seattle) it is learned that the total area of indigo planted in India during the past year is something over 135,000 hectares. "The plant is grown either on light red soils in tracts which receive an ample rainfall or on somewhat richer soils which obtain water from wells. It is also found as a 'catch' crop on rice lands after the rice harvest is over."

The process of extracting the indigo is seen to be practically the same as that in use in the Philippines. "The plant is tightly packed the day it is cut, in a large vat, into which water is run, and boards are then placed over the top and are kept in position by heavy crossbeams. The plant is allowed to soak for ten or twelve hours, during which time a heavy fermentation takes place. The liquid is then drained off into another vat, after which coolies beat and stir the soaked mass thoroughly with flails until the dye begins to emerge. The whole is then allowed to settle; the clear liquid is drained off, and the residue is boiled in copper vessels. It is then pressed into hard cakes ready for the market."

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Dealers in America say that the mounts for valenciennes lace in use here are very satisfactory for 6-yard lengths, but that for 12-yard lengths they should be twice as wide. Pieces of white paper should be pasted across the mounts at about 1 inch from each end.

RELATED SUBJECTS.

KEEPING UP TEACHERS' ATTAINMENTS.

By ANDREW W. GAIN, Division Superintendent of Schools, Pangasinan.

Every year a considerable percentage of teachers leave the service, and their places are taken by new appointees who often have not had the advantages of any special training. Nothing can put them in touch and in sympathy with their new duties so quickly as attendance at a normal institute. Here they see industrial materials prepared, articles in various stages of completion, modes of organizing work, devices used, and methods of instruction which should be employed. More than all, perhaps, they catch the spirit of the work and go out from the institute determined to succeed. Without the instruction and the inspiration received from the normal institute, the new teacher finds himself greatly handicapped.

The standard of work in the public schools is being raised so rapidly that teachers must make substantial advancement. Those who began the work with thorough training have but little trouble in meeting all requirements; but there are many good teachers who entered the service with low attainments, and who have been compelled to give constant attention to their professional growth in order not to be crowded out by younger and better-trained applicants. Without the normal institute, this class of teachers would soon be lost to the service.

There must necessarily be frequent changes in designs for industrial articles, with resulting modifications in appliances and methods of work. Even the best-trained teachers must make efforts to keep up their preparation. As the normal institute gives a resumé of that which is most essential in industrial work, it is unequalled as a means of affording instruction in new subject matter in its relation to what has been previously learned.

A mistake is often made in review work by assuming that it is a hasty skimming over of subject matter that is already partially but imperfectly understood. A review should be based on actual weakness as previously determined, and should seek to remedy certain defects in knowledge or in teaching; the case should first be diagnosed, and then treatment should be applied

according to the diagnosis. Teachers who are all-around inefficient should be given up as hopeless cases, and better applicants should be secured to take their places.

The course of each teacher should be so definitely prescribed beforehand that he will reach the institute with materials prepared and equipment ready to begin work on a moment's notice. His assignment card and classification should be complete in order that he may be ushered into the classroom at once, and that he may begin work in the first period of the first day.

In addition to the courses usually given in the institutes, there should be special classes in efficiency for the purpose of giving instruction in time-saving devices and methods. A great deal of time is lost through the dawdling of pupils and the easy-going methods of certain teachers. It is stated that in the United States the capacity of bricklayers has been increased sixfold by the application of efficiency methods; and it is believed that results almost as remarkable may be secured by special attention to devices, to methods of work, and to speed in certain industrial subjects, such as handweaving and basketry.

In connection with the classes in general methods, every institute should maintain at least one model classroom. This room should be visited frequently by teachers in order that they may form correct conceptions as to the arrangement, appearance, and work of a model schoolroom.

Institutes should be held in places that are centrally located, easy of access, and large enough to accommodate the visiting teachers; they should be provided with adequate buildings, gardens, and playgrounds. If there are several such places in the division, it is not a bad plan to hold the institute at different places in different years. Such an arrangement adds novelty to the work and carries the good influence of the institute into more than one community.

It would doubtless be of great benefit to the teachers to hold a general conference during the last week of the institute. The open sessions for general discussions might be scheduled for the evening when everybody could attend, and the sectional conferences for supervising teachers, for principals, for primary teachers, for industrial teachers, and so on, could be arranged for such hours as would not interfere with the regular class work. These conferences would reverse the pouring-in process which is so commonly practiced in class instruction and would enable the teacher to present some of his ideas.

During the inspection trips over the division, the superin-

tendent and the industrial supervisor may hold round-table conferences with the teachers in each municipality and thereby accomplish a great deal of good, as the problems of the immediate locality can be considered in a concrete way and at a time when they are pressing for solution. This practice is followed with excellent results in the division of Pangasinan.

The weekly or biweekly meetings, conducted by the supervisor, afford constant help to the teachers while they are engaged in their work. It is believed that these meetings are indispensable in any district that aims at the highest efficiency. However, it is not believed that they can or should take the place of the normal institute, but rather that they should supplement and extend the work of the institute.

SOCIAL FEATURES OF THE NORMAL INSTITUTE.

By L. P. WILLIS, Acting Division Superintendent of Schools, Oriental Negros.

The program for a normal institute should make suitable provision for social activities. "The schools should give right habits, methods, and ideals," says W. H. P. Faunce; "if we educate the man for the job and for the job alone, there will be one set of men to work with their hands and another set of men to work with their brains. This is a condition that no * * * community should tolerate. It means the permanent stratification of society. I want to educate the man for his life as well as for his living." Every effort should be made to develop a capacity for the appreciation of the beautiful in art, literature, and life. When teachers go back to their schools from the normal institute, they should carry with them a resolution to do better work. They should have a deeper understanding of the joy which comes to a person who feels that his labors will be of some real service.

Arrangements should be made sufficiently ahead of time, to permit a general program of social activities to be published in the division circular which announces the plan for the institute. The success of these features depends greatly upon the individuality of the persons in charge. For this reason it is advisable for the division superintendent to appoint a committee, selected from among the best teachers in the division, to arrange for and look after these affairs.

Good music is an absolute necessity in all normal institutes. There are usually a large number of teachers in any division that play such instruments as the guitar, bandoré, violin, and flute. They should be requested to bring them to the institute,

and to volunteer their services as members of the normal glee club.

The weekly literary program can be best arranged for by having each supervising district, or a certain group of districts, render a program for the week assigned. The teachers of the towns nearest to the place where the institute is in session, should be held responsible for the first entertainment. A special feature, in which teachers have shown great interest, is the "round table discussions." The dance needs little previous announcement to assure its success. Occasions of this nature can be readily organized at any time. But considerable preparation should be made for the entertainment which marks the close of the institute.

Athletic events bring teachers from the various parts of the province together in friendly contests. To provide equipment without extra cost, a request should be included in the institute circular, for all principals to bring with them as much of the athletic equipment of their schools as may be available. Where possible, the normal institute should be provided with an athletic outfit of its own.

The daily opening exercises ought to be made short and snappy and full of interest. The principal should make provision for some entertainment in the nature of a surprise, if possible. Songs of an inspiring nature, solos by good singers, recitations and declamations by members of the institute, and talks by prominent men of the community help to put the teachers in a state of mind conducive to a good day's work.

Many other features have been suggested, such as excursions, bathing parties, moonlight parties on the beach, and children's parties. But whatever the nature of the function, it should ever be kept in mind that the object is the drawing together for a short season of all those teachers who, for the next several months, must be widely separated. It has been said that "social life is the transition from the family to the larger complex life of the world. In the pupil's little school world, he is trained to the forms and habits of life which fit him for the larger social world of which he must soon be a member." In order that the teacher may fit the child for life, he himself must have come in contact with the best that there is to offer in his own world; and a Filipino teacher can find no better opportunity for social improvement than in the normal institute. It therefore is necessary at the division normal institute to surround the teacher with an atmosphere which is conducive to that inspiration which will fit him "for life as well as living."

THE PHILIPPINE CRAFTSMAN
THE 1916 NORMAL INSTITUTES.

Compiled by HORACE E. CUTLER.

According to the estimates of the principals of the various division normal institutes the average efficiency with which the class work was carried on was 86.7 per cent perfect.

One report said that the 1916 normal institute had been pronounced by teachers the most successful ever held, in amount and quality of work accomplished, and in coöperation and good will among teachers, instructors, and officials.

Another said that all teachers got down to work from the very start; there were no grumblers or fault finders; everyone coöperated; and all were out to get the most they could from the practical as well as the recreational side of the institute.

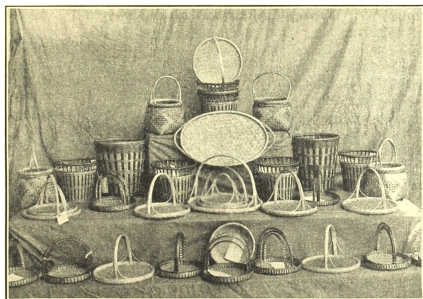
Thirty-nine normal institutes opened for work on June 12, 1916. That of Oriental Negros began two weeks earlier. All of these, with the exception of those indicated below, closed at the expiration of four weeks. Cavite closed at the end of three weeks and Camarines was compelled to close because of cholera on June 26. The enrollment for 3 institutes is not available, but the total enrollment reported from 37 institutes shows a gain over last year of 407, of these 292 being women. Cebu had the largest enrollment, 462.

Ninety-four per cent of those in attendance enrolled on the opening day and 96 per cent remained until the close. The enrollment for Albay, Sorsogon, and Mindoro was completed on the first day. In Bataan, Batangas, Bulacan, Isabela, Mountain, and Romblon the attendance on the closing day was equal to the total enrollment.

There were 951 instructors of whom 68 were American, 882 Filipino, and 1 Chinese. Of this number 629 were men. Last year there were 111 American and 795 Filipino instructors. It can be seen that there was a little better than one instructor for every nine teachers enrolled. Less than 19 per cent of these had not received vacation assembly training. Nearly 49 per cent of the instructors spent part of their time in studying at the institutes. Oriental Negros and Samar each had 6 American instructors. Ten institutes reported none. For the Islands as a whole there was an average of 1 American instructor to 13 Filipino instructors. Pangasinan had the largest number of Filipino instructors, 54, as compared with 48 last year. Of this number 35 were men.

A total of 67 courses were taught throughout the Islands. The average was 27, of which a little less than 18 were industrial. The greatest number of courses taught at any institute was 40, both Batangas and Laguna giving that number. In Cagayan all teachers took 5 academic and 2 industrial courses. The smallest numbers were given by Antique and Palawan, which reported 12 and 16, respectively. The greatest number of strictly industrial courses taught at any institute was 29, given in Laguna. Agusan and Mountain each reported only 11.

The institutes were supported mainly by matriculation fees which ranged from ₱0.10 in Rizal to ₱1.00 in 21 other provinces. Tayabas charged no fee. Fifteen institutes received provincial aid ranging from ₱28.65, in the case of Palawan, to ₱400 in



Photograph by Carl P. Claypool.

Simplicity characterizes baskets made at the 1916 normal institutes.

Occidental Negros. The total expense for 37 institutes was ₱10,132.60, or ₱1.24 per teacher enrolled. Fifty-five per cent of this was raised by matriculation fees. Social events were depended upon in some provinces for good portions of the necessary funds. Iloilo raised ₱54 by a cinematograph benefit. In Batangas the expense per teacher was ₱2.58; in Occidental Negros, ₱2.12; in Davao ₱2.76; and in Ilocos Sur, ₱0.25. The cost per teacher was less than ₱1 in the following divisions:

Albay, Bohol, Cagayan, Camarines, Laguna, Mountain, Oriental Negros, Palawan, Sorsogon, Surigao, and Zambales. A total of ₱2,078.94 in provincial funds was raised in 17 provinces or a little over ₱122 per province. Municipal aid ranging from ₱3.75 in Nueva Vizcaya to ₱67 in Camarines was received by five institutes. Athletic equipments cost ₱4.55 in Agusan and ₱84.95 in Union. Twenty-two institutes spent an average of ₱23.20 for this item. Twenty-four institutes had remaining on hand at the close, from ₱0.03 to ₱164.63.

Last year 21 institutes received provincial aid; 13 charged a matriculation fee of ₱1; the highest average cost per teacher was ₱3; and three divisions reported a complete enrollment on the first day. This year 15 institutes were given aid by the provinces; eight more charged a matriculation fee of ₱1; the highest average cost per teacher was ₱2.76; and again three schools completed their enrollment on the first day. Sorsogon has done this twice.

The average instructor taught 5.4 hours each day, while last year he taught 4.5 hours daily. In Bataan and Pangasinan, instructors were employed 7 hours daily; in Cavite, Union, and Zambales less than 2 hours daily. In Bulacan, Cavite, Mindoro, Oriental Negros, Palawan, Surigao, Zambales, and Romblon, seven or more hours' work was required of teachers daily.

At Magallanes, Sibuyan, where the Romblon institute was held, all Filipino instructors spent part of their time in studying, while in Camarines, Laguna, Sorsogon, Union and Davao, instructors gave their time almost exclusively to teaching.

In Batangas, Nueva Vizcaya, Pampanga, Romblon and Sorsogon, all instructors had been prepared at vacation assemblies, while more than half of Iloilo's instructors, two-thirds of Mindoro's and four-fifths of Surigao's and Davao's had received no vacation assembly training. Last year there was 1 instructor with vacation assembly training to every 16 teachers. This year the average was raised to 1 for every 12 teachers.

The length of periods varied greatly in the different institutes. Some of the greatest variations are given below:

In Mindoro 55 minutes was allowed for all courses except athletics, the periods for which were 40 minutes. In Mountain, for most of the industrial courses, 150-minute periods were allowed.

In cooking, periods ranged from 80 minutes in Oriental Negros to 180 minutes in Pangasinan and Batangas.

In sewing, Rizal gave only 60 minutes to the work for each grade; while the average period was approximately 106 minutes.

The longest period devoted to an industrial subject was 4 hours given to woodworking in Batangas.

In Batangas 6 hours and 25 minutes were devoted to methods of teaching in each grade; in Zambales 55 minutes were devoted to this subject.

Palawan gave 25 minutes to athletics and Tayabas gave 115 minutes.



Photograph by W. Ernest Crowe.

A picnic enjoyed by the teachers attending the division normal institute, Davao.

Bataan gave 15-minute periods to phonics while about 50 minutes was the average time in other provinces.

According to the recommendations of the principals, the 1917 institutes can be improved in the following ways:

Three are in favor of a reduction of the number of courses. Two of those favoring this change were in institutes where courses taught this year numbered 23 and 24, respectively. One was in favor of more courses although 35 were taught this year in his institute.

Early planning, appointment of teachers, and assignment of instructors.

More attention to proper housing of teachers.

Extension of camp plan.

More attention to English.

More stress on methods and phonics.

More provincial financial support.

Holding of institutes in the municipalities offering greatest financial inducements.

Opening institutes a week earlier.

Using of forenoons for academic and afternoons for industrial work.

Holding of frequent round-table meetings.

Having teachers of basketry and hand weaving bring their own materials.

Beginning regular class work on the first day.

Providing of blue prints and designs at least two weeks before the opening.

Assignment of no teacher to more than three subjects.

Outlines for the various courses to be given responsible parties passing through Manila upon return from Baguio.

The forwarding of outlines in time to reach the division industrial supervisor not later than the opening of the vacation assembly.

Allowing teachers proficient in their work to open schools at the time institutes usually begin, in lieu of attendance at institutes.

Exemption of instructors from payment of matriculation fee.

Careful and critical examination by instructors of all notebooks.

Preparation and supply of comprehensive outlines in conversational English and methods of teaching with graded courses in each.

Making the academic supervisor principal.

Teaching of a course in efficiency.

Use of central or high-school garden in order that teachers may get the experience of taking care of a garden already under cultivation.

The teachers from one district of Camarines plan to try camp life at the next institute. Temporary bamboo and nipa shelters, the size of small tents, such as were used at the Baguio assembly, will be erected; a large shelter will be built for dining and social purposes. The construction work will be done by teachers, and it is figured that all expenses will come within the average amount paid by teachers for board and lodging while attending normals, as nipa can be disposed of at small loss at the closing of the camp.

SUMMARY.

Course No.	Name of course.	Institutes in which course was given.	Cost of course per teacher enrolled.		Average cost.	Enrollment.			Average length of period.	Estimated degree of efficiency.
			Highest.	Lowest.		Male.	Female.	Total.		
1A	Elementary embroidery	33	P1.90	P0.09	P0.43	7	576	583	108	90
1B	Advanced embroidery	20	1.90	.09	.36		159	159	114	90
1C	Embroidery on Philippine textiles.	2	.50	.50	.50		15	15	120	90
2A	Elementary bobbin lace	18	2.00	.15	.79	3	254	257	115	88
2B	Advanced bobbin lace	12	4.00	.23	.94		103	103	110	87
2C	Other laces	5	.30	.15	.23	1	37	38	105	85
3	Tatting	1	.15	.15	.15		11	11	60	95
4A-C	Crochet	12	.90	.15	.49		101	101	106	87
5	Macrame	1	.20	.20	.20	10	6	16	115	95
6	Cooking	30	2.66	.20	1.09		472	472	117	87
7A	Plain sewing, Grade I	34	1.60	.40	.68	587	599	1,186	107	89
7B	Plain sewing, Grade II	31	2.00	.30	.82	529	674	1,203	105	87
7C	Plain sewing, Grade III	34	3.50	.30	1.67	32	593	625	108	90
7D	Plain sewing, Grade IV	33	7.00	.30	3.33	5	529	534	107	89
7E	Plain sewing, intermediate grades.	4	7.00	3.00	4.73		33	33	104	87
8A	Elementary hand weaving, soft strips	15	.80	.09	.27	465	122	587	108	87
8B	Elementary hand weaving, hard strips	28	.50	.05	.25	1,203	223	1,426	103	87
9A	Hats, pandan	2	.25	.20	.23	4	6	10	103	81
9B	Hats, buri	4	.40	.09	.22	60	2	62	96	88
9C	Hats, sedge	1	.06	.06	.06	8		8	120	88
9D	Hats, coir	12	2.00	.03	.60	134		134	123	85
10	Hats	5	.60	.20	.38	33	8	41	55	85
11A	Native basketry	29	.80	.05	.29	928	29	957	109	85
11B	Export bamboo-rattan basketry	25	1.00	.20	.48	594	12	606	108	87
12A	Elementary polangui basketry	17	.80	.10	.29	365	5	370	106	87
12B	Advanced polangui basketry	18	1.00	.10	.38	215	1	216	105	87
13	Vetiver basketry	6	.52	.07	.21	43	8	51	109	87
15	Buntal basketry	7	.50	.30	.41	75	2	77	112	87
16	Stem basketry	11	.59	.12	.36	130	3	133	116	88
17	Midrib basketry	1	.30	.30	.30	16		16	120	85
18A	Coiled stem basketry	7	.68	.20	.45	122	3	125	118	84
18B	Coiled fiber basketry	9	.60	.10	.34	125	5	130	107	84
18C	Coiled strip basketry	7	.45	.10	.24	111	11	122	106	86
19A	Platted pandan basketry	3	.45	.10	.32	37	3	40	117	88
19B	Platted buri basketry	2	.30	.12	.21	3	4	7	110	92
20A	Slippers, abaca	9	1.00	.20	.42	90	18	108	109	87
20B	Slippers, sedge	3	.50	.21	.31	10	2	12	99	86
20C	Slippers, maguay	2	.26	.15	.21	14	2	16	120	85
21B	Floorm weaving	1	.50	.50	.50		13	13	116	80
22A	Carving, bamboo	1	.15	.15	.15	1	1	2	100	95
23A	Woodwork	11	1.20	.20	.84	50		50	139	85
23B	Bamboo furniture	16	7.50	.50	1.09	94	4	98	112	87
23C	Rattan	12	2.00	.50	1.06	75		75	126	83
25	Brushes and brooms	2	.25	.25	.25	10		10	60	86
26A	Primary gardening	34	.80	.06	.28	1,402		1,402	105	87
26B	Intermediate gardening	2	.50	.20	.29	18		18	97	86
26F	School-ground improvement	17	1.00	.01	.38	521		521	106	86
29A	Primary drawing	32	.65	.02	.24	1,773	707	2,480	85	88
29B	Intermediate drawing, free-hand and decorative.	2	.50	.20	.35	18	9	27	69	84
29C	Intermediate drawing, mechanical.	4	.20	.20	.20	18		18	127	84
30	Dyeing	12	4.52	.05	.87	150	18	168	113	88
31	Estimating applied to woodwork	1				8		8	240	82
32	Wood finishing	2	.35	.35	.35	14		14	240	88
36A	Conversational English for primary grades.	23				1,587	686	2,273	69	86
36B	Conversational English for intermediate grades.	3				25	13	38	68	86
38	Good manners and right conduct.	26				1,057	540	1,597	52	85
39	Music	33				1,459	899	2,358	65	85
40	Phonics	33				2,325	1,154	3,479	52	87
41	Writing	24				1,144	531	1,675	54	87
42	Methods of teaching, Grade I	34				1,815	992	2,807	133	85.9
42	Methods of teaching, Grade II	33				1,123	639	1,762	130	86.3
42	Methods of teaching, Grade III	33				1,007	436	1,443	125	86
42	Methods of teaching, Grade IV	30				905	311	1,216	130	87.6
43A	General supervision of academic instruction	6				132	6	138	67	87
43B	General supervision of industrial instruction	7				189	16	205	61	85
44	Municipal industrial accounting system	26				626	64	690	61	87
45	School athletics	33	.20	.04	.13	3,846	1,873	5,719	70	87

NORMAL INSTITUTES FOR INTERMEDIATE TEACHERS.

By C. E. WRIGHT, Division Superintendent of Schools, Iloilo, Iloilo.

During the past five years, the rapid increase in the number of intermediate schools and in their enrollments, has made it necessary to give special attention to the problem of training teachers for these schools. Recent reports show that during the school year of 1909-10, there were 198 intermediate schools with an average monthly enrollment of 17,144; while during the past year there were 350 intermediate schools, with an average monthly enrollment of 45,000. In 1910, the teaching force in these schools consisted of 330 American and 361 Filipino teachers, while last year there were 92 American and 1,004 Filipino teachers.

In 1910, in the teaching corps of practically every intermediate school there was at least one American, or one Filipino who had been educated in the United States. This gave a very satisfactory force, for with experienced teachers at the head of the school, new teachers were given constant supervision in the presentation of their work. As the number of intermediate schools increased and as those already organized grew in size, it became necessary to select new teachers from among the normal-school and high-school graduates, the secondary classes, and the primary teaching force.

While these schools were increasing in size and number, the force of American intermediate teachers was steadily being reduced. And these changes took place faster than a supply of trained teachers could be turned out by the schools.

In the division of Iloilo, during three years, the number of schools increased from 7 to 17 and the Filipino teaching force from 37 to 84. At the beginning of the last long vacation over 100 new teachers had been employed for the year 1916-17. Most of these were from the high-school classes. A few had been student or teacher pensionados at the Normal School, three or four were taken from among the primary teachers; but at least 80 per cent of those newly employed for intermediate teaching had no special professional training for their work, either in academic or industrial branches.

Three of the schools, including the trade school and the intermediate department of the provincial high school, still had American teachers who could help from time to time in directing the work. In the other fourteen schools the teachers had to depend upon their own initiative, and upon the little help that they received from supervising officials. No effort had ever

been made to give them help from the division normal schools, beyond a little industrial training.

The newly appointed intermediate teachers had taken their work in the schools at a time when there was very little intermediate industrial work, and when that little was poorly arranged and entirely without system, so that they could not even fall back upon their experience as pupils when it became necessary for them to teach industrial work.

With the idea of remedying this condition to some extent, permission was asked to have a special normal institute for intermediate teachers in the division of Iloilo during the long vacation of 1916; and authority to hold such an institute from May 8 to June 9, was secured.

The institute was organized with two American and four Filipino instructors. Work was arranged so that each new teacher might take at least one course in industrial work, and two or more subjects in the review of academic work with special attention to methods.

The institute was held in the Iloilo Intermediate School building and no special equipment was required. Each teacher was asked to pay ₱1 as a matriculation fee, to help buy the industrial materials needed. All materials were on hand on the opening day, and by the last session 95 per cent of all work was completed in a satisfactory manner. The results obtained more than justified the holding of this institute. A decided difference in the work of the teachers who attended and of those who did not, was noticed. Normal institutes of this type should be held annually until the teachers of the intermediate force have had sufficient drill to enable them to go to their schools with a definite idea concerning what they are expected to do and how they should do it. In Iloilo, it is believed that such an institute is necessary as a permanent part of the work for the year. From 25 to 50 new intermediate teachers will be employed each year, and unless these can be drawn entirely from the new high school normal department, they should have this special training.

One week of two hours a day on a real job with a real workman, is worth more from the standpoint of vocational guidance than two or three hours a day every day in the year in an artificial shop, working on artificial work and under artificial conditions, even though a master workman is in charge.—William Wirt.

GENERAL TOPICS.

TWO AMERICAN TRADE SCHOOLS.

By FRANK W. CIENEY.

The Williamson Free School of Mechanical Trades is located near Philadelphia and the Baron de Hirsch Trade School is in New York City. As both of these institutions have been in operation for twenty-five years, they have worked out a good many problems and have arrived at some very definite conclusions as to the best methods of handling the trade school proposition. In a few respects their methods have been paralleled in the Philippine trade schools, while in certain details they differ so widely as to form an interesting illustration of how different means may be employed to arrive at the same end.

The Williamson Free School was founded by endowment, the money being a bequest of the man whose name it bears. This endowment was so generous that its students are supported and provided for in every way from the time they enroll until their graduation three years later. In fact, after passing a physical, mental, and moral examination, the students are bound over to the trustees of the school as indentured apprentices for a period of three years, and during this time the authorities assume parental control.

By the terms of the endowment, residents of Philadelphia are given preference in admission, applicants for which must be between the ages of 15 and 18 and must be mentally, morally, and physically sound. The board of trustees decides what trade shall be taken and reserves the right to drop any student who demonstrates his unfitness to continue in the school. The following trades are taught: Carpentry, pattern making, bricklaying, machine-shop practice, operative engineering (both steam and electrical), and agriculture.

In location and equipment the school has all that could be desired. It is located in the middle of a 40-hectare farm about 25 kilometers from Philadelphia. It has its own railroad station and post office and is far enough removed from other towns so that there are few outside attractions for the students. The buildings stand on a low hill and are spacious and modern.

The student body, about 300 in number, is divided in the dormitories into families of about 24. These groups have their own sections of the dormitory or cottage for one of the married teachers, whose wife acts as matron for the family, every student doing his share of the housekeeping. The boys eat in a common mess hall.

Although the school is nonsectarian each student, upon matriculation, must declare himself in favor of some church and attend it thereafter.

The produce of the school farm contributes in a large measure toward the support of the school mess, reducing the per capita cost of maintenance for three years to about \$400.

The shops make nothing for sale and do no work of any description outside of the school premises. In fact, the regulations of the school prohibit commercial work of all kinds, or the hiring out of any students prior to graduation. Thus far the needs of the school itself have furnished unlimited practice for its students. Several of its brick buildings two and three stories high have been erected by student labor. A small brick building is under construction. Enough work of a similar nature already in the form of projects will relieve the present generation of all worry as to what will happen when the school is finished. The members of the faculty condemn the idea of a trade school doing commercial work, and yet they point with pride to at least \$200,000 worth of buildings erected by student labor.

The school runs continuously throughout the year, vacations being allowed to juniors and seniors on what is termed a "bonus system." The following is quoted from the school catalogue:

"About 50 per cent of their shop exercises, both abstract and concrete, are worked on an estimated time basis based on a journeyman's time. When the pupil is assigned a task, the estimated time allowance for the operation is stated.

"During the first six months of his junior year he is allowed 20 per cent more than journeyman's rate.

"During the second six months of his junior year he is allowed 10 per cent.

"During the first six months of his senior year he is allowed but 5 per cent.

"During the last six months of his senior year he must equal young journeyman's time.

"When he falls within the estimated time he is given a bonus credit. If he works to the even estimate he stands even. If he exceeds the time he is given a deficit grade.

"If he comes out even in the majority of his estimated time

exercises, he is allowed the regular time for the holidays. If he makes a bonus credit in the majority of exercises, he is allowed an extra half day to each of the short holidays and a full day to the long ones. If he makes a deficit grade he is detained a period corresponding to the one allowed for bonus."

A similar system is used for academic work and also for department.

The length of the daily program is eight hours of which shop work occupies four hours. During the first two years the weekly program includes 13 hours of academic instruction, 1 hour of vocal music, 6 hours of mechanical drawing, and 20 hours of shop.

During the first four months of the third year the weekly program includes 11 hours of academic instruction, 1 hour of commercial instruction, 8 hours of drawing, and 23 hours of shop work. During the last eight months of the third year the weekly program includes 43 hours of shop work and 3 hours of evening recitations.

The problem of finding employment for graduates of the school has solved itself. Twenty-three graduating classes have given the school a body of alumni that includes among its number many successful men. Their feeling of loyalty to their alma mater naturally makes them look upon Williamson men as very desirable, and the demand exceeds the supply. Williamson graduates are immediately admitted into the trades unions, and statistics compiled by the trustees show that out of 700 men who reported several years after graduation, 84 per cent were engaged in industrial pursuits at an average yearly earning of \$1,516.45.

The Baron de Hirsch School in many respects presents a marked contrast to the Williamson Free School. Like the latter it was founded by endowment but for a more restricted purpose; namely, that of bettering the condition of Jewish immigrants.

Applicants for admission must be of Jewish descent and at least 16 years of age. They must be able to speak, read, and write English and must show that they will be able to support themselves for the full period of enrollment, five and one-half months.

Unlike the Williamson Free School, the Baron de Hirsch School neither supports its students nor holds itself responsible for their conduct outside of school hours. Its students are much more mature in years and experience, as a rule, and enter the school with a more definite purpose. Upon graduation they

are classed as "first-class helpers" and are given a set of tools that goes with the trade, the cost to be repaid later.

The following trades are taught: House painting, sign painting, electrical work, operative engineering, printing, sheet-metal work, woodworking, machine-shop practice, mechanical drawing, and shop mathematics. The last two items are taught only as accessories to trades. No academic instruction is given, the student spending his full time in the shops, eight hours daily for four days and seven hours on Friday. The school is closed on Saturdays, Sundays, and all Jewish holidays.

In equipment the school is very complete; but being located in a crowded city it has been necessary to build up in order to get the requisite floor space, and the school is housed in a seven-story building. There is a great inequality in the size of the different classes. Only three students were enrolled in carpentry while the classes in several other trades were crowded. This disparity seems to have prevailed throughout the whole history of the school, as a record of its graduates shows that up to the present time 1,075 have graduated as electricians, 1,110 as plumbers, 715 as machinists, 504 as painters, 393 as woodworkers, 90 as printers, 56 as sheet-metal workers, and 51 as engineers.

Nothing whatever is done to secure employment for graduates. When requests come to the superintendent graduates are recommended, but the school management does not take the initiative. The idea seems to be that since the school is free, the students cannot reasonably expect to be provided for after leaving it.

A very interesting book of information is kept in the superintendent's office. By a system of records obtained when students enroll, and by correspondence after graduation, a history is kept of the progress of each man. The records of about twenty graduates selected at random, show one unvarying fact: In every instance the man had increased his earnings an appreciable amount, and he had changed his status to that of a skilled worker. A majority of students prior to enrollment in the school, occupied positions as messengers, laborers, or workers at other unskilled occupations. A short course of five and one-half months in the school, gave them a start at a skilled trade with increased wages at the very beginning and prospects of something much better within a year or two. Statistics compiled by the school from data obtained in the manner described, show the average weekly earnings of its students to have been increased from ₪10.78 to ₪15.08, immediately after graduation.

Like the Williamson school, nothing is made for sale. Occupying a completed plant, and lacking the advantages of environment, the Baron de Hirsch School has been obliged to build and destroy with each successive class. In a large room of the wood-working department, the carpentry students erect a model house, the painters decorate it within and without, the plumbers install the plumbing, and the electricians do the wiring. When complete, it is torn down to make ready for the next classes. The construction of this house is only a small part of the work of each class, every department having a specially equipped space, but it is an example of the means used for teaching practical work.

There is little in common upon which to base a comparison between the Williamson School and the Baron de Hirsch School; there is still less similarity between either of these schools and the trade schools of the Philippines. The Williamson School takes its pupils at the age when the son of the average working-man quits school and goes to work. It teaches him a trade in about the same time as is required for him to learn it on the outside and it also looks after his mental and moral welfare.

The Baron de Hirsch School takes a Jewish working boy who knows enough English, gives him a fair start in his trade, and sends him on his way.

Both schools are accomplishing their object and both decry the use of commercial work as a means of instruction; but each of them is giving instruction in a way that differs from commercial work only in the fact that no income is derived from it. Many of their ideas could be applied advantageously in the Philippine trade schools, and it is suggested that the following points are worthy of consideration for use here in a modified way:

A physical examination as an entrance requirement.

The "family system" in the dormitories.

The "trades bonus" plan insofar as it requires a student to continue through vacations until he brings his work up to standard.

The dropping of academic instruction during the last part of the course and specializing in shop work. (This will be incorporated in the building course at the Philippine School of Arts and Trades next school year.)

Lengthening the day's work, and reducing the number of years to complete the course.

An efficiency test, giving estimated journeyman's time in advance on each job.

The keeping of an accurate record of students for at least two years after graduation.

Providing each graduate with a kit of tools. This proved successful when tried at the Iloilo Trade School several years ago. It will be made a permanent practice in the wood working courses at the Philippine School of Arts and Trades beginning with next year. The tools will be earned by each student, a percentage of his pay for commercial work being deposited with the office each month.

VOCATIONAL GUIDANCE IN THE PHILIPPINE PUBLIC SCHOOLS.

By LUTHER PARKER, Division Industrial Supervisor, Pangasinan.

In determining the vocation for which the industrial training of a Filipino pupil should aim to prepare him, the principal matters to consider are natural aptitude and the economic circumstances of the individual.

A consideration of the occupations of the Filipinos of long ago, may be worth while to those who presume to guide the youth of this country in the choice of their life work, since these indicate the general aptitude of the people. In the earliest European accounts of the Filipinos, mention is made of the pursuits of agriculture, stock raising, mining, fishing, hunting, and trading; also handicrafts such as hat and mat making, the weaving of cloth, and ironworking. The metal worker or "panday" was held in high esteem throughout the Archipelago at the time of the conquest, and one of these, Panday Pira, a Pampangan, was chief cannon founder for the rulers of Manila in Legaspi's time. The quality of the Menangcabau kris made the Malay conquest of the Islands possible. The builder who, without nails, put together large boats that were known in many Oriental ports long before the conquest, was one of the chief factors in the settlement of the Archipelago, since his labor made navigation possible.

The carpenter was indispensable; and the work of the painter remains to us on coffins from prehistoric burial caves. The painter was also the carver, and he engraved the native syllabary on bamboo—a syllabary that bears internal evidence of having been handed down through the early Malayan ancestors of the Filipinos from the literature of India.

Weaving was an important employment, and the names of the parts of the primitive loom also give evidence of an Indian origin. The rich embroidery of the Chinese was known in the

Philippines long before embroidering was encouraged by the church.

The carved boats and houses noted by the early explorers evidenced an innate love of art in the ancient people of these Islands. The earliest Spanish explorers mentioned paintings on cloth, that were traded in the Philippines for wax and gold.

But aside from special individual fitness, the factor that chiefly governs the choice of a vocation is the economic condition of the individual. The consideration of a few statistics will be necessary in order properly to realize governing conditions. Where the statistics taken are for long periods they furnish a comparatively stable basis for calculation.

From 1901 to 1916, there have been approximately 125,000 graduates from the primary course, about 30,000 graduates from the intermediate course, and 2,500 from the secondary course. Of the 494,000 pupils enrolled in the primary grades in 1915, about 19,000 graduated into the intermediate course; of the 45,000 intermediate pupils, about 5,700 graduated into the secondary course; of the 8,300 secondary pupils, about 470 graduated ready for university work. One person in every fifteen of the 9,000,000 estimated inhabitants of the Philippines, is enrolled in the public schools. Of those enrolled about 1 in 30 finish the fourth grade, 1 in 100 finish the seventh grade, and 1 in 1,200 finish the secondary course.

From these figures it is evident that the greatest problem in vocational guidance lies in deciding upon the work to be taught the pupils of the primary grades. The relatively small number of pupils above the primary grades, and the fact that they are older and better able to judge for themselves simplify the selection of a vocation for those in the high schools and in the university. The most careful planning must be done for the pupils who attend the primary grades for one, two, or three years, since they form the large majority and come from the class that must of necessity do the ordinary work of the country.

The brief period during which these children remain in school, and the fact that they will not learn enough in an academic way to prepare them for a vocation, make it imperative that they be given the right start in an occupation or, at the very least, that they be given a desire to learn to do something of economic value after leaving school. Of the 607,000 pupils who attend public schools, about 1 in 31 finish the four years of the primary course. The other 30 are given all the expert direction they ever receive in school, in less than four years. From the very nature of the case, the industries in which they

are given instruction, must be of a manual nature, principally in hand weaving and needlework. The hand weaving most successfully taught in these grades is the making of baskets and coir mats for boys; and hats, mats, and mat products for boys and girls. The needlework that can best be taught girls, is elementary lace of various kinds, and simple embroidery.

It is essential that as much of the work as possible be taught in the second and third years of schools. The first year, which includes about 268,000 pupils, cannot be seriously considered, since the youth of the children and the short time spent in school, precludes the possibility of teaching many of them enough to be of any commercial value. The same is true, to some extent, of the 115,000 who are enrolled in the second year; although the fact that the industrial grade of a child does not depend upon the length of time he is in school, but upon his size and ability to do industrial work, makes it possible to give commercial training of value to a number of pupils of the second year. But the daily program must be so arranged that all pupils take industrial work at the same period, so that they can be divided into industrial, instead of academic grades.

Pupils who stay in school for three or four years can be fairly well trained to make a living upon leaving school, or at least, to add materially to the family income. Not much can be done in less than three years. Many parents are satisfied with the academic work of a child as soon as it learns to read and write, which it does in about two years; but at present parents do not begin to understand the value of industrial instruction before the child has had two or three years of training.

In order to keep pupils in school for three years, it will be necessary so to arrange the courses of study in industrial work as to give the maximum of instruction in the first and second grades, the object being to secure practical results sufficient to induce parents to keep their children in school longer than they have been doing in past years.

TEGALGONDO—A JAVANESE AGRICULTURAL SCHOOL.

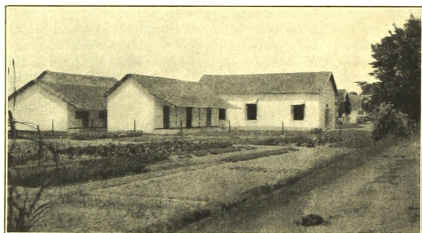
By ERNEST H. HESPELT, Department Industrial Supervisor, Mindanao and Sulu.

Java is, without doubt, the most intensively cultivated island in the tropics. Yet previous to 1912 there was no such thing as agricultural instruction for the natives. After almost a hundred years of uninterrupted Dutch rule the work of enlightening the vast majority of its thirty million people, who are mostly

tillers of the soil, has just commenced. It has been begun in much the same manner as the task was undertaken in the Philippines—by the establishment of elementary agricultural schools aiming to train teachers who will spread the propaganda for agricultural betterment.

At present some ten district agricultural schools have been established in various localities on the island. Two of these are located in the residency of Djokjakarta but the largest and best equipped one is at Tegalgondo in the residency of Soerakarta.

At the latter place one finds an imposing group of five buildings consisting of a recitation hall, a teacher's cottage, a dormitory, a museum, and a storehouse, in addition to accessory



General view of the Tegalgondo buildings with part of the vegetable garden. From right to left are seen the teacher's cottage, recitation hall, museum, storehouse (only top of roof visible), and a portion of the dormitory.

structures. All are constructed of brick, with tile roofs, and are neatly whitewashed both inside and out. The dormitory consists of a row of small rooms each three meters by four meters in size and very simply furnished with a low bamboo cot and a sleeping mat.

The school was erected in 1914 by the Soenan of Soerakarta or Sulu, as the residency is locally known, at a cost of F1 17,000 (P13,600) and it is maintained entirely by him. He has set aside approximately 10 bouws (7 hectares) of land surrounding the school as a site, and he grants each pupil a monthly allowance of 7½ guilders (P6) for subsistence.

The course is of two years' duration and comprises field work, nature study and plant life, mensuration, animal husbandry,

elementary physics and chemistry, cooperative institutions, and elementary banking. The greatest emphasis is placed upon the field work. Each boy spends daily from 6 o'clock in the morning till noon, with a recess hour at 9, in the cultivation of his plots. In these he must cultivate 100 square meters planted to such vegetable as onions, purslane, beets, celery, pechay, and eggplant, and 400 square meters of field crops including rice, sweet potatoes, cassava, peanuts, beans, and corn. All the field work is done by hand, since the school possesses no work animals. The product is sold, and the proceeds are divided into three parts, one of which goes to the boy, one to the Soenan, and the other to the school.

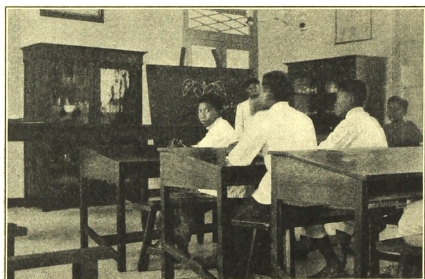


The recitation hall.

Recitations are held about twice a week in each subject, generally in the afternoon between the hours of 3 and 5. All instruction is given in Javanese. Due to the fact that the work is still in its infancy no textbooks are yet in use. Hectographed sheets, printed in the native dialect are supplemented by oral directions which are copied into notebooks. As the sheets and the notes become sufficiently complete and prove desirable for the course, they are put into pamphlets which are to form the nucleus of the future text.

Tegalondo is in charge of a native teacher who has studied in Holland. This is, however, an exceptional case. It is planned to place similar schools in charge of teachers who have completed a three-year agricultural course given at the Tjikenmenh Agricultural School near Buitenzorg. The entrance salary for these teachers is usually about 100 guilders (P80) monthly.

Though the school was planned for only thirty boys, the number at present maintained is thirty-four. Half of these are selected each year from among three to four hundred applicants who must be at least 16 years of age, and who must have completed the course in a second-class native school. This preparation is the equivalent of the four-year primary course in the Philippine public schools, without the industrial instruction. Upon their graduation from Tegalondo the most promising boys are selected as teachers for "dessa" or village agricultural courses, with an entrance salary of about 20 guilders (₱16) monthly. In these courses they are given charge of about thirty



A classroom in the Tegalondo recitation hall.

selected boys who have completed the work of the second-class native school, and who were enrolled for two-years' work in gardening prior to their entering the agricultural schools. In addition to their duties as teachers, the graduates act as members of local native agricultural boards through which the people are advised as to the best season for planting, the best varieties of seed, the proper selection of seed and the rotation of crops. They also assist in establishing coöperative agricultural societies and coöperative village banks.

Administratively the school is in charge of the Dutch agricultural teacher, "Landbouwleeraar," whose position, to a certain degree, is comparable to that of the supervising teacher in the Philippines. His work is largely of a supervisory nature

and is under the control of the bureau of agriculture. He is in no way connected with the bureau of education but is directly responsible for the work of the agricultural schools, whose courses he plans. He selects all the pupils for these schools as well as the boys who are to take the *desa* or village gardening course. He conducts teachers' meetings and must acquaint himself thoroughly with local conditions as he chooses the majority of the members of the local agricultural boards, whose adviser he is. He directs the founding of the local agricultural cooperative societies and cooperative village banks. Since his work necessitates a great deal of traveling he is required to provide



Some of the boys in front of their dormitory.

himself with a motor car for the maintenance of which he is allowed a liberal mileage.

In Java there are, at present, about fifteen regularly appointed agricultural teachers and as many assistants. Each one has charge of the work in one, and sometimes in two, residencies. The appointments are made only after a definite course of training has been completed. This begins in Holland where the teacher must spend three or four years at Wageningen where he is thoroughly grounded in the theory of the fundamentals of tropical agriculture and in the Malay language. He is then sent to Java as assistant to some regular agricultural teacher with an entrance salary of Fl 250 (₹200) per month. When he has served in this capacity for about eighteen months he is required to pass an oral and written examination in the use of Malay and one of the local dialects, Javanese, Madoerese, or Sun-

danese. Later, when he feels himself qualified, he may request the final examination in which his acquaintance with the local agricultural and agrarian conditions and his knowledge of tropical agriculture, are put to a severe test. If he passes this examination, he is usually appointed agricultural teacher with an entrance salary of Fl 500 (₱400) per month. He is usually stationed in one locality for long periods of time. At the end of each five years of service he is entitled to a leave of absence with pay, and at the expiration of twenty years of service he is retired with an annual pension of one third of his last salary which should amount to about Fl 800 to 1,000 (₱640 to ₱800) per month.

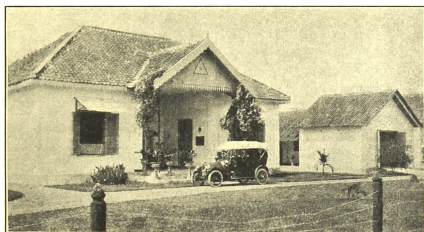


The dormitory.

The teachers of the residencies of Soerakarta and Djokjakarta are considered more fortunate than the others, since, due to the fact that their schools are supported respectively by the Soenan and the Sultan, their appropriations are much more liberal than those of other residencies in which the Dutch government exercises full control.

One of the aims sought for the agricultural schools is to have them serve as plant-breeding centers whose work shall be spread through the agency of the *desa* or village gardening courses; but each one has its separate mission. In order to understand that of Tegalondo, one must appreciate the fact that native princes, known respectively as the Soenan and the Sultan, nominally exercise full control over the rich sugar and tobacco producing residencies of Soerakarta and Djokjakarta. In times

past these princes leased out large tracts of land to sugar and tobacco companies for terms of seventy-five years. Since the people as loyal subjects to the princes could not leave the land, they soon became peons on the vast sugar and tobacco estates and fell into the condition of abject poverty which these industries seem to bring in their train. While the leases are still in force the present generation will, doubtless, remain in peonage but through the schools it is hoped to emancipate the people from this condition when the present leases run out. By that time it is expected that the people will either be independent farmers, planting what they will—since they are now prohibited from planting sugar cane or other crops grown by the companies—or



The teacher's cottage.

that they will be trained and intelligent enough to participate in the profits on a cooperative basis.

Though the work has just begun it has already shown itself productive of gratifying results, and has become popular with the natives. The spirit in which they have taken advantage of the opportunities granted them augurs well for a rapid development, and much is expected from the new movement for native agricultural education.

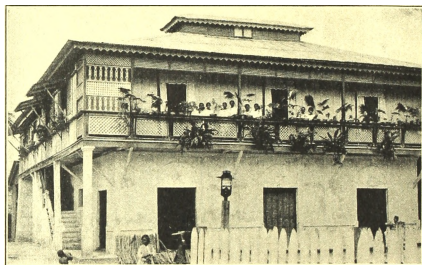
THE MORO GIRLS' DORMITORY.

By EGERT M. SMYER, Division Superintendent, Jolo.

The Moro Girls' Dormitory at Jolo, Sulu, was opened on August 29, 1916, shortly after the departure of Mr. J. V. Crowe, during whose superintendency most of the work preliminary

to its establishment had been completed. The building is a rented one that has been remodeled for the purpose. It is located opposite the Mohammedan mosque in the residential district of Tulay.

The purpose in establishing this dormitory was primarily to bring the daughters of the influential Moro officials of Sulu under modern influence. The radical departure from the established Mohammedan custom of keeping girls of the upper class secluded was at first viewed with considerable misgiving. Innumerable explanations were required before the parents and relatives could be persuaded that no harm would come to the girls. Promises had to be given to the effect that nothing



Jolo Girls' Dormitory, Jolo, Sulu.

would be taught in the dormitory which would not be in conformity with their customs and religion.

Had it not been for the assistance of Miss Julpa Schuck, Hadji Gulam, the deputy-governor at large, Mr. Rogers, the Secretary-treasurer now acting governor of Sulu, and Mr. Julius Schuck, the third member of the provincial board, in persuading the parents and relatives that the Government was trying to serve the best interest of the girls, it is doubtful whether they would have been allowed to enter the dormitory.

Eight girls have thus far been enrolled, and all are now in the dormitory. Three of them are in the third grade at the Jolo Central School. The other girls had not attended any school before entering the dormitory, and they are taking the

academic work that is being given to first-grade pupils in the public schools. Miss Sergia Rodrigo, former assistant matron at Normal Hall, Manila, is the matron of the dormitory and she has direct charge of all instruction.

In industrial work, the girls are taught plain sewing, crochet work and some cooking. A regular class in cooking cannot be organized before the completion of the domestic-science building



The dormitory girls in their school-made dresses.

for the Jolo Central School. Much interest is manifested and considerable skill is displayed in crocheting. Each girl has finished an Irish-crochet cover for her dressing table, and all are now making crochet lace which will be used on their own garments. None of the girls, except those who attended school before, had any knowledge of sewing or crochet work, prior to entering the dormitory. They are all eager to learn and do a good deal of studying outside of school hours. Within a remarkably short time they were able to write their names,

and to read understandingly the Philippine Chart Primer. Drawing and calisthenics are especially interesting to them.



A class in crocheting at the Jolo Girls' Dormitory.



A recitation room in the dormitory.

The position which Miss Rodrigo holds as matron and teacher is a difficult and trying one. It is customary among the Moros to let their children grow up without much restraining parental guidance. As a result, the training of the children is no easy

task; but the dormitory girls, have given comparatively little trouble, and now they readily respond to discipline.

Considerable difficulty was experienced in securing the services of a cook who could properly prepare meals. Whenever a chicken is to be served, it is necessary to call in a hadji, a Moham-medan that has made a pilgrimage to Mecca, who makes it a business to slaughter animals for the Moros.

The establishment of a Moro Girls' Dormitory is the first step on the part of the Government to provide locally for the education of the daughters of the aristocracy of Sulu, and the results thus far entirely justify the expenditures incurred. The construction of a modern dormitory and its establishment on a permanent basis are contemplated.

ADAPTATION OF WORK TO LOCAL NEEDS.

By JAMES C. SCOTT, Division Superintendent of Schools, CAGAYAN.

In recent years the demand has been made upon the schools throughout the world that they train pupils for commercial and industrial life and the attempt to comply with this requirement has doubled the responsibility of teachers. In the Philippines the problem of correlating education with life has to do with the selection of the most practical industrial courses for primary and intermediate schools. It can be solved only by determining the work which will do most to promote the prosperity of each section.

If a school is located in an agricultural community, as is the case with most barrio and many central schools, special attention should be given to field plots, nurseries, agricultural clubs, and gardens both at schools and at the homes of pupils. But unless the school methods are a step in advance of those practiced by the farmers of the vicinity, the results will be of doubtful value. The best known methods of seed selection, cultivation and harvesting should be practiced. If corn in the neighborhood of a school is of poor quality, the school should be made the distributing center for a better variety. Through the school, it is feasible to better the breeds of hogs and poultry in any community. The agricultural work must be organized to provide for the immediate needs of surrounding farms. The planting in a haphazard fashion of whatever garden seeds a teacher happens to have on hand, will not accomplish the desired results. The distribution of seeds according to present practice may well be discontinued, and arrangements should be made to fill requisitions for seeds, plants, and animals to supply the particular require-

ments of each locality. A careful study of agricultural needs, followed by properly directed efforts to supply these through the schools, is the most effective method of helping the backward farmer, and the public school organization is now complete enough to undertake this work in earnest.

The introduction of new industries through the schools will be most successful in overpopulated districts where there is insufficient employment, or where there exists a necessity for more remunerative work. On the densely inhabited island of Cebu, new industries require close study, while in the province of Cagayan where thousands of farmers are wanted to settle on unoccupied fertile lands, training for factory work is not so pressing a need.

The production of a limited amount of basketry, lace, and embroidery, in the schools of all provinces, will serve the dual purpose of introducing these articles into common use in the homes and of testing the possibility of success in producing them in large quantities for export sale. Further, there is a pedagogic purpose in supplying to the pupils concrete evidence of the reward for labor expended.

Thrift is a leading need. The determination to save money and to accumulate property, to build a comfortable and sanitary home, to make sure of an income to meet the wants of a family and to leave a surplus for investment; these are ideals that should rank higher than they do in most communities. Teachers may well use their personal influence over pupils in urging habits of economy. They should supervise the investment or deposit in a savings bank of the money earned in school industrial work. Agricultural clubs may be made the means of starting boys in an accumulation of property which will continue until they become farmers. Thrift is a family virtue, and girls as well as boys must be brought to appreciate its value.

A few years ago the Oriental idea that schools should equip the youth to live without the necessity of manual labor still prevailed, so the task of teaching the dignity of labor was taken up by the Bureau of Education. There were not lacking critics who prophesied failure in the attempt to change the prevailing viewpoint, but today the success of the Bureau in this endeavor is assured; and its present efforts to make education fit special needs will assuredly result in producing greater prosperity and better and happier homes.

EDITORIAL.

DEVELOPING PRIDE IN AND LOYALTY TO ONE'S PROFESSION.

In the teachers' institutes and assemblies, both in Manila and the provinces, improvement in professional ability of the teaching force has been the main object sought. The present efficiency of the Philippine public school system, indicates the extent of the results obtained. Another point which is different from, yet associated with this dominant idea of practical achievement, and which stands out prominently in connection with the work of the teachers' assemblies, is the endeavor to develop a feeling of pride in and loyalty to the best standards of the teaching profession.

At these assemblies, and at the interprovincial athletic meets, representatives from a wide geographical area are present. Such gatherings are based on a sound principle: People who pursue the same calling need to get together occasionally to discuss and seek to solve different problems which arise in the course of their work. A more intelligent conception of duties comes to those persons who attend assemblies at which the different phases of their own work are considered. Also, the various meetings of teachers have done much to break down sectional barriers, and to remove misunderstandings due to differences in language and local customs.

Fortunately, through the influence of the various meetings of teachers, through an improvement in their educational status and a widening of their general outlook, the time is probably near when membership in the teaching profession will be a source of just pride to every teacher in the service of the Bureau of Education.

DIVISION SUPERINTENDENT AND THE NORMAL INSTITUTE.

The explanation of courses, the making of plans, and the demonstration of methods in the division normal institute, will largely determine the effectiveness of the entire year's work in the primary schools. Necessarily, the proper organization and conduct of the division normal institute are matters of vital importance, and the division superintendent should assume gen-

eral charge of its activities. He should not delegate responsibility for that work to any subordinate however capable. One purpose in this exercise of direct control by the division superintendent is the making sure that each phase of the work receives its proper attention. It is also highly desirable that he take personal charge of a special course for supervising teachers and principals.

The aim of the work offered in institutes is to increase the effectiveness of teaching and supervising. The work in methods is, therefore, preëminent. Methods are best learned by observation and by actual practice. The effective organization of model classes of reasonable size, and their conduct by the best teachers in the division, deserves the most careful attention of the division superintendent. He should see to it that the one-teacher-two-division program is followed, and that the course of study is adhered to.

All of this will require much of the division superintendent's attention; but while the institute is in session, the importance of the work would warrant him in giving at least one half of his time to it.

EDUCATION FOR EFFICIENCY.

There are various factors which militate against efficiency in school work. Lack of discipline is among the first. If children are not taught to sit correctly, to rise properly and punctually when called upon, and to open or close their books when directed, they miss something of that disciplinary training which is fundamental to good instruction. Then there is lack of interest which makes discipline so much more difficult; and a lack of resource on the part of the teacher soon dissipates interest. A teacher must continually have fresh ideas with which he can assist pupils in their daily tasks. As a rule, the absence of those characteristics essential to efficient instruction, is due to a lack of understanding rather than to the probability that the teacher has not a pedagogical bent. An increase in the present attainments of teachers would do more than any other one thing toward improving school standards.

RELIABILITY.

The quality that an employer insists on most in his employees, is reliability. If he gives an order he expects it to be obeyed. It is said that Napoleon, when conversing with a man of remark-

able ability who devoted his life to works of philanthropy, asked him why he made such a sacrifice. The man replied by quoting a passage from the scriptures. "Do you honestly believe those are your orders?" said Napoleon. "I do," was the reply. "Then" said Napoleon, "you have no alternative."

Reliability is a quality that must be taught early in life. In the everyday routine of the public schools innumerable opportunities are presented for impressing its importance. Regulations are made for schools and punishment is inflicted when these are broken, yet the principle involved is seldom emphasized; namely, that an honorable and reliable person will not knowingly break the rules of the institution with which he is connected. When a boy does so, he should be made to understand that he has done himself the principal wrong; he has put himself in the "unreliable" class, he has broken a promise and has made attainment to true manhood more difficult.

With very small children little can be done to make them realize their responsibility, but in the intermediate and secondary schools an appeal to honor will often accomplish more than severe punishment. A wise teacher exacts few promises from his pupils, but holds them strictly to those few. He does far more to build character than the teacher who lays down many rules and threatens severe punishments. The first method tends to develop a sense of honor; the second, trickery and deceit.

In some cases it is not the pupils alone who lack reliability. The attitude of a teacher toward his official superiors is always reflected in the feeling of his classes toward him. If he holds his own responsibility lightly, he cannot avoid making a weak impression on those under him. To illustrate: A certain industrial article was desired from a school and the teacher was asked if he could produce it by a given date. He replied, "Yes, I can." When the time arrived the article was not finished, so he wrote a long letter laying the blame for the delay on some of his pupils who made mistakes or who did not obey orders. Probably he told the truth, but if he had been a reliable man he would have allowed more time for the job, or he would have done it himself in order to keep his word. The person who gave the order saw the one fact that this man had failed to keep his promise. Such a matter is never forgotten, and whenever that teacher's work is mentioned, somebody is likely to say, "He is not reliable;" and that is one of the worst things that can be said about a person.

Reliability takes equal rank with honesty and morality. No

man can hold a position successfully without it. If he is an employee he must do his work faithfully and on time; if he is a teacher he must keep his word with his pupils and his official superiors. A man may be the most disagreeable employer on earth but if he keeps his word on all occasions he is an infinitely better superior than the easy-going man who forgets his promises. A workman may not be the most efficient man in a shop, but if his employer knows that he will keep at a job and finish it on time, he is more valued than a faster but less dependable workman.

Reliability is the quality that keeps a man at work when the superior's back is turned. It is the spirit that prompts one to do his work well for the satisfaction it gives himself. In his "Message to Garcia," Elbert Hubbard centers the whole story around a man who said that he could do a certain thing and did it. No words are wasted in telling how he accomplished the task—the point is that he did accomplish it, and therein lies the whole secret of reliability.

TEACHERS' CAMP, BAGUIO.

CALENDAR 1917.

April 2. Opening of Teachers' Camp.

April 16. Opening Day of Vacation Assembly.

April 23–May 12. Courses for Filipino supervising teachers.

April 23–27. Conference of principals and teachers.

April 30–May 4. Conference of industrial supervisors and teachers.

May 7–11. Conference of supervising teachers.

May 14–18. Fifteenth Annual Convention of Division Superintendents.

May 19. Closing day of Vacation Assembly.

June 2. Closing day of Teachers' Camp.

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The school is the powerhouse of democracy. You cannot expect to make efficient men and women out of the ill-instructed and the undisciplined.—Charles E. Hughes.

INDUSTRIAL NOTES.

GENERAL.

The General Office has received an order for ₱500 worth of silver for use in industrial classes in Bohol. This is the first case on record in this Office, of an order for silver as school industrial material.

Each seventh-grade girl in Bohol is trying to finish this year marketable articles to the value of at least ₱15.

The Bureau of Education is seeking to have the duty removed on linens imported into the Philippines. In this way it is hoped to make it more nearly possible for Filipino embroiderers to compete with those of other countries when the war is over.

The advisability of supplementing the present trades course in wood-working, i. e., cabinetmaking, with a modified building course and a course in bamboo-rattan furniture making, is being seriously considered by this Bureau, as evidenced in a recent circular.

Various trade schools have, from time to time, made inquiries from Manila hardware firms concerning sample cards showing styles and sizes of the different kinds of nails. One firm has concerned itself enough to secure twenty sets of such cards from the United States, and to forward them to the Bureau of Education for distribution. They have been sent to the various schools and will undoubtedly prove of considerable value when requisitions are made up for nails of different varieties.

Up to the end of October the value of the Tarlac garden harvest was

₱1,671.96 as compared with ₱497.01 for a similar period in 1915.

In Nueva Vizcaya 1,500 kapok trees and a number of fruit and shade trees, have been planted by pupils at their homes during this school year.

At Tigbauan, Iloilo, a lot of bamboo furniture was made and stored early in the school year. When examined on November 20, it was found that every piece but one had been attacked by weevils. This one piece had been varnished. While the single instance would not warrant a conclusion that the varnish served as a preventative against weevils, it furnishes strong evidence to that effect.

During the month of November, 1916, the Manila public schools received payment from the Bureau of Education for white embroidery, ₱611.65; linen lace, ₱49.82; abaca slippers, ₱7.25. Further orders from the Bureau were accepted for 120 coir doormats, ₱103.50; 14 coconut cups, ₱10.50; abaca slippers, ₱100.

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THE INDUSTRIAL EXHIBIT AT THE VACATION ASSEMBLY.

In accordance with a custom established in 1915, and as announced in General Circular No. 123, s. 1916, an industrial exhibit will be held at the coming vacation assembly in April and May. This exhibit will contain articles from all provinces of all representative industrial courses, excepting cooking. No bulky products will be shown. Each division may exhibit not to exceed five articles, the designs for which originated in the division.

The articles will be judged by representatives of the General Office for the purpose of determining what progress has been made during the year, what assistance is needed, and what can be done toward further improvement.

This exhibit will be valuable mainly for three reasons: As a collection of models made in school, it will be of much assistance to instructors; it will show the progress that has been made by each division; it will show in what respects the different divisions excel, and in what respects they are deficient.

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FINANCING NORMAL INSTITUTES.

The problem of financing normal institutes is not an easy one to solve. By close economy, the average cost for each teacher enrolled can be kept within ₱1.50 at large institutes. The average cost per capita is greater at small ones; the expenses for materials and equipments are less, but those for athletics and social events remain about the same. For the past two years the method of financing the normal institute in Cebu was as follows:

Each teacher paid a matriculation fee of ₱1 when his enrollment card was issued, and the card constituted a receipt. The money raised in this manner was used for social events, athletics, and for the purchase of industrial materials. It was accounted for in the same manner as any other special fund. The balance on hand at the close of the institute was carried over to the following year. Only a small appropriation was made by the provincial authorities. This was used solely for the purchase of materials. Provincial aid was not availed of before the normal institute special funds were exhausted. For the 1916 institute approximately ₱50 of provincial money was expended. Such equipment as could be utilized in the

schools throughout the year was purchased by the city of Cebu. One small contribution was made by the instructors of the institute, and the money secured was used for a reception and dance.

The payment by teachers of a matriculation fee sufficiently large to meet all expenses seems to be the most just means of financing an institute. There is no more reason for the province bearing a large share of the expenses than there is for its paying for the books of seventh-grade pupils. By their work in the institute, teachers fit themselves for better work, which eventually means promotion.

It is realized that all teachers will not share alike in the use of materials purchased from the fund secured from matriculation fees. It is not practicable to make an absolutely equal distribution; but as it costs considerably more to finance the plain-sewing classes than others, teachers enrolled in these, may well be required to purchase a part of the goods used. In this way, the value of materials furnished to each teacher may be made approximately the same.

The plan of having teachers supply materials from home cannot be depended upon, as there is always a large percentage who fail to bring materials. The success of the institute requires that materials for each teacher be at hand on the first day. The only way to make sure that they will be on hand is to purchase them several days prior to the opening of the institute. The furnishing of all materials by the institute through the matriculation fee, is considered the most satisfactory and the surest way of getting enough materials of the right kind into the hands of teachers. (B. F. B.)

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ALBAY.

The date of the provincial garden day has been set for March 21, 1917.

All the barrio and municipal garden days will be held previous to that date and will serve as "feeders" to the provincial exhibition. It is planned to give implements and tools as prizes instead of cash.

The value of fabricated articles sent to the division office by the various schools of the division on B. E. Form No. 154, Invoice of Industrial Articles, during the six months ending December 31, 1916, was as follows:

Albay District	₱522.60
Tabaco District	477.63
Guinobatan District	450.97
Ligao District	450.79
Catanduanes District	273.97
Provincial High School	194.95
Bacayay District	138.63
Sub-provincial School	88.74
Guinobatan Farm School	24.00
	<hr/>
	2,622.28

These figures represent only the value of articles actually sent to the division office. The value of the products sold from school gardens, farms and trade schools, is not included. During December alone, ₱1,350.27 worth of articles was sent in. January, February, and March will in all probability show equal or greater shipments.

About twenty of the school gardens of this division have been placed on a commercial basis. The success or failure of the garden teachers in these schools will be judged by a comparison of the monthly sales reports. Most of the teachers are enthusiastic over the plan and several have voluntarily placed their schools in the competition. The rating is made from actual sales and not from production figures. For the period ending December 31, 1916, Getulio Nebres of the Camalig Central School was leading the list with a total of ₱41.14. A special form has been devised for the monthly report of garden sales. This form shows the value of each kind of vegetable sold, as well as totals.

The sales of the division industrial department for the period ending

December 31, 1916, total ₱4,339.58. These figures include not only the local cash sales, but those to the general sales department and sales of articles on hand at the opening of school in June, 1916.

Mr. Felipe O. Cevallos, principal of the Guinobatan Farm School, has had a model poultry yard and house constructed on the school grounds. The pupils who are members of the poultry raising club have copied this model as nearly as possible for their home projects. The rice harvest of the Guinobatan Farm School was quite successful. Three hectares showed a yield of 240 cavans. Mr. Cevallos states that the average yield on the farms in that vicinity is below 60 cavans per hectare. The rice land has been replanted to corn and legumes.

Miss Juana Guerrero, traveling industrial teacher, has been assigned to this division for the remainder of the present school year.

Eight new household centers have been organized, one for bobbin lace, six for Irish crochet, and one for karagumoy baskets. As yet the output is not large, but the prospects for the future are bright. The Bureau has supplied ample orders to care for the entire output, and arrangements have been made for immediate payment. Most of the workers are contented and are desirous of continuing the work.

The value of orders received from the General Office and now being filled, amounts approximately to ₱10,000, divided as follows: Basketry, ₱6,500; lace, bobbin and Irish crochet, ₱2,100; embroidery, ₱1,400. (T. H. C.)

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BOHOL.

LOCATING NORMAL INSTITUTES.

In former years normal institutes were held in the capital towns and little help was received from the people or from the local merchants.

Before deciding about the location of the last normal institute in Bohol, the towns desiring it were asked for a certain amount of financial support, and the one offering the best inducements was given first consideration. As the greater share of the expenses was borne by the municipality of Loay, and the prominent men of the town, the matriculation fee was reduced to 50 centavos, and even then there was a surplus at the end of the session.

The average teacher spends at least ₱30 or ₱40 during the four weeks' session, and if this is multiplied by the number of teachers usually attending the institute, it is found that at least ₱10,000 is spent by them. A contribution of ₱200 or ₱300 by local merchants is but a small part of their profit. The people in the town where an institute is held should be made to feel that it is not only an honor to hold it in their municipality, but that the presence of several hundred teachers is of such financial benefit that they ought to be glad to bear a considerable part of the incidental expenses. There are some obvious advantages in holding an institute in the capital of the province, but when there are other towns that are eager to do more towards making the undertaking a success, it is often advisable to hold it elsewhere than in the capital. (G. S. P.)

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BULACAN.

Fifteen pupils in San Rafael have secured Cantonese cocks from the Bureau of Agriculture for their poultry raising projects.

During the rainy season, the garden pupils in Meycauyan have been busy at digging a ditch 60 meters long. It will carry away from the school garden, the overflow of the artesian well.

The provincial trade school has

turned out 1,300 standard model school desks, and these have been distributed to the various schools in the division. The San Miguel wood-working shop has produced 100 school desks during the past month.

Thirty-seven pupils in the export basketry class at the Obando Primary School have fabricated and sold ₱75 worth of baskets since the opening of school.

The intermediate school of Baliuag has received an American cook-stove for use in the domestic-science classes. (R. L. B.)

DABOO CLAMPS.

The sketch on page 537 shows three devices that have been used in school for several years. It cannot be definitely stated that they originated in the minds of either teachers or pupils. It is believed that they were copied from clamps found in use by commercial basket makers when the craft was started in the schools some ten years ago. Certain it is that they well serve the purpose for which they were devised, i. e., to hold the rim in place while fastening it to the basket. The one in which a wedge is used is also very convenient for holding the needle while driving it into the handle in making crochet hooks and lace pattern perforators.

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CAMARINES.

Plants grown from native seeds are doing well in the school gardens of Mambulao district. The school-boys of Basud Central have recently marketed their garden products. In Partido a large amount of land is being gardened. The provincial high school and Goa Intermediate School gardeners are using rain hats for protection against the weather. Work is thus made possible during the rainy season.

Arbor day was observed in every

town and barrio of the Partido. At San Jose special endeavor was made, as the celebration came on the day of the town fiesta.

Mothers' day has been celebrated at Naga by the domestic-science department of the provincial high school. Both the high school build-

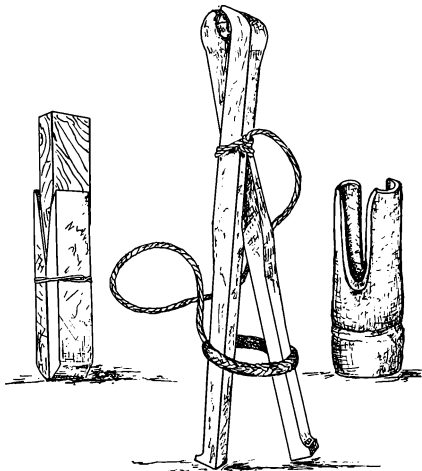
be congratulated on the success of the affair. (B. L.)

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CAVITE.

THE NAGDAMI VARIETY OF RICE.

The Indang Farm School boys have just harvested 35 cavans of rice.



Bamboo Clamps.

ing and the model house were decorated for the occasion. Many mothers came, and all were gratified to learn what their children were doing at school. The young housekeepers gave a musical program, after which they served tea. The teachers of domestic science, are to

The "nagdami" variety has once more turned out better than all other improved varieties introduced so far, and it has proved to be better than the best native variety, the "kinastila."

Under equally favorable conditions the former produced heavier

than the latter. This season both varieties contracted the prevailing rice disease, "rolled leaves," and in every instance where they were grown side by side, the nagdami recovered from the disease the sooner and gave the heavier yield. Besides, kinastila can not resist the weeds so well; because of this the local farmers see no reason why they should continue to raise the native hardy rice, "sanglay," when a better quality from an equally hardy variety, the nagdami, can be grown.

Ten of those to whom seed of the nagdami were supplied by the farm school last year have reported favorably on the results obtained, and it is largely through them that a great demand for the seed has arisen in this locality. Several land owners who planted nagdami on a large scale have said that they will make another trial of it side by side with the kinastila and sanglay next season, and, if it again proves to be better, they will stop planting the kinastila and sanglay altogether.

Four varieties of rice were planted on the school farm for comparison of yield. They were nagdami, kinastila, libod, and salig. An equal area was given to each, and when harvested during the latter part of November, the nagdami produced nearly 100 per cent heavier than any of the others. The Indang Farm School will continue to plant selected seeds of the nagdami. (M. M.)

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ILOCOS NORTE.

The looms in common use in Ilocos Norte are much the same as those of Ilocos Sur and of certain parts of Mountain Province. They are too short for a lifter or treadle attachment and the manner in which the warp is extended makes it break too easily. They are unsatisfactory for weaving hard fibers such as maguey, piña, and abacá.

While loom weaving is carried on in fourteen towns of Ilocos Norte, Paoay is the only place where the work is specialized to any extent. Bath towels and bed spreads are made there. The women do all the weaving, and they earn from 25 to 35 centavos per day.

Modern methods of weaving, and new designs are being introduced. There are now twenty or more women in Pasuquin alone, who can use the improved foot loom. The people of that town have shown their appreciation of the new loom by frequent visits to see it in operation. They wonder at the quick action of the batten attachment, and at the facility with which the designs are woven in.

The municipal council is planning to order from Manila an improved loom at a cost of ₱58. It will be used as a model. Due to the low price of lumber in this locality it should be possible to construct a complete loom for ₱18. (A. P.)

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ILOILO.

THE ORGANIZATION OF NORMAL INSTITUTES.

The success of a normal institute depends not only upon the character and efficiency of the instructors, but also upon the organization as planned before the opening day. The ideal system is reached when a pupil can come to school, go direct to his class and begin his work at once.

The organization of the Iloilo normal institute as perfected during the past three years, has proved successful. Work on institute plans begins early in January. At that time planotyped industrial schedule blanks are sent out. These are completed by the supervising teacher and returned to the division office where they are checked up and modified, if necessary, by the industrial supervisor and the division superintendent. An approved copy

of this completed or corrected form is then returned to the supervising teacher, together with a supply of blank recommendations for matriculation. This form requires a condensed report of the teacher's previous institute work, and a recommendation as to his assignment for the coming year.

Upon receipt of the accomplished forms, they are carefully checked with the industrial schedule by the industrial supervisor, and the names are entered on the rolls of the various classes and assignments to the rooms are made.

With the forms completed, the principal of the normal institute has on hand the data necessary to plan the organization to the last detail. The instructors for the various classes at the different periods have already been selected, and a summary of the assignment slips allows all rolls to be made up before the institute opens. These rolls are to be distributed to the teachers on Friday and Saturday preceding the opening day. At the same time the assignment slips are distributed to the student teachers through the supervising teachers, and on Monday morning everyone knows exactly where he is to go and what he is to do.

If the necessary patterns, models, material and equipment are on hand, the normal institute will be in full operation ten minutes after the opening bell rings. (C. E. W.)

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MAKING SCHOOL DESKS IN LEYTE.

The number of desks made for the municipal schools of the province by the Leyte Trade School has been increasing steadily; in 1914, there were less than five hundred; in 1915; nearly a thousand; for the first five months of this school year the number has exceeded fifteen hundred, and more than three thousand desks

will probably be turned out by the trade school before April.

The school charges ₱2.50 for making each desk and the pupils are paid 40 centavos for their labor. Most of the work in connection with the making is done by and is charged to machinery. The exposed parts are hand-planed and sand-prepared. A few have been given two or three coats of underlac.

The desks, except one completely assembled model, are shipped "knocked down." This saves freight. The braces are nailed to the sides before they leave the trade school and this eliminates the most difficult operation in assembling the parts. Enough nails are sent with the desks, and only a hammer is needed in putting them together. Mr. Fornillos, the teacher in charge of this work, has invented a most ingenious jig which is used in nailing the braces to the sides. This device obviates measuring and incident mistakes. The braces fit the grooves in the jig; the sides are placed in it, and there they are nailed in their proper positions.

The municipalities of Leyte are getting most satisfactory desks at a small cost, while the trade school is being supplied with orders which pay both pupils and school well. (J. W. R.)

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NUEVA VIZCAYA.

Mr. Emiliano Menzen, supervising teacher at Bayombong, submits this short account of the Bintawan Primary School:

Bintawan is a barrio having about seven hundred inhabitants, of whom 275 are of school age. During previous years the school was like those of other barrios in the division, having only Grades I and II, with low enrollment.

In March, 1916, it was planned to establish a complete primary course in this school and to build a

teacher's house, in order to provide a kitchen where the girls might cook, as well as to furnish quarters for the teacher.

The people of the barrio were much interested, and with their assistance, the house was completed before the school opened on July 10. There was a large enrollment, and many were refused admission, because of lack of accommodations, though most of those turned away were repeaters and pupils from neighboring barrios.

Gardening and farming are the only industrial courses for boys in this school. The garden covers about half a hectare. With the help of the people, the whole school ground was fenced, and by the end of October the garden was entirely under cultivation. The plots were distributed according to the age and size of the boys: small boys were given one each; larger boys, two or three.

The parents helped a great deal in the preparation of the garden. At the first turning of the soil, several native plows were broken. Later an American plow was provided and this proved more effective. During rice planting, it was very difficult to secure carabaos for plowing, as the rice planters needed their animals in the fields; but now the school is keeping a carabao which it rents at four pesos a month.

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OCCIDENTAL NEGROS.

According to a report received from Miss Marcela Abeto, teacher of embroidery, the girls of the Cadiz embroidery classes receive a grade of 95 per cent if they finish their work by the date agreed upon. A deduction of 5 per cent is made for each day the work is delayed. This plan has resulted in Manila orders being finished two weeks sooner than required. The production for the 40 girls in the intermediate industrial

classes up to the close of school in December amounted to ₱3.50 per girl. Local orders are accepted after finishing General Office orders. Materials for both embroidery and cooking classes are furnished from a domestic-science fund which has amounted to over ₱200.

The fastest workers at the Hinigaran Central School were able to turn out four coir doormats each, by the beginning of the Christmas vacation. All boys of the central school make these mats, even the larger boys of Grades I and II turning out satisfactory mats in sizes Nos. 1 and 2.

One energetic girl of the Kabanakan Central School, according to Mr. Esteban R. Abada, completed the following work up to the beginning of the short vacation: Two embroidered napkins, No. 15-1309 and 1 tray cloth, No. 15-1208; 1 dress, 1 chemise, 1 underskirt, 1 nightgown. She also cooked such recipes as malagquit, hot cakes, fried cakes, yellow cakes, griddle cakes, cookies, rice crullers and "upo" with chicken.

Miss Paz Ereño states that the girls of the domestic-science classes of the provincial school learn to set the table in three different ways: After the fashions of the rich, the middle class, and the poor.

The standard length of bobbins used in lace making in this province, is 12.7 centimeters, and the patterns being fabricated are 8A, 8B, 102A, and 102B.

It is believed that to determine accurately the annual garden production, vegetables consumed should be counted with vegetables sold. The cash entry in the industrial record book, Form No. 151B-C would show the value of vegetables disposed of by other means than sale, as having been apportioned to pupils. This is in harmony with the regulations covering plain sewing articles returned to pupils.

Plans are being laid to secure real

interest in, and permanent results from, the agricultural clubs. The work has been handicapped this year by the extremely severe rainy season that did not abate until well into December, and by the cold, windy weather which followed.

A sale of old noncurrent museum stock was held on December 10, the articles having been handled on the regular Government inventory and inspection report, and sold at public auction by the auditor. Very satisfactory prices were obtained. The museum will now be restocked with models and samplers of articles of current manufacture.

Recent experience with lace making shows that valenciennes lace, when once the art of making it is acquired, is produced almost as rapidly as similar patterns in other types; also, that second-grade pupils find delight in handling B. E. design 5511, 1A and 1B, and readily turn out a commercial product. A bobbin's length a day for them is easy; and the making of a twelve-yard piece of lace in any of these patterns might well be added to the industrial course for this grade, which now is confined to plain sewing.

In the provincial high school at Bacolod, 41 girls are working at embroidery. The division estimate for the output of elementary and advanced work totals ₱205, an average of ₱5 to each pupil, and this requirement will form the basis for the March rating. The work is to be produced in the regular industrial periods of school days, and not during extra hours at home. The girls all know by what considerations the March rating will be determined, since it has been definitely outlined to them as follows: Commercial work, minimum output, standard quality, 90 per cent. Elements to raise or lower this per cent: Deportment—report of teacher in cooking and housekeeping, attendance, punctuality; plain sewing—appearance as

to cleanliness and neatness, garment fastening (pins bring demerit marks, snappers bring demerit marks unless used where buttons would catch the hair when braided), quality of workmanship.

This schedule pertains to all classes where embroidery, lace or crochet is made. Naturally, there is little of a disciplinary nature needed; all are active upon the assigned work.

In elementary lace the school is making patterns of B. E. design 5511, 8A and B. The minimum requirement per month is set at 1.83 meters. This secures a fixed monthly rating, which has been announced. The longest piece over this receives 1 more per cent. In October, each of two girls had 3.96 meters of lace, both gaining the extra 1 per cent. Many had lengths little less than this. Once the lace is measured, which is done on the last day of each calendar month, it is not handled again. It is carefully rolled and covered, the edges of the cover being sewed. When the measurement as noted totals 22 meters the lace is taken off, wrapped on the standard card put-ups, and stored away for invoicing.

In advanced lace, of B. E. design 5511, 102-A and B, the monthly requirement is 1.37 meters. Experience shows that valenciennes lace of the patterns mentioned, makes up less rapidly than linen lace of patterns 8A and B. On the basis of the girls' work as here made account of, the latter should bring 10 per cent more than it does at present.

Girls in this school will complete the minimum quantity of embroidery required, ₱5 worth of standard work per pupil, and probably considerably more. In valenciennes lace, pupils working equal hours with those in embroidery will produce 11 meters of lace for the year, its value being ₱3.36 for work and thread. As records show, one ball of Alexander thread costing ₱0.17, will make 8

yards of valenciennes lace, design 102A. Twenty-two meters of elementary lace B. E. design 5511, 8A and B, at ₱0.26 per meter, when cost of thread is taken out will not yield any better returns. To be more exact, at present prices the difference in remuneration approximates 35 per cent in favor of embroidery. These conclusions would not apply in all primary schools because many of them do not have the equipment and space required for the production of commercial embroidery while it is possible for them to produce commercial lace. As to speed in this school, it is, if anything, in favor of the girls engaged in lace making. (W. J. R.)

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ORIENTAL NEGROS.

According to Division Circular 67, s. 1916, for Oriental Negros, the effort which is being made in that province, to secure data on which accurate conclusions as to the comparative profits in the various industrial activities may be based, should go a long way toward laying a foundation for better results next year. At the close of the school year the teachers in charge of the work will render a report on the time spent in preparation of materials and in the construction of all articles, and they will in each case state the amount of experience the pupil has had.

○

PALAWAN.

The first order of desk baskets has been completed and shipped to the General Office sales department.

Mr. Manuel Bacosa, formerly division industrial supervisor, has been assigned as principal of the Aborlan Agricultural School, relieving Mr. Prentice Whitman, who is in poor health. No one is yet in Mr. Bacosa's place.

The Coron Primary School has a

complete outfit of new desks, all made by the shop pupils. (R. C.)

○

ROMBLON.

The following notes were furnished by Romblon teachers:

Girls of the cooking classes at the Romblon Intermediate School accepted the contract to furnish refreshments for the inaugural ball. The ₱30 which they received for their work went to the piano fund.

In the subprovince of Romblon there are ten schools that have bought foot-power sewing machines on the installment plan. Monthly payments of ₱4 are made in each case. The first payment is always made from the pupils' fund, but subsequent payments are often met by the girls, each paying a pro rata assessment.

Every candidate for graduation from the course in housekeeping and household arts must appear in a dress that she has made under her teacher's supervision, the dress not to have cost more than ₱5.

The Grade IV woodworking class in the Romblon Central School consists of 27 boys ranging from 12 to 18 years of age. Although inexperienced, up to the end of school in December, they had finished 30 standard desks valued at ₱1.50 each, and they had done considerable repair work on the domestic-science building.

The girls of the intermediate classes in the Romblon Provincial School serve such appetizing midday lunches that they are patronized not only by the pupils but by outsiders as well.

Twenty boys of Grades III and IV in the Cajidiocan Central School made 118 bagobago desk baskets valued at ₱30 up to the time of the December vacation. The girls in the sewing class produced articles to a total value of ₱160.

Up to the first of the year, the

Grade IV girls of Odiongan, Tablas, completed 408 articles, consisting of 260 handkerchiefs, 25 petticoats, 70 dresses, 15 envelope chemises, 6 nightgowns, 6 drawers, and 11 skirts. In addition they did considerable mending.

Romblon teachers claim that putting green papaya leaves at the bottom and over the top of the can while rolls of buri are being boiled, gives the material a lighter shade.

TAYABAS.

Torrijos reports progress on the part of the central school in the school-ground improvement competition. The paths leading to the street and those around the building have been gravelled, and flowering shrubs have been set out with good effect.

Eaves troughs for the standard school building were provided a few weeks ago, and connections were made with the cistern, the approximate dimensions of which are 2 by 2 by 4 meters. The gulch across the street near the school has been walled and covered with concrete. The former kitchen near the building is too small and a new 3 by 5 meter kitchen will be built. Forms have been made for concrete posts and as soon as the woven wire arrives, a permanent fence will be put up. All of these improvements are made at a slight expenditure of school funds, as pupils do most of the work. (V. B.)

ZAMBALES.

The great advance in basketry production in the San Narciso Central School is shown by the fact that during the school year 1914-15, the sales amounted to ₱15.69, as compared with ₱140.40 for 1915-16.

An agricultural club has just been organized in the Castillejos Central

School. Eight of the fourteen members are taking poultry raising; two, fruit raising; and four, vegetable growing. The members of the club have the support and coöperation of their parents, and they are enthusiastic in their work.

In conformity with General Circular No. 82, s. 1916, all regular and home gardeners in the Iba Central School have purchased daily record books for gardening, as required by General Instructions No. 22, s. 1916, paragraphs 26 to 28, inclusive.

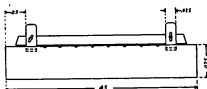
In connection with the garden day celebration, the agricultural club of Iba, and the literary society of the central school rendered a joint program in the hall of the Iba Central School on November 28, at 2 p. m. (W. S. F.)

A DEVICE FOR PREPARING BASKETRY MATERIALS.

Most of the time consumed in the preparation of basketry materials is taken up in scraping off thin layers



END VIEW



SIDE VIEW



TOP VIEW

from the splints until the desired dimensions are obtained and a uniform width or thickness is secured. Therefore, any contrivance which tends to shorten this process is ap-

preciated by basket makers who use hard materials.

A number of devices of this kind have been worked out. One originated by Mr. Juan Santos, formerly traveling industrial teacher, but now teaching in the central school at San Antonio, Zambales, should be of much assistance. As is shown in the accompanying illustration, it consists of a block of hardwood near each end of which is mounted an inverted u-shaped piece of iron. Through these irons is inserted a bolo-shaped knife with the sharp edge down and next to the block of wood. A set screw in each iron holds the knife at the desired elevation above the block. The device can be used for cleaning either round or flat materials of any size.

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PHILIPPINE SCHOOL OF ARTS AND TRADES.

On December 18, forty boys from the building course started work on a structure on Wallace Field. It is to be used by the Insular Government for the housing of the exhibits of various bureaus at the Carnival. The building is 38 by 80 meters in size and is in the form of a hollow rectangle with two smaller buildings inside. The work was completed in a little less than a month.

The machine shop is filling a ₱2,000 order from the Bureau of Supply, for a number of articles including bolts and parts for water meters.

A large room has been made ready for the manufacture of the new building material recently invented by the Bureau of Health.

○

ONE PHASE OF PROGRESS IN DOMESTIC SCIENCE WORK.

The one advantage which a teacher of domestic science enjoys over a teacher of academic subjects lies in the fact that it is not necessary to wait so long for results.

This has been exemplified in the growing popularity of the sewing machines and the kitchen equipment of the model house. In retrospect, the progress made looms large; and in looking forward, it speaks well for a higher standard of living—that is, if the desire to have better things is prophetic of an effort to obtain them.

Pupils, and often women with families, come to the school on Saturdays and after school hours on week days in order to use the sewing machines. Advice in garment making is much sought and is usually followed. School patterns are borrowed with great frequency, especially those for making children's clothes. The little boy's suit is very popular, as is also the one-piece infant's garment which resembles a mother's envelope chemise.

In former years the demand for laces and edgings came almost entirely from Americans. Within the past year, however, many requests for these articles came from people living in the town and several girls asked permission to purchase the things which they had completed.

Pupils often stay after school to prepare special dishes to take home. The oil stove is often worked overtime in cooking cakes, cookies, and other delicacies made from recipes furnished by the teacher. The pupils always furnish their own materials: Jelly making was a pleasant surprise to most of the girls, who had not realized how easily and cheaply homemade jellies could be prepared. Since receiving instruction in this line, many girls have made jelly to take home, and have undoubtedly instructed others in its preparation. The two favorite recipes are given below:

PINEAPPLE HONEY.

- 0.5 l. pineapple juice.
- 0.5 l. pineapple pulp.
- 1.2 kilos sugar.

Heat the pineapple juice, then add sugar and boil for five minutes. Add pulp and boil twenty minutes. Pour into jar.

PILI MACARON.

- 2½ cups pulverized pili nuts.
- 4 eggs.
- 2 cups sugar.

The nuts should be pulverized in a mortar. Add sugar. Beat eggs slightly and mix. Bake in small, paper boxes in a moderate oven for fifteen minutes. Anise seed is sometimes added to the mixture.

The school has a large ice-cream freezer, and of late no party has been complete without cream. Pupils and neighbors have been permitted to make legitimate use of any of the kitchen equipment and they have taken advantage of the opportunity. Of course no one is allowed to keep any article for more than a single day, yet even a day's use is encouraging, both to the borrower and to the lender. (K. S. N.)

○

NATIVE DYES.

The following notes on the preparation of several dyes from native plants were submitted by Miss Felisa Herras of Magarao, Camarines. They are offered with the caution that vegetable dyes should not be used where coal-tar dyes can be obtained. Vegetable dyes are generally unsatisfactory for two reasons: They do not give a standard shade for all dye baths, and either light or water will cause most of them to fade.

Lavender.—The bark of camanchili boiled for a short time with lime produces this color.

Yellow.—The small tubers found on the roots of the calawag, when

pounded in a mortar and boiled for a short time with alum, produce this color. Calawag is a small herb of the lily family. It grows in the woods; the leaves are about 60 centimeters long by 15 centimeters wide, arranged on the stem like banana leaves; the stem is from 40 to 60 centimeters high.

The roots of the nino, scraped and then squeezed in water, produce yellow. Use lemon juice or vinegar. With lime a pink dye is obtained. Nino is a small tree found growing along streams; the trunk is from 1 to 3 meters high; the leaves are about 12 centimeters long by 5 centimeters wide, growing near the ends of the twigs; the fruit is small and round and is covered with small projections like the fruit of the nanka.

Red and dark red.—The wood of naga boiled with vinegar or with lemon gives a good red dye. With alum, a darker shade is obtained. Naga is a forest tree from 3 to 20 meters tall. The heart wood of sibucacao boiled for one hour with alum also produces a good red dye. With lemon juice used as mordant, a pink dye is obtained. Sibucacao is a tree about 4 meters high; many small leaves grow along the stem; the trunk is covered with thorns 1 centimeter long.

Light brown.—Either the bark of santol or the bark of talisay boiled for one hour with alum, will produce this color. Talisay is a very large tree; the leaves are pointed, 30 centimeters long by 20 centimeters wide; the fruit is almond-shaped.

Green.—The leaves of the plant which produces the small red and green peppers sold in markets, squeezed in water produce a green dye. Use vinegar or lemon juice.

LETTER BOX.

[From time to time there are received questions of general interest which require relatively short answers. Whenever the questions are of wide enough application to warrant it, the answers will be published under this heading.]

1. What are the names of the different units in which linen lace thread comes?

Answer.—Linen lace thread is issued from this office in paper-covered packages, each package containing 4 skeins. Some manufacturers subdivide the skein into smaller units known as knots, for the further convenience of the user. "Dog" brand skeins are divided into knots, but those of "Falcon" brand thus far observed, are not.

2. What points should be considered by a teacher when grading industrial work?

Answer.—The pupil should be graded on both quality and quantity of the work he has been able to turn out. He should also be given credit for the manner in which he has followed instructions and for the diligence he has displayed.

3. Upon what does the quality of an article depend?

Answer.—In general the quality of an article may be said to depend upon the care given to the selection and preparation of material from which it is made; upon the judgment and taste used in the determination of color, shape, size, and decorative design; also upon the degree to which the article serves a definite purpose. As far as the pupil or teacher is concerned the quality of school-made industrial articles depends upon the accuracy with which the requirements of the blue print or perforation are carried out.

4. How can mildew be removed from linen?

Answer.—Wet the cloth and sprinkle it with shell lime such as is used in making soap, rub thoroughly with ivory soap and place in the sun; when dry, moisten the cloth and again cover it lightly with lime and rub with soap; repeat the process until the mildew disappears. See technical bulletin No. 33.

5. What are the advantages to be derived from having every teacher in a school give instruction in industrial work?

Answer.—The chief advantages are more sympathy for industrial work and the possibility of more satisfactory grading of pupils. Each teacher may be a specialist in one industrial subject, and better results can be expected than when a few teachers are compelled to give a variety of instruction.

It frequently happens that a boy because of his size, age, and experience, is capable of taking industrial work with pupils who are one or two academic grades ahead of the one he is in. To hold him back would in some cases result in his leaving school. When all of the teachers handle industrial subjects, the classes are given the work at the same time, and this allows qualified pupils from lower grades to take their work with the more advanced classes.

6. Should the button holes or long eyelets made on commercial night-gowns and chemises, and through which ribbons are passed, be cut open by the worker before the articles are forwarded as finished work?

Answer.—No.