



THE PHILIPPINE CRAFTSMAN

JULY, 1916

A MAGAZINE PUBLISHED
AT MANILA BY THE BUREAU
OF EDUCATION-DEVOTED TO THE
ADVANCEMENT OF INDUSTRIAL
INSTRUCTION IN THE PUBLIC
SCHOOLS OF THE PHILIPPINES

Vol. V

No. 1

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The Philippine Craftsman

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If I were to attempt to embody in a single word the secret of European educational progress during the past fifteen years, that one word would be *coöperation*.

Frederic Ernest Farrington.

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COÖPERATION AS EXPRESSED IN THE AGRICULTURAL ACTIVITIES OF THE BUREAU OF EDUCATION.

By NORTH H. FOREMAN, Inspector of School Gardens and Sites.

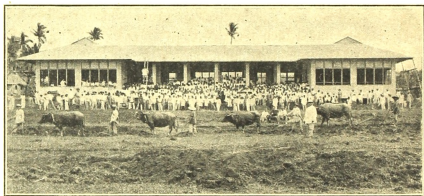
In no other activity of the Government is coöperation more essential to success nor have the people responded to a greater degree than they have in the agricultural enterprises of the Bureau of Education. This may be due largely to the fact that the Philippines are an agricultural country and the people and their representatives are primarily interested in agriculture.

Rarely does one find a Philippine Government official who is not willing to lend his assistance to legitimate projects looking toward the betterment of agricultural conditions. This general interest is often so manifest that capital is made of it. Many an enterprise which does not in any way directly bear upon agriculture is advanced by telling the people that certain definite things will be done in their community to aid agriculture, if the requested assistance for the proposed project is forthcoming. At one place the people contributed the labor and materials for a bridge upon the assurance that assistance would be given them in improving an agricultural school site located in their community.

This willingness to coöperate in agricultural education is not confined to any one section or to a particular class of people. Desirable examples are found in the wildest and most remote sections of the Philippines, where agriculture is often the first step in bringing these people under the authority of the Government officials. An excellent example of this is found in the Ilongot schools of Nueva Vizcaya. Practically the only Government control that has ever been established over the Negritos has been in those sections where settlement farm schools were made the medium through which Government influence reached Negrito life. The Villar Settlement Farm School is the oldest and most successful of all schools enrolling Negrito children. These wild men who have never before permitted themselves

to be controlled by any consideration, other than their desire for food, were made to feel the value of a certain amount of coöperation in this school project. The older folks helped to clear the ground for the school, laboring as willingly as any Negrito permits himself to.

Last year several bands of Negritos of Zambales started out on a tour of pillage. They terrorized the people who, as a rule, live in deadly fear of the little black men of the mountains. Reprisals on the part of the lowland people and the activities of the Insular police in attempting to apprehend the members of the various marauding bands caused many of the Negritos who had taken up residence in Christian barrios to retire to the hills. This period was one of anxiety for those in charge of the Villar Settlement Farm School who wondered what would happen to



The entire male population of the town helped grade the school grounds. Lilo, Laguna.

the personnel of the school and to the considerable Negrito settlement of farmers which had sprung up under the influence of the school. When questioned regarding their future move, however, the headmen laughed at the idea of their going to the hills again and pointed proudly to their homes and cultivated fields. They even referred in a contemptuous way to those Negritos who had been led to desert their new homes.

In rural barrios the Bureau of Education secures very definite coöperation from the people. Land is given for the school gardens and in many instances the people themselves gather at the school on a specified day, and fence the garden site for the schoolboys. Animals for breaking the land are loaned whenever needed. This form of coöperation is not limited to any particular locality, as it is found in practically every rural district in the Philippine Islands.

The same form of coöperation is found also in more developed centers. Rarely is there a community where the use of vacant lots can not be secured without cost to the pupils taking gardening. Land of considerable value is given outright to establish schools for giving special instruction in agriculture. Considerable portions of the farm sites at Batac, Ilocos Norte, and Santa Maria, Ilocos Sur, were donated to the schools. The coöperation expressed in official circles is less clearly defined and fewer specific examples of it can be given. Filipino officials, however, are partial to agricultural instruction in the public schools, and they officially support agricultural enterprises to a greater extent than any other one activity of the Bureau of Education. This official coöperation was given in the fullest degree during the recent corn campaign of the Bureau of Education. It is now as clearly manifest for the garden-day project of the Bureau.

That part of the agricultural program which reaches the most people, and which receives the most assistance from the people themselves, is vegetable gardening. Through the 3,280 school gardens and 45,689 home gardens, the Filipino people are made to feel directly school influence in agriculture. Practically every one of these home gardens is an excellent home project in agriculture, in which the parents are asked to coöperate by giving the boys sufficient land and by providing protection for the crops. Rarely does a schoolboy have to purchase material for fencing his garden. Bamboo, the material most commonly used, is given by some neighbor if the boy cannot get it at home. At many schools, the garden class makes it a practice to grow a much larger number of seedlings than are desired for their own needs. These seedlings are distributed without cost to the people. In this manner the people themselves come directly under school influence.

Another interesting form of coöperation is with the 15 poultry projects established by the Bureau of Education. These projects are scattered throughout the Islands. Cantonese poultry was provided for the schools by the central office. Laying hens were considered too valuable to permit them to set. Therefore, as soon as a setting of eggs was secured, a native hen borrowed from one of the neighbors was used to hatch the Cantonese eggs. The people willingly loaned the hens upon the assurance that they would be given one of the Cantonese chickens hatched from the eggs placed under the hen. In return for this aid the schools sold to the people at a very low cost Cantonese hens and roosters as soon as the flock belonging to the school warranted

sales being made. A cock was given to any farmer without cost upon the farmer's agreeing to kill all other cocks on his place.

The Santa Maria Farm School, in addition to the practices noted above, has exchanged the Cantonese chickens for native chickens, although the former are more valuable kilo for kilo than are the native chickens. The result of these methods is seen in the increased size of fowls and in the doubling of the average egg output. A hardy Cantonese native strain has been developed in every locality where poultry work has been carried on.

Hog raising has been encouraged at all farm schools in much the same manner as poultry raising. Pure-bred Berkshire boars were placed at the schools. The services of these boars were made available for the farmers in the community. One school reports that during the past year 50 sows owned by farmers were served by the boar at the school. No charge was made for the services, as it is considered that the betterment of the stock of the locality more than recompenses the small outlay incident to the cost and keep of the boar. The people appreciate assistance in their efforts to raise better hogs by loaning sows to the school. It is a common practice at the Santa Maria Farm School to borrow a desirable brood sow and to keep it at the school for breeding purposes. The farmer is given one pig from every litter. At the Central Luzon Agricultural School where a large herd of hogs is maintained as a source of meat supply for the school, the farmers of the community are permitted to exchange the native hogs for the pure-bred Berkshire hogs kilo for kilo. In this manner, low-grade native hogs are being practically eliminated from the community.

The Bureau of Agriculture has coöperated in the animal work of the Bureau of Education by making public breeding boars available for the farm schools. Likewise the herd of range cattle at the Mailag Agricultural School was provided with a Nellore bull without cost to the Bureau of Education. The schoolboys keep these breeding animals in good shape and encourage the people to use them for breeding purposes. It is an excellent form of coöperation, as it makes the animal available for public use and at the same time reduces the cost of developing the school herd.

In addition to the gift of land which is a feature of the establishment of every agricultural school, the coöperation of the people is shown in a very definite way in two or three special projects. Irrigation was desired for the school farm at Santa Maria and permission was obtained for the school to become a

unit in the ownership of a coöperative ditch serving the owners of the land near the school. In this manner, the schoolboys coöperate closely in local agricultural enterprises as the school is obliged to keep up its section of the ditch and to use water only during the time agreed upon by the various coöwners. In a like manner the schoolboys at Batac coöperate in maintaining a local irrigation ditch in order that they may secure water for the school farm. Their private ditch, extending from the main ditch, was constructed by themselves in coöperation with the farmers through whose land the ditch passes. This school otherwise aids the farmers of the community by distributing young plants and seeds to them without cost. The services of the breeding animals kept at the school are also available for public use. The Santa Maria Farm School does not maintain sufficient work animals to put the rice crop in as rapidly as is desired. Consequently, when the proper plowing season arrives the people freely loan work animals to the school for the five or six days of special work incident to plowing and preparing the rice fields.

In the general plan for improving the public highways and public grounds, nurseries for growing plants were provided. These nurseries are located on school grounds and are maintained by school pupils as a part of their work in agriculture. With young trees available for planting, the people are asked to coöperate in the plan by securing trees from the nurseries and transplanting them along the public highways or at their homes. Most public plazas in the Philippines are now shaded with trees planted by school pupils in coöperation with municipal officials. On Arbor Days and at other times during the year the schoolboys have planted a large number of trees. At first this work of planting the trees along public highways did not meet with the approval of those locally in charge of the construction and maintenance of the public roads. Numerous mature trees growing along public roads, and young trees set out by school pupils, were destroyed because it was said that the roots would damage the road bed. The project was not dropped owing to this difficulty, but coöperation was asked from Bureau of Public Works officials and town authorities. Steps were taken to demonstrate and to explain the value of shaded highways. As a result, the planting of shade trees is considered a part of the general plan of road construction. The Bureau tries to obtain further coöperation in having trees of economic value used for shade trees. The people secure from the school nurseries young fruit trees and plant them at their homes. Schoolboys are given

school credit for the care of home-planted fruit trees. The records of this office show that last year 40,000 fruit trees were distributed from public school nurseries and were planted at the homes of the people. Returns of a very definite nature will be received in a few years.

In general improvement of public places, the people very frequently loan their animals and furnish men to drive them. At Lilio, Laguna, the entire male community worked by turns in the endeavor to make the school yard the prettiest place in the town. An incident is also reported from Cabanatuan, Nueva Ecija. One of the principal men of the town assisted in the removal of a number of ant hills in the effort to improve the school premises. Free labor to the value of about ₱700 was secured.

There is probably no one feature of the school-ground improvement plan which has received so much coöperation as clean-up week. Special Government assistance was secured in the form of the active coöperation of all Government officials. As a result, the towns and barrios of the Philippine Islands are cleaner than ever before. It is reported that many of the improvements have been kept up, and that lasting good has resulted.

CLEAN FOOD A POSSIBILITY.

"Since the housewife usually does the buying for the family, it naturally follows that the housewife controls the market—not only the kinds of products sold, but the kind of selling place. Whenever the housewife ceases to buy from the dirty food shop, the dirty food shop will cease to exist.

"The most important thing for every community to do is to decide that it will have no more dirty food. The flies must go, the food shops must be clean and sanitary, the people who handle food must be healthy and clean."

If in the foregoing quotation from "The Journal of Home Economics," the word "market" or "tienda" were substituted for "food shop" and "selling place," the matter would be applicable here in the Philippines. It is obvious that one housewife cannot wage the battle alone. She must enlist her friends and must coöperate with the local health officials. If many women refuse to buy dirty food or to buy any food sold in a dirty place and handled by dirty unhealthy people, the food sellers in the town or district will soon have clean food for sale, because otherwise the amount of food remaining unsold will make profits impossible.

COÖPERATION BETWEEN THE BUREAU OF EDUCATION AND OTHER BUREAUS.

BUREAU OF SUPPLY AND THE BUREAU OF EDUCATION.

By EOWIN W. LADD, Chief Clerk, Bureau of Supply.

Between the various Bureaus of the Insular Government the maximum of coöperation would seem not only desirable, but absolutely necessary, to secure the best results for the Government as a whole, and it is probably the application of this principle both in the internal organization of the Bureaus themselves and in the interbureau relations which has conduced more than anything else toward the efficient working of the government machine.

Considering specifically the subject of coöperation between the Bureau of Education and the Bureau of Supply, it may be well to determine first the point of contact between the two organizations. The function of the Bureau of Supply, as is implied by its name, is to furnish at the times when required and at reasonable cost the various items of supplies and equipment necessary for the various activities of the Government. With the working out of educational policies and problems, of course, it has nothing to do; but with the furnishing of the physical accompaniments and accessories needful to the working out of such problems it has a great deal to do. There is ample scope for coöperation here and the two Bureaus have in fact coöperated admirably in past years and up to the present time.

The thought of education invariably suggests the subject of books, and the furnishing of the thousands of textbooks and reference works for educational work in the Islands is one of the typical examples of the results of coöperative effort between the two Bureaus. At first glance it may appear that the matter of textbooks is one which pertains so exclusively to the Bureau of Education that it would be detrimental to have an entirely separate entity interfere in the work of securing them. On the other hand, if the Bureau of Supply were eliminated in the matter of the purchase of so important an item as books for the schools, other Bureaus could advance the same argument in connection with their special apparatus and equipment and the original scheme of a central purchasing organization for

the entire requirements of the various branches of the Government would be nullified. The two Bureaus accordingly cooperate on the following basis. The Bureau of Education selects the books to be used, preparing and revising the subject matter in many instances, arranges with the publishers the details as to quantities and prices, and then forwards the requisitions to the Bureau of Supply with full information as to name of publisher, price, time of delivery, and other details, for final placing of the orders. In purchases aggregating several hundreds of thousands of pesos annually, it would work a hardship on the Bureau of Education for the Bureau of Supply to charge the full rate of surcharge (formerly 10 per cent) for merely forwarding the orders and looking after the details as to shipment and delivery. It was accordingly agreed to reduce the surcharge to 2½ per cent on this class of purchases, special authority being obtained therefor. The results of this plan have been eminently satisfactory to all concerned. The Bureau of Supply, through its representative in New York City, can keep constantly in touch with the publishers, inspect the work of manufacture, have the books assembled in large lots for shipment, and in general look after the interests of the Government, which otherwise might be neglected, and the Bureau of Education, after the requisitions are filed with the Bureau of Supply, is relieved of entire responsibility as to the execution of the orders placed. Mutual concessions and cooperation have thus tended toward efficiency and economy to the Government as a whole.

In the work of securing general school supplies, such as composition books, pencils, pens, chalk, blackboard material, ink, and pads, there is opportunity for even greater cooperation than in the acquisition of textbooks, as in the latter case the services of the Bureau of Supply are more or less perfunctory. To obtain these items, which are necessarily used in large quantities yearly, the two Bureaus have cooperated in the following manner. The Bureau of Education requisition for general school supplies is filed with the Bureau of Supply during the month of September or October of the year preceding the school year beginning in June, when they are to be distributed and used. This allows ample time for bids to be advertised for, contracts to be awarded, and deliveries made by the various contractors. These awards are made only after full consultation between the Bureau of Supply and the Bureau of Education, the nature of the requirements of the latter Bureau and the best

method of filling those requirements through the advice of the purchasing branch of the Government both being important factors in securing the best results. The points of coöperation in this work may be summarized as:

1. The allowing of ample time to the Bureau of Supply to secure deliveries of the items required.
2. Decisions as to awards being made only after full consultation between the two offices.
3. Standardization; the various items being standardized as much as possible as to specifications, thus simplifying the matter of purchase and reducing the number of items to a minimum, as well as enabling both Bureaus to profit by the experience gained in previous years.

On this latter point of standardization much might be said. This is probably the one most important factor in connection with the supply problem of the Insular Government, and it may safely be asserted that the Bureau of Education has done more along this line than any of the other Philippine Government bureaus, with results beneficial to that Bureau, as well as to the Bureau of Supply. As is of course well known to Bureau of Education officials and employees, the construction materials and equipment for the various classes of school buildings have all been standardized in accordance with the different requirements of the several sizes of buildings, and the orderly working out of these multitudinous details has immeasurably lightened the labors of all parties concerned. The Bureau of Supply, with the aid of the committee on standardization, is now engaged in developing a comprehensive plan of standardization to embrace the property and equipment of all branches of the Government, and, with hearty coöperation on the part of all interested, extremely beneficial results are sure to be attained.

Another phase of coöperation between the Bureaus of Education and Supply which may be mentioned is in connection with the industrial program of the Bureau of Education. Reference is made particularly to section 3 of Act No. 2629, enacted February 4, 1916 (An Act conferring certain powers upon the Director of Education for the purpose of stimulating and encouraging the manufacture of handicraft products in the Philippine Islands), which reads as follows:

The Bureau of Supply is hereby authorized to furnish, subject to the approval of the Secretary of Public Instruction, to the Bureau of Education, out of any funds available for the purchase of supplies, such sums not exceeding one hundred thousand pesos in all as may from time to time be required to pay in advance the cost of materials and the expense of production in household industries. All advances of funds and extension of credit shall be considered on the same basis as purchases of supplies.

Certain financial problems had to be met in providing a fund for the purchase of the materials to be used in the work. It was found that the Bureau of Education appropriation had not contemplated the expenditure of funds for supplies other than the regular requirements of the Bureau, but as these materials had to be acquired, recourse was had to the "purchase of supplies" fund of the Bureau of Supply for temporary financing, it being understood between the two Bureaus that the materials requisitioned should be paid for after a fixed number of months instead of immediately upon receipt. By this plan the Bureau of Education is enabled to use the materials in making up the various articles, place them on sale, and then, after the proceeds are received, reimburse the Bureau of Supply for the original outlay. The latter Bureau acts in a sense as a banking institution, extending credit to its brother organization. Without such cooperation the prosecution of this very valuable work might have been greatly hampered or delayed, and while the Bureau of Supply does not desire to extend credit in this manner indiscriminately, this may be cited as an interesting experiment in interbureau cooperation.

In general, cooperation with the Bureau of Supply on the part of the different organizations of the Government may be fostered by reducing to a minimum demands which are difficult to satisfy, and by specifying clearly just what is desired in the way of materials and equipment. In addition, the Bureau of Supply, by familiarizing itself with the needs of the various departments which it serves, can materially assist in their efficient operation by anticipating the demands which may be made and by providing adequate stocks of the staple items.

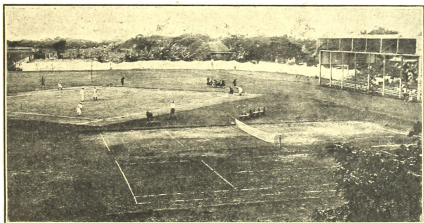
It is confidently expected that the policy of cooperation which has been in vogue between the Bureaus of Education and Supply will be continued and, if anything, will develop along even broader lines. The results will be beneficial to the Filipino people as a whole, because anything which affects the welfare of such a great work as the Bureau of Education is conducting extends necessarily to the entire people.

BUREAU OF PUBLIC WORKS AND THE BUREAU OF EDUCATION.

By D. E. HENRY, Bureau of Public Works.

Cooperation is as necessary between bureaus or offices as it is among the several divisions of one bureau, or among the employees of one division of a bureau. Cooperation between the Bureau of Public Works and the Bureau of Education has

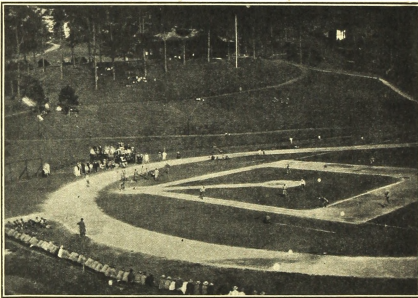
become very close. The central office of the Bureau of Education plans the buildings to be erected and the grounds to be laid out—high schools, trade schools, central schools, barrio schools, athletic fields, and gardens. It secures official approval and the necessary funds, after which the Bureau of Public Works does the constructing work. A standard school building designed on the unit system has been adopted for use throughout the Islands. It has proved to be permanent, convenient, and economical, and has received much favorable comment from sources outside the Philippines. The design in the beginning was far from perfect. Many improvements were possible and these have been worked out not by any one individual, but through coöperation between the Bureaus concerned.



Balangas High School athletic field.

Before the present design for school buildings was adopted, a great deal of schoolhouse construction was of a temporary nature, and hard, indeed, was the lot of the teacher who undertook to create enough enthusiasm among *presidentes*, *concejales*, and patrons to secure the materials with which he could begin construction. Funds were scarce in those days and, as a result, many such buildings were begun only to be left in an uncompleted state upon the discovery that the appropriation had been overdrawn. But through the coöperation of the provincial treasurer, the division superintendent of schools, and the district engineer, these overdrafts were usually met and the building completed. Today, through just such coöperation, an overdraft is practically unknown. The appropriation is based on the estimate of the district engineer, hence the latter is always sure of sufficient funds to enable him to complete the work.

Again, there have been projects for which it was impossible to secure enough money to complete the building under ordinary conditions, and it was necessary to secure voluntary contributions of money and labor. Such work is accomplished through the efforts of the men in the field. Further economy is at times secured through an agreement between the central offices, whereby an official of the Bureau of Education is selected as the representative of the Director of Public Works to carry out the construction with student labor, the district engineer giving only such time as may be at his disposal for general supervision.



Baseball field, Teachers Camp, Baguio.

These instances are mentioned as typifying what has been done in the larger activities of the two Bureaus. Whenever the division superintendent and the district engineer work in harmony, there are results. Examples are to be seen in the many athletic fields admirably laid out for tennis, baseball, basket ball, indoor baseball, and field meets. In these the district engineer takes as much pride as does the division superintendent of schools. Much can be said in favor of extending this cooperation. The annual conference of division superintendents and district engineers should be held at the same time and at the same place. Not only should this conference be considered a business proposition, but a social one as well. Every division superintendent and every district engineer should be encouraged

to bring ideas along and to have them in presentable shape. In this way the men in the field will acquire a closer interest than ever before.

Student work could be extended in many ways. Arrangements might be made for the district engineer to lecture on some phase of his work three or four times during the school year, to inspect at stated times all buildings, grounds, and work in the trade schools; and to supervise all work done by students outside their regular school duties. Students might be required to inspect public works once or twice each year and could be employed during vacation periods by the district engineer. It should be understood, however, that students applying for work during vacation, whether they were to receive a salary or not, would have to work under the same conditions as the regular force of the district engineer, and that no favoritism could be shown.

The work of every individual in each Bureau brings him more or less into contact with the work of individuals of the other Bureau. If the word "coöperation" is properly understood, incompetent work will be eliminated, the work accomplished by one Bureau will be appreciated by the other, and antagonism and criticism will disappear. The coöperation at present existing between the central offices of the two Bureaus leaves little to be desired, and it remains for the division superintendents and the district engineers to bring coöperative conditions in the field up to the same high standard.

BUREAU OF FORESTRY AND THE BUREAU OF EDUCATION.

By ARTHUR F. FISCHER, Acting Director of Forestry.

The Bureau of Forestry has one important function in common with the Bureau of Education, namely, that of educating the people; for, beside the administrative work of the former Bureau, it also does a great deal of work in the way of instructing the people in the care of forests and in the use of forest products. The practices of *cañgin* making and other illegal uses—or rather, abuses—of the forests are due as frequently to ignorance as to other causes. The educative work of the Bureau of Forestry is aimed not only at combating such abuses; it is constructive also, not only endeavoring to teach the people to preserve and improve the existing forests, but also encouraging them to extend the forested areas of the country, in order to improve soil conditions and water supply, and to augment the sources of valuable forest products.

There is every reason why the two Bureaus should coöperate in all possible ways. The work of the Bureau of Education prepares the people better to appreciate the work of the Bureau of Forestry, while the work of the latter tends to improve the material condition of the people and so enables them better to support and appreciate the public schools. Moreover, the revenues derived from the public forests through the instrumentality of the Bureau of Forestry help directly to provide the funds that support the schools.

Coöperation between the two Bureaus in the past has been chiefly along three lines: Identification of woods and other forest products and information regarding their uses; publications; and propaganda work. Along the first line there has been no systematic work; but frequently the Bureau of Forestry has obtained information regarding local names and local uses of woods from trade school and other teachers, in return for which they have been given the official or commercial names, and notes on qualities and uses of the woods in question. Such cases came up frequently during the construction of the Gabaldon barrio schoolhouses, for which generally most of the timber was obtained from local sources.

There have been no separate publications issued by direct coöperation of the two Bureaus. The Bureau of Education has assisted in distributing circulars of the Bureau of Forestry; and *THE PHILIPPINE CRAFTSMAN* published, in Volume I, Nos. 6 and 9, articles on "Methods of Identification of Philippine Woods" and "Felling, Sawing, and Seasoning Timber" by a member of the Bureau of Forestry.

The propaganda work in which the two Bureaus have coöperated consists of Arbor Day planting, the establishment of school nurseries, and the planting of school grounds with economic and ornamental trees. During 1914, forest officers were specially detailed to visit about 60 of the most important schools all over the Islands with instructions to confer with division superintendents, district engineers, supervising teachers, and principals, and to give them all possible advice and aid in establishing school nurseries, plaza and roadside plantations, firewood plantations, etc. Lectures were given at schools about planting those economic trees which experiments at the Forest School have shown to be easy to propagate and of rapid growth. At the same time, the rangers of the Bureau of Forestry were furnished with very detailed directions for planting seeds and transplanting seedlings, and were authorized to spend some days at those schools in their respective districts at which nurseries or other

planting projects were being established. The Bureau of Forestry furnished limited quantities of seeds of teak, molave, lum-bang, ipil-ipil, and tuai, while rangers were instructed to secure large numbers of narra cuttings for the schools in their districts.

In quite a few high schools and normal schools in the United States short courses in forestry are given in connection with the subject of physiography, showing the influences of forests on rainfall, climate, erosion, and soil improvement. In such a course the Bureau of Forestry can cooperate to a great extent. In the course in economics also, this Bureau can contribute much to the study of conservation of natural resources, and the effect of forest products upon the economic independence of a nation.

BUREAU OF LANDS AND THE BUREAU OF EDUCATION.

By WALTER E. JONES, Assistant Director of Lands.

There is not a more important factor for the success of the Bureau of Lands than a complete dissemination of the knowledge of laws and regulations governing the acquisition of public lands.

Recognizing the fact that the Bureau of Education, through its teachers and pupils, is one of the best mediums for the dissemination of knowledge, not only in regard to the manner in which public lands may be acquired, but also in regard to the conversion of imperfect titles or long possession into perfect ownership, the Bureau of Lands furnished the Bureau of Education several hundred primers explanatory of the Public Land Act. This has made it possible for the teachers and students to read the law and understand it and explain its provisions to settlers and prospective settlers on the public domain.

A considerable source of annoyance in former years has been the deception practised by unscrupulous persons upon people who were ignorant of the law and of their rights. This has been eliminated to a great extent through the gradual education of the people and through the aid which has been given by municipal officials, in gratuitously making out such papers as are necessary for homestead and other applications.

In view of the fact that a large part of the forms and other papers are made out in English, the teachers and pupils can be very helpful to people who are desirous of becoming settlers on the public domain—the teachers through explaining to pupils the laws and regulations regarding the disposition of public lands and the pupils in turn explaining them to their relatives and to the friends of their families.

A large percentage of the students who have gone from the Muñoz School, realizing the great advantages which are given to the small settler by the land laws of the Philippines, have taken advantage of those laws to acquire ground in sufficient quantity to make a small prosperous farm. These examples demonstrate what can be done through care and system. Besides, these students not only bring with them other settlers, but their farms are models for those who are already landowners.

As will be noted from the foregoing, the cooperation of the Bureau of Education in this respect is of great value. The question of landownership and the granting of homesteads to enable the poor to have homes and land of their own is of such vital importance to the economic development of the country that the diffusion of knowledge in regard thereto among the students will be a blessing to the future generations in causing them to avoid the many land disputes which now annoy the farmers.

SCHOOL SITES.

In the construction of barrio or municipal schools under the Gabaldon Act, the Bureau of Lands undertakes to make the necessary survey, plans, and descriptions of the school sites, and helps in the prompt expediting of the titles thereof.

SURVEYING SCHOOL.

Another instance in which is shown the close cooperation that exists between the Bureau of Education and the Bureau of Lands is found in the organization and management of the Surveying School.

The Surveying School was created as a department of the Manila High School, for the instruction of students who have satisfactorily completed the second year of the high-school course. Due to a recent change, the Surveying School is now a part of the Philippine School of Arts and Trades.

An application for appointment as apprentice surveyor is forwarded to the division superintendent of schools who certifies as to the eligibility of the applicant. The application then goes to the Director of Education, who forwards it to the Director of Lands, who makes the selection for the appointment from the numerous applications received.

Appointees are designated as apprentice surveyors and are paid a salary of ₱240 per annum during the first year, and ₱360 the second year, providing the student has qualified in the junior surveyor examination held by the Bureau of Civil Service.

Students entering these classes are required to pursue a

course of study in addition to the surveying subjects which will qualify them for graduation from the high school or the School of Arts and Trades.

On graduation, those students who have qualified in the junior surveyors examination are assigned to duty with survey parties of the Bureau of Lands which are stationed in the provinces and are given a salary of ₱600 per annum, and in addition necessary traveling and living expenses.

The Bureau of Lands details an experienced surveyor to teach the surveying subjects in the School of Arts and Trades, the regular instructors of that school teaching mathematics and other subjects required for graduation.

After assignment to field duty and appointment as junior surveyors, a promotion of one grade per annum is usually granted, provided the employee's services have been efficient and satisfactory. After three or more year's service in the field, junior surveyors should be qualified to pass the civil-service examination for appointment as surveyor, which, if passed successfully, leads to an appointment at ₱1,200 per annum. Promotions subsequent thereto depend upon the ability and efficiency of the employee.

At the present time there are 59 surveyors employed in the Bureau of Lands at ₱1,200 or more per annum who have followed this course of instruction and qualified as surveyors. There are 45 junior surveyors who have been assigned to field duty and are receiving salaries of ₱600 or more per annum.

The first class was started in 1906 and subsequent classes have increased in size each year. The number of students entering the class of 1916 will approximate 50.

The profession of surveying will be of great importance in the Philippine Islands for many years to come, and the subdivision of public lands and the survey of private properties still to be undertaken will require the services of many surveyors. This profession is very interesting, but at times involves great physical exertion. It is a class of work with which every civil engineer must be familiar, as it enters into the solution of practically every engineering problem. The nature of the instruction given in the surveying course and the field experience gained after graduation from the surveying school, form an excellent groundwork for an engineering training.

There is one condition attached to the appointment as junior surveyor; students are required to sign a contract to remain in the service of the Bureau of Lands for four years, and resignations are not accepted during that time.

OTHER ASPECTS OF COÖPERATION.

COÖPERATION OF THE GENERAL OFFICE AND FIELD.

By O. C. HANSEN, General Office.

DEFINITE POLICY ESSENTIAL TO SUCCESS.

The merits of an educational organization are judged by the results achieved by pupils of the schools. It would be only the faintest praise of the Bureau of Education to say that the employees were well educated and capable of performing excellent service. Unless it could also be said that its energies were directed toward training children to become men and women well prepared to solve life's problems successfully, the organization could not be considered a model.

In order that the work of each member may be effective, all must be governed by a plan that is the result of thorough study, involving the question of available means as well as that of desired results. Under the head of means, the quality of personnel is of first importance. But there are other requirements to be considered, including the provision for finances.

Considerable statistical data are required. Comparisons of results in different towns and provinces, and in other countries, assist materially in shaping future policy. If successful effort is to be rewarded, and encouragement supplied where needed, such comparative statements must be available.

Local economic conditions control to a great extent the fixing of the course of study and determine the subjects to be emphasized. To secure development along manufacturing and industrial lines, education must have a mechanical trend; if the prosperity of a country is to depend upon the products of the soil, agriculture must have an important place in the school curriculum.

GENERAL OFFICE AND FIELD COÖPERATION.

The success attained by the Bureau of Education has been due to a thorough coördination of effort, which has been obtained largely through a well-organized supervisory system. This has been made possible by effective coöperation between the General Office and classroom teachers, through the supervising teachers and division superintendents. Teachers understand and appreciate the aims and objects of the Bureau and endeavor to carry

them out to the letter. Constructive criticism from the field is favorably received and is given very careful consideration by the General Office. Such suggestions materially affect the conduct of the Bureau.

EXTENT AND PURPOSE.

It is to the advantage of the teachers and the field personnel to have proper provision made for adequate salaries, travel allowances, and other service privileges; and the best interests of the Bureau demand that all employees be contented with their work and satisfied with the service in general. The Directors, therefore, exert every effort toward securing for them all possible advantages consistent with the interests of good government.

Given the required funds with which to work, the reputation of the buildings division depends upon the success of the building campaign. The chief of that division, therefore, has every reason to coöperate with the field. To make a success of the industrial program, a carefully defined policy and all possible assistance in the way of detailed instructions and suggestions are required from the industrial division. As a part of its duties, the academic division aims to standardize courses of instruction for the Islands. This involves a consideration of the needs of the people, as well as of the standards for other countries and the latest ideas of prominent educators. The success of the academic division is absolutely dependent upon the closest kind of coöperation with the teachers.

If unlimited funds were available each year for the purchase of property, hardly a word of complaint would be registered against the property division. Allotments of supplies are based on figures covering a careful study of the property situation for years and upon the recommendations of division superintendents. By taking full advantage of all property available, the field can assist the General Office very materially in making the most of a difficult situation.

In the administration of the accounting division, also, the lack of funds for certain purposes is likely to be decidedly embarrassing. The current appropriation is never sufficient to permit of the payment of salaries or of traveling expenses without limit, and the most careful economy is required to avoid an overdraft. Through the assurance of coöperation in this respect on the part of the field, it has been possible to allot funds for traveling expenses in excess of the money actually available, as the experience of several years has shown that a certain portion of such allotments will not be expended. This sort of an under-

standing between office and field results in a real advantage to both. If everyone could fully appreciate that reimbursement vouchers and all other accounts must not only actually be correct, but must also have the appearance of being legitimate claims against the Bureau, considerable difficulty in effecting payments could be avoided.

Upon the Directors rests the responsibility for deciding questions of policy, originating plans of action, and supplying the incentive for effective work. They are interested in securing thorough coöperation between office and field and among the various divisions of the office. Undue emphasis by one department might be almost as detrimental to the organization as a lack of attention on the part of another. For the success of the Bureau as a whole, all departments must be made to assist in preserving the general balance.

COÖPERATION ON THE INCREASE.

The issuance of the Service Manual several years ago brought about a better understanding between field and office than had existed before. Since then, carefully prepared circulars have helped greatly in clearing up doubtful points. Conferences of division superintendents, principals, and supervising teachers, at which members of the General Office force have been present, have made it possible to remedy difficulties before they assumed serious proportions. Coöperation is on the increase. It pays well and it is certainly worth cultivating.

COÖPERATION BETWEEN PARENTS AND TEACHERS.

By CHARLES E. HOYE, Acting Division Superintendent of Schools, Nueva Vizcaya.

Under the civil law as well as under the common law, teachers are considered to stand "in the place of a parent" with reference to pupils under their care. This relationship of the teacher to the father and mother, through the child, implies and makes necessary the closest coöperation in all things affecting a child's training.

Coöperation of teachers and parents should not be one-sided—it should work both ways. Some teachers are continually asking the local officials and parents for assistance, but forget that the school owes the parents and community in general all the help it can give. Much extra work should not be required of pupils when their parents need them; rather they should be encouraged to help their parents. One of the difficulties with attendance

is to keep pupils in their classes during the rice harvest. Regular attendance is necessary for the accomplishment of school work. During the busy seasons, however, if parents need their children at home, their wishes should be given every reasonable consideration. With the approval of the division superintendent, half-day sessions may be held, and the industrial work may be done in the rice fields at home. The all-the-year-round school and teacher, with short vacations at convenient times, will make possible much closer coöperation between parents and teachers.

The plan of "home-work credit" used in Oregon opens great possibilities in coöperation. By this system students receive credit toward graduation for work done at home, such as caring for animals, cooking, bookkeeping—almost any work which they do regularly. The parent or person for whom the work is done certifies to it monthly on a report card; the instructor inspects at intervals; and the student is given credit the same as for lessons or work at school.

The idea is similar to the "home projects" of some Massachusetts schools which are teaching agriculture. A boy may have at home certain work of his own—raising pigs or potatoes or caring for an apple orchard—the materials, tools, and capital usually being supplied by the parents. His teacher inspects the "project" and gives instructions, and often talks with the father about his son's work and about the farm work in general. Evening meetings for the farmers of the neighborhood are held by the agricultural instructor.

Intermediate farm schools in the Philippines coöperate directly with the farmers in some instances, the farmers cultivating parcels of land under the supervision of a teacher. There is much coöperation, too, between parents and teachers in industrial work, and it is increasing rapidly. The time may soon come when the teachers will be so well trained along industrial lines that parents will be disposed to follow their advice. Then the schools will be able to teach both parents and children the latest and best methods in agriculture and in homemaking.

At present, parents frequently assist the schools by fencing grounds and plowing, by giving the children seeds and industrial materials, and by loaning tools and animals. Most of the cloth for sewing and, in some places, the materials for cooking classes are supplied by the parents. They often bring from the forests rattan and kilog for basketry. Both food-producing and ornamental plants are obtained from the homes of the pupils.

Parents also assist the industrial classes by sending in garments for making or for mending and by purchasing articles

either directly or through their children. The cooking classes of the Nueva Vizcaya High School last year gave several well-attended lunches, charging ₱0.30 or ₱0.40 per plate. This school sold in Bayombong, a small town, products of its cooking classes to the value of ₱875 during the year, making a considerable profit.

Sometimes parents assist their children in preparing materials for industrial classes and they frequently help with gardening. It is not rare to see a parent working side by side with his son in preparing the boy's plot for planting. One of the girls of the Nueva Vizcaya High School was very slow with her embroidery work. Finally, the teacher directed her to take the work home and complete it, and in a short time she brought it back, an excellent piece of finished work. But inquiry developed the fact that her mother had done the work. Such coöperation is liable to be carried too far, but within limits it should be encouraged.

Probably the closest coöperation between parents and teachers is in the settlement farm schools, most of which are located among the non-Christian peoples. The parents will do anything within reason for these schools, from helping to clear the land to helping eat the farm products at the dormitory table. Improved breeds of hogs and chickens are being introduced among the people. More corn is now generally planted by the Ilongots and it is ground at the school mills. A young carabao, the gift of an Ilongot headman, is being broken to work by the boys of the Maquebenga, Nueva Vizcaya, school.

The schools help the parents directly in many ways. Boys usually take home the products of their gardens; girls frequently make articles of clothing for home use. Girls should do a part of their cooking at home under the supervision of teachers.

Mothers sometimes sew on the school machines. Sometimes the Ilongots grind cane at the school mill, one of the pupils driving the carabao for them. Fathers borrow the plows and other tools when the implements are not needed at school. School kitchens and cooking outfits are useful to the people at the celebration of public fiestas.

The building itself should be at the service of the public for the holding of occasional dances and public meetings. One teacher when asked if the new concrete school building was so used, replied that he did not know that this was permissible. A certain principal objected to the use of a new schoolhouse for public entertainments because the people attending might soil the building—a lost opportunity to teach the people of that town neatness and cleanliness. Teachers should realize that

the school plant belongs to the people, and that under proper supervision it ought to be used in any reasonable way that will benefit parents and pupils, or the community in general.

COÖPERATION IN THE CITY SCHOOLS.

By PAUL C. TRIMBLE, formerly Chief Clerk, Department of Schools, Manila.

No discussion of the work of the department of city schools in coöperation with other Departments of the Government or private agencies would be complete without mention of the fact that such coöperation is by no means a one-sided proposition. While the city schools are frequently called upon to help in worthy governmental and private activities, they are also assisted at frequent intervals by these same agencies.

An example of friendly coöperation between different branches of the Government service, in which the department of city schools is directly concerned, is in connection with the industrial division of the Bureau of Prisons. The Bureau of Prisons maintains a bamboo and rattan shop and turns out work of a very high quality. Many of the prisoners have acquired great skill in handling these materials. The city schools frequently send teachers to the industrial division of the Bureau of Prisons where, working with prisoners, they acquire proficiency in bamboo and rattan work and return to direct these courses in the intermediate school shops. In exchange for this service, a regular embroidery teacher is sent each afternoon to the Bureau of Prisons to instruct the women prisoners in fine needlework.

The Philippine Bureau of Health, which has accomplished so much toward freeing the Islands from epidemics during the past years and in making Manila the healthiest city in the Far East, would probably never have been able to accomplish the work it has done without the assistance of the schools throughout the provinces and in Manila. During the dry season, it is sometimes necessary to turn into the Manila mains the water from the Santolan River which is not so free from contamination as that from the Montalban River. When this is done, information is sent out to every home in the city through the city schools. Children are advised to tell their parents not to use water unless it is boiled. Both infantile and adult death rates have been reduced through this means. In return for this assistance and for the assistance rendered by the city schools in stamping out epidemics, and in the dissemination of useful information regarding health in general, the Bureau of Health

coöperates with the city schools in the medical inspection and free medical treatment of school children.

The Bureau of Agriculture has during the past two or three years inaugurated a comprehensive program of coöperative and extension work. Specialists have been brought from the United States and put in charge of this activity. Throughout the provinces demonstration plots are maintained for the instruction of farmers. Seed is furnished and instruction is offered to farmers with the provision that they carry out strictly the instruction of the Bureau of Agriculture with respect to planting and cultivating the crop. In Manila, this coöperation has taken a different form. Through the school gardens and home gardens, supervised by garden teachers in the city schools, the children are instructed in methods of seed testing, planting, cultivating, and marketing of garden products. Public opinion in Manila—where public opinion is of most moment—is materially influenced by this and similar educational campaigns of the Bureau of Agriculture.

In the conduct of industrial work in the schools themselves, coöperation is seen at its best. During the past year it has been extremely difficult to secure sufficient dyestuffs to carry out color designs on Bureau of Education industrial models. A small quantity of various dyes was secured and, using the Meisic Primary School as a center, industrial teachers from all over the city gathered there on Saturday mornings, bringing industrial fibers and blue-print instructions with them. The small amount of dye which could be secured was thus made to do the maximum amount of work. This idea of the industrial supervisor of boys' work has in a measure overcome the dye problem and cut down the cost of dyes throughout the schools. In coöperating and purchasing from school funds, the primary schools of the city have been able to secure in large quantities such industrial materials as rattan, buri, pandan, bamboo, and white abaca from nearby provinces at reduced rates. The charges on a small shipment of any one of these materials frequently is as high as the charge on a much larger quantity. By purchasing their materials together, better quotations are obtained and the transportation charges are reduced.

Aside from industrial work, there are also examples of coöperation in the city schools. During the past school year, superintendents from provinces near Manila have sent principals and teachers to observe for a few days at a time the methods employed in the city schools. Everything possible has been done to make these visits pleasant and profitable. Special ob-

servations classes have been conducted for their benefit. These teachers upon return to their provinces after visits to city schools have conducted model classes, and have demonstrated the things which they learned while in Manila. In return, the city schools have been able to secure from these same provinces for the coming year the services of a large number of well-qualified teachers.

COÖPERATION BETWEEN THE SCHOOL AND LOCAL GOVERNMENT.

By LEROY R. SAWYER, Division Superintendent of Schools, Tayabas.

The problem in coöperation between schools and local government is not so much concerning how the schools can help the local authorities, for in a hundred ways they have done this since their establishment. The phase of the matter that most demands the attention of teachers has to do with the help that the schools may reasonably expect from the local government in return for service rendered by the school and how that assistance can best be secured. A few examples from Tayabas will indicate something as to what has been done and what can be done.

In August, 1915, the enrollment in the barrio school of Lagalag, Tiaong, was exceptionally poor. The teacher was unable to increase the attendance, so the supervising teacher asked the municipal president and the councilor of Lagalag to go with him to the barrio. They called a meeting of the people at which the president and the councilor explained just what was expected. As a result, on the following Monday the enrollment was more than doubled, and the attendance was fairly good during the rest of the year.

In Pagbilao the president instructed each barrio teniente to have a display in connection with the school exhibition on Garden Day. Eleven barrios had exhibits of local products. Through the combined efforts of the public officials and of the schools, the day was made a notable success. In another municipality, at the beginning of the year which has just closed, the central school was to be enlarged and a new barrio building was to be erected. There was no money for either purpose; but the president was interested in school work and he had two buildings ready for occupancy at the opening of the term.

The visits of the municipal president and councilmen, or of the provincial governor, are often of real encouragement to teachers. And the municipal health officer by his examination

of school children may render a vital service in preserving satisfactory health conditions in the community.

Local officials cooperate more readily when they see practical results achieved by the schools; when gardens are kept in first-class condition; when the industrial output is up to the standard; when the teachers are in harmony with each other in working out school problems; when the teachers regard their work not so much as a matter of hours and wages, as a trust and an opportunity to better the community. Entertainments have proved highly effective in securing favorable interest in the schools. An intelligent and tactful teacher, through a well-planned program, can bring home to the public the most pressing school needs and secure the good will of the officials.

The members of the local government who have the most to do in cooperation with the schools are the president, the councilors, the school board, and the municipal treasurers. The president usually belongs to the party in power; and, as he is the presiding officer of the council, he has almost absolute control in the preparation of the annual budget. He has political and moral influence in his community, and any undertaking which he sees fit to support is likely to succeed.

If the president does not belong to the party of the majority in the council, the councilors assume a more important place in the administration. Then they make the annual budget, and it is to them that appeal must be made in case of any special need. Often the local school board exists in name only. Its members, except the president, are powerless unless they are men of great personal influence in the town. The municipal treasurer usually does more for the school than any other member of the local government, except the president. His knowledge of conditions through his intimate contact with the people is very useful, and frequently the municipal treasurer is approached rather than the president.

COÖPERATION OF LOCAL DEALERS IN THE SALE OF SCHOOL-MADE INDUSTRIAL ARTICLES.

By JULIAN MELTON, Teacher, Naga, Comarines.

The output of salable articles made in the industrial classes of the schools is constantly increasing, and the problem as to how best to dispose of the goods demands consideration. There are three established channels of sale which have hitherto been relied upon. The first consists in filling the orders that are sent to the division by the General Office. The second, and so far the most effective medium, has been through the division

salesroom and school exhibitions. The third method of disposal has been that of supplying the local demand through merchants who are willing to coöperate with the schools. Till now, this has been the least successful means tried. The sales have generally been too small to warrant the continuance of the experiment. Nevertheless, this matter presents most interesting and hopeful possibilities.

Dealers usually wish to secure the goods on credit, but a credit system is not desirable to the schools. If cash payments are made, the money may be reinvested to good advantage in the purchase of additional supplies of raw materials. The industrial work of the schools can thus without difficulty be placed on a business basis. In case the merchant is not in a position to pay cash, an alternative may be taken—he may pay periodically, perhaps once a month, or once in two months.

A thriving business should exist in order to justify coöperative selling. The vital matter here is the margin of profit. The greater the margin, the better it will be for the agent, and the more keen will be his interest. School-made articles, when quoted at wholesale prices, should be so marked as to guarantee a reasonable gain to the dealer. Ten per cent of profit is generally acceptable, however. The variety and quality of articles is closely related to the profits. Articles of excellent workmanship are more readily sold than poorly made ones. Goods in demand should be available at any time and there should be no competition.

The yearly sales in the division of Ambos Camarines will amount to nearly ₱2,000. Naga, the capital, has a population of between 15,000 and 17,000. There are many Chinese and a considerable number of American and European residents. The conditions are especially favorable for a coöperative selling arrangement. Here Mr. Guillermo Lopez, a popular Spanish merchant and proprietor of a good-sized store, has for the past few years been interested in retailing school-made articles. He has always been able to dispose of the goods without much waiting. After the division industrial and sales exhibition of February 19-22, 1916, he offered to retail all of the articles remaining unsold. This indicates that he is receiving good returns from acting as agent for the schools. His best and steadiest sellers have been stem baskets of various forms, work baskets, rattan chairs, lupis trays, embroidered articles, and laces.

If placed upon a permanent basis, this sort of coöperation tends to facilitate the marketing of school products, and it

relieves schools of the burden of selling to individual buyers. Since by this arrangement the schools have to deal with but one buyer at a time, no accounting difficulties are likely to arise. Also, when the articles are ready for sale they need not be allowed to accumulate in the salesroom of the division, but they can be displayed to the public by the local dealer.

COÖPERATION OF SCHOOL AND LOCAL INDUSTRIES.

By WM. S. FICKES, Division Superintendent of Schools, Iba, Zambales.

The town of Olongapo, situated in the southern part of Zambales Province, derives almost its entire income from the salaries of those employed in the shops of the United States navy yard. Being a Federal Government reservation, the municipal administration is conducted by detached naval officers who regard honest work as the duty of every normal man. Since only able-bodied men are employed in the yard, and all male residents not engaged in business are required to work or leave the reservation, there is a notable absence of indolence and unemployment.

As the fathers of almost all the school children are men doing manual labor and earning from ₱1.50 to ₱8 per day, they are highly interested in having their sons receive training that will be advantageous to them in securing advanced positions in the navy yard. The naval authorities are in constant need of trained men, and the schools have been in need of facilities for giving the boys such training as will be of greatest benefit to them in afterlife.

The conditions being so favorable, steps were taken toward the establishment of coöperative industrial work between the schools and the navy yard. The preliminary arrangements were concluded with the commandant, Capt. Benjamin Tappan, as to the courses to be followed, the nature of the work to be taken up, and the time for giving the instruction. Early in August, the boys of the fifth grade began their industrial training in the shops of the navy yard.

There was a question as to the best method of arranging the academic work so that the boys might be able to complete the intermediate course as outlined by the Bureau of Education. The class was divided into two groups of eleven boys each. These groups were assigned to alternate weeks in the shop and in the school from 7.30 a. m. to 12 m., Sundays and holidays being excepted. This allowed full time in school for one half of the boys during every other week. The academic work missed by the section in the shop was made up by taking double

periods in the morning class work when the section returned to school. The problem of completing the academic work was made more difficult on account of both boys and girls being enrolled in the class with but one teacher. It is clear that had this been a one-sex school the task of giving academic instruction would have offered less difficulty. It was found to be a satisfactory arrangement to have the girls do their industrial work in the morning. The afternoons from 2 to 4.20 were devoted entirely to classroom work with all present.

Groups one and two were further subdivided in the shop into those taking ironworking and those taking woodworking. Both of these departments are under the direct supervision of an American foreman with many years of practical experience. One of the greatest advantages to the student apprentice consists in his having access to the best and most modern equipment. Nothing is made in this crafts shop that does not have a specific use as a part of the wide scheme of repair and construction carried on in the navy yard. As this scheme has been in operation for a period of only one school year, statements as to the benefits derived by the navy yard or by the boys of the community, must be cautiously made. But a considerable amount of valuable work has been done by the boys for the navy yard. They have in turn received a vast amount of practical instruction which will be of worth to them later. The purpose of our schools has been demonstrated to the people, who in turn have awakened to the fact that the aim in education is not to raise up a generation of men and women professionally academic, but to elevate the standard of each individual as a citizen, whether he be a mechanic, an engineer, or a painter.

The work of preparing these boys for employment in the navy yard presents fewer difficulties to the naval authorities than if they were being trained as regular apprentices. While a longer time will be necessary to bring them to the place where they may be classed as skilled workmen, yet their alertness of mind and knowledge of English makes them superior to the class of uneducated boys usually applying for admission to apprenticeships. And their mental ability will be a great asset making for efficiency when they have attained eligibility to employment as skilled workmen.

It is not believed that such coöperation should be attempted except in communities where there are modern industrial plants. To send a class of boys off to an establishment having poor facilities for their training would not be in accord with the present day demand for advancement.

SOME RESULTS OF COÖPERATION.

By KILMER O. MOE, Superintendent, Central Luzon Agricultural School.

During the past few years a great deal has been written about coöperation. It has been adopted as an almost universal slogan for successful enterprise. The get-together spirit is being fostered in the Philippines by all governmental agencies which have to do with problems of general welfare. The Bureau of Agriculture has organized agricultural societies throughout the Islands, and the Bureau of Education is doing all in its power to spread the gospel of coöperation through the medium of the public schools. If precept alone were all, the average Filipino community would long have been a model of efficient and intelligent coöperation for the common good.

The perverseness of human nature is just as likely to find an expression in a Filipino community as elsewhere. Self-interest continues to be a motive for individual action, and this, except on rare occasions, far outweighs other considerations. This phase of the problem may as well be accepted as a controlling factor, and efforts which do not yield some measure of profit to the individual may be looked upon as unsound from the practical standpoint. It is, therefore, necessary to revise the ideas usually held regarding coöperation to conform to the more practical consideration of including the welfare of individuals as well as that of the community. With this viewpoint it is not difficult to find examples of real coöperation. The results in many instances are remarkable. Some typical examples will show the trend and the underlying motives.

NATURAL FORCES AT WORK.

Settlers in newly opened districts show a strong inclination to work together. Groups of families bound by common ties of dialect and purpose have been moving onto the unoccupied lands of Nueva Ecija for the past eight years in increasing numbers. These people help one another to erect houses, clear land, establish irrigation systems, and to do whatever else is necessary to build up an agricultural community. The hardships of pioneer life are such as to force the settlers to unite in self-protection. The arduous task of taming the wild wastes of forest and cogon does not permit of half measures. In spite of close teamwork, the obstacles to progress oftentimes prove too great, and the settlers emigrate to more favorable localities. But usually the labor and sacrifices are rewarded, and the waste lands finally yield up their treasures.

Not only have large tracts in Nueva Ecija been settled in this way, but other sections of Luzon, together with the unsettled lands of other islands, have been taken up and made to yield profitable crops. The homesteader is in every sense a real benefactor. He builds not merely for himself, but for generations yet unborn. Every sacrifice he makes helps to lay the foundation for the economic welfare of his country. He coöperates with his neighbors because he must, but in so doing learns the value of community effort.

COÖPERATION IN THRESHING AND MARKETING.

Practically the only money crop in the vicinity of Cabanatuan, Nueva Ecija, is palay or unhulled rice. Naturally, the rice farmer is anxious to enjoy the highest returns for his efforts. This does not come about if he has to pay the middleman's profit in threshing his crop and disposing of his product. To escape this extra burden, the principal rice growers of this vicinity joined hands some eight years ago. By pooling their resources they succeeded in purchasing several threshing outfits with which they threshed one another's rice crop as well as that of their neighbors. In this way they accomplished together a task which was beyond the ability of any one of them acting separately.

This combination went even further. After having united in one venture, it was an easy step to extend the enterprise to include also the storing and marketing of the palay. Warehouses were built by means of which the crops could be safely stored and marketed through an organization owned and controlled by the farmers themselves, thereby saving the middleman's profit.

Similar forms of community effort are duplicated many times over throughout the Philippines. Of course, in nearly every instance the interests of the individual are taken care of, but always such enterprises result in a direct benefit to the community. To multiply these endeavors would bring about better economic conditions throughout the country.

PUBLIC BUILDINGS A RESULT OF COMMUNAL LABOR.

Another notable example of the spirit of coöperation is the construction of public buildings, chiefly schoolhouses. In the early years of American occupation the school authorities were confronted with the task of providing the necessary facilities for organizing and conducting schools without adequate resources. Buildings for school purposes, for the most part, had to be

donated or constructed with voluntary labor. At this juncture the community spirit rose to the assistance of the Bureau of Education, and a coöperative building program was carried out in anticipation of the opening of schools.

Instead of securing any monetary advantages, the members of the communities labored for the privileges which the public schools would bring to their children. One man delivered posts or harigues, another ripped a few boards, and a third furnished bamboo or nipa. Each worked with the assurance of no other reward than that of securing certain vague blessings for the next generation, which had been denied to his own generation. Of course, the work was initiated by the field force of the Bureau of Education, but the ready response met with in most places will always remain a bright picture in the history of public schools in the Philippines. In a lesser degree the same communal assistance was given in the construction of municipal buildings and other public works.

All the churches, also, those massive structures, which bear silent witness to the skill and enterprise of a former régime, are monuments to donated communal labor. Stone upon stone, with infinite toil and patience, the massive walls were built and buttressed to withstand the ravages of time and earthquakes. Generations passed before the structure was finally finished. The completion usually was the crowning feature in the lifetime of the good padre under whose direction the work had been carried on. Such a structure would seem to be symbolical of an average community. Each member, though ever so humble, contributes his share, and, though it be small, his bit counts in the final structure.

STUDENT COÖPERATION.

The writer on a recent trip to Albay was impressed by the neat and well-kept appearance of the school grounds. Upon inquiry it was found that the maintenance of the grounds was in the hands of the students. Student teachers under the supervision of an American teacher in the provincial school served as foremen and pupils in primary and intermediate grades did the work. This organization not only served to keep the grounds in good shape, but accomplished a great deal of constructive work by way of establishing lawns, building drains, walks and drives, and planting hedges and ornamental plants. This work if done by hired help, would have cost considerable.

Such work, however, cannot be measured in terms of money. The real value lies in the training which is afforded to growing

boys and girls in working together for the common good. There are hundreds of schools throughout the Philippine Islands where this and similar work is being accomplished—some of it as a regular feature of the daily program and some as voluntary labor contributed by the pupils in addition to the regular requirements. The practice of having communal gardens and of working together to accomplish a common purpose is excellent training for future citizens.

There are many other features which involve the active co-operation of students. Among those may be mentioned school athletics, school entertainments, school discipline, and library work. These offer subjects on which whole articles could be written to show the effects of coöperation in each activity.

UNITED EFFORT IMPERATIVE.

Almost every large problem, whether political, economic, or social, requires the get-together spirit or the combined effort of the many to make any considerable progress. Whether the problem is one of establishing irrigation systems, eradicating animal diseases, exterminating locusts, or fighting cholera, it is all the same. To be successful, one must secure the coöperation of a majority of the individuals affected, either voluntarily or by legal methods, or the effort will come to naught.

When the future welfare of the Philippine Islands is considered, every thoughtful person must be impressed with the importance of coöperative work. Government bureaus must coöperate in order to avoid duplication and useless expense; farmers must coöperate in order to fight pests and overcome natural difficulties; landowners must work in harmony with tenants; and the merchant must found his business on building up a community instead of exploiting it to insure his own success. No wonder the gospel of coöperation is finding more and more advocates.

THE SCHOOLHOUSE AS A RALLYING CENTER.

Many of the problems involved in the progress and future welfare of the Philippines are, strictly speaking, outside of the field to which the activities of the Bureau of Education are limited. But as this branch of the Government is closest to the people, it has lent its organization from time to time to the spread of movements for the general welfare. This practice has led to the free use of the Bureau whenever movements for the public good are to be inaugurated. Pests and plagues have been fought and eradicated through campaigns in which the

Bureau of Education has taken a very active part. Members of the Bureau have organized forces to fight cholera, locusts, and rinderpest. And all the while the schools were the chief medium through which information on the various campaigns reached the public.

And this is as it should be. The schoolhouse is best fitted to be the rallying place for the community. It performs its best function only as it serves the needs of the community in the broadest possible manner. Every movement which has for its purpose the welfare, improvement, and uplift of the community may very properly use the public school building to promote its cause.

THE SCHOOL AS THE NUCLEUS OF COÖPERATIVE WORK.

By CAMILO OSIAS, Division Superintendent of Schools, Mindoro.

In the Philippine Islands, the school is the institution of greatest efficacy in social reconstruction. Recent years have brought to it enlarged responsibility and increased efficiency. The school has led in many movements of far-reaching significance, and it has become the social center.

The school is a proper nucleus for coöperative work. In the industrial and agricultural development of the country it has taken a prominent place. The Bureau of Education, working jointly with other bureaus of the Government, has contributed greatly to the development of agriculture by the courses it offers in the agricultural schools under its control; by the gardening courses in the primary and intermediate schools; and by such activities as garden days and corn demonstrations. It also has influenced homes in many respects through its courses in domestic science, housekeeping, and hygiene and sanitation, and through the teaching of subjects that conduce to proper conduct and right living. Special vocational schools have been organized in the hope that they might be instrumental not only in preparing the pupils and students for definite vocations, but also for the development of household industries.

As specific examples of schools under the Bureau of Education which have been and are instrumental in preparing students for definite callings, mention may be made of some of the most prominent. The Muñoz Agricultural School is exercising a powerful influence in Nueva Ecija, and generally in the development of settlement farm schools through the employment of its graduates as teachers. The farm schools of Indang, Cavite, and Santa Maria, Ilocos Sur, have done much to influence the pupils and

the people of their communities in poultry raising, gardening, and farming. The Batac Farm School has been so influential in spreading the culture of mulberries that today there is a possibility of the development of silk production in Ilocos Norte. The Philippine School of Arts and Trades is sending out many artisans and trade workers. The Philippine Normal School has supplied a large number of the Filipino teachers now in the public schools.

The Director of Education in a recent letter to division superintendents has authorized the placing of the public schools at the disposal of coöperative agricultural societies, where such societies desire to make use of the school buildings. The schools have coöperated efficiently with the Bureau of Agriculture in encouraging the pupils and the people to secure seeds and plants from the experiment stations. Notable among the schools that have influenced the people is the School of Household Industries for women, at Manila, which is turning out graduates skilled in particular lines of household industry, such as lace making, embroidery, and sewing. These graduates, given proper supervision and incentive, should benefit their home communities in extending household industries. The school will soon be the center of greatest influence in each community for the development and extension of industrial activities in the Philippine Islands.

At the last session of the Philippine Legislature, a law was enacted authorizing the Bureau of Education to establish a sales division and provincial industrial sales departments. Such departments, without attempting to compete with private enterprises, will in all probability prove beneficial in aiding the people to engage in profitable industrial enterprises and in finding markets for the output of the schools and the community.

While stress has been placed upon the fact that the school in its industrial activities is the nucleus of coöperative work, there are promising opportunities for coöperation in other ways. The past few years have brought about a considerable improvement in the establishment and enlargement of school libraries. In many respects these answer the purpose of public libraries not only for the school people, but for the outside population.

The school is becoming more truly a social center not only among the civilized people of the Philippines but also among the backward tribes. A notable example of this is the Villar Farm Settlement School of Zambales. At that place there has developed a Negrito community consisting of people who, up to the establishment of the school, had been nomadic in their mode of

living and who had never made any attempt to live in groups. Schools of this nature have been established in Camarines and Bataan, and are exercising strong influence in the upbuilding of Negrito communities.

Often the school building is the most imposing and spacious building available in a community, and, naturally, the people look to it as the proper place for meetings of great community significance and of far-reaching influence. The school is an institution consciously established for the promotion of social welfare. Its authorities are nonpartisan in politics and, consequently, they are in a position to bring together the various elements in the community. A free educational system is an institution of democracy and its benefits are open to all the members of the community. The possibilities of the school as a nucleus for coöperative work are immense.

TRADE SCHOOLS AND COÖPERATION.

By H. K. FINKERTON, Principal, Trade School, Albay.

There is not the coöperation among the several members of the Government who have to do with the industrial department that there should be, nor that there will be when they more nearly approach a common understanding of the scope and problems of the department, and of the immediate needs of the locality in which the particular unit is operating. Still, in some places the coöperation of provincial treasurers, district auditors, and engineers with trade-school principals is quite satisfactory.

In order to secure the coöperation of the provincial treasurer, it is necessary to show him that the trade school, while true to its name of school, is in another sense a repair shop or a small manufacturing establishment for the province; that the treasurer stands in the relative position of president; and that the principal is as the superintendent of this business establishment.

It is necessary on the part of the trade school to do good work, to do it reasonably, and to guarantee the product. The lack of thoroughness that is apparent in some schools is largely responsible for the provincial treasurer's want of faith in the school.

Good equipment must be had, and, while some companies make articles that are classified under names that fulfil the conditions, it is not always the machine that answers to the name that is suited to the conditions in the trade school. For instance, there is a well-known company making mortising machines; it elaborates on the advantages of the hollow chisel

mortiser and recommends it to the small shops. This is good in places where the wood is soft and straight-grained, but for the Philippine Islands that type of machine is not good. The provincial treasurer, as the purchasing agent for the province, must be shown the advantage of spending 15 or 20 per cent more for a good mortiser of the oscillating type. The same is true of some of the other machines.

Confidence induces coöperation. The principal should go to the treasurer in person and talk the situation over from a financial standpoint and also from a school standpoint. The money-making end of the trade school should not entirely rule the management. Treasurers will recommend and push and do almost anything for the trade school, so long as it shows a large profit to the province. This kind of coöperation is not the kind that should be sought. The school is primarily a teaching and instructing institution, and its purpose should not be obscured.

Coöperation between the trade-school principal and the district auditor is not so noticeable as between the principal and the provincial treasurer. The auditor has more of a passive or restraining influence. It is desirable to do everything in a businesslike way, and the principal should have the school's interest primarily in mind. He should let no personal issue, especially in money matters, sway him; this is the kind of thing that the auditor is to watch and check up. Accounting is the chief matter in which the auditor's coöperation should be solicited. There are certain provisions in the accounting regulations that seem out of place in the trade-school system, but they are put there by law and they are to be followed. A definite understanding between the trade-school principal and the district auditor is essential, and it should be secured before any difficulties occur.

The district engineer can bring much commercial work to the trade school or he can withhold it. He is the largest single purchaser of trade-school products in the province, with the possible exception of the provincial treasurer. It is purely on a business basis that the principal should approach the district engineer. The engineer's chief orders are for doors and windows. There are fixed prices for these articles, and most trade schools can make them in the province cheaper than they can be imported. The required woods are usually available locally, and shells can be obtained from the Bureau of Supply. As these windows and doors go into public buildings, it is obvious that the quality should be first-class. If windows or doors prove defective and the reason for such defect is poor material or poor workmanship, such articles should be replaced free of charge.

The pupil or pupils who did the poor work should be required to repeat it, and if the old material is not fit it can be used for exercise work and enough new material expended on trade-school operation to cover the defective pieces. This procedure will soon put an end to careless work. By such methods coöperation can be made to reach its limit with the district engineer as well as with the treasurer.

BUYING INDUSTRIAL MATERIALS FOR A PROVINCE.

By H. B. ATKINS, Division Industrial Supervisor.

Municipal appropriations for industrial work in Pangasinan have been liberal. Most of the 28 intermediate schools are supported by subscription. Certain fixed sums for operating expenses for the industrial classes must be supplied either by subscription or by transfer from general to school funds. This requirement has invariably been met by transfer from the general funds.

Knowing exactly what to buy, where to buy it, and how much to pay has always been a serious and difficult problem, and the partial solution that was reached in Pangasinan in a single experiment was reached through a willingness on the part of teachers, superiors, and merchants to coöperate for the welfare of the schools.

All orders for equipment, materials, and supplies made by supervising teachers are first submitted to the division office for approval. This requirement is for the purpose of controlling municipal expenditures and for the purpose of checking orders with standard requirements. Supervising teachers are supplied with order blanks containing the statement that sufficient money is available to cover the order. This statement is signed by the municipal treasurer. The order is then sent in triplicate to the division office for approval, where the items are checked and needed corrections are made. One copy is retained for file and the other two are returned to the supervising teacher who may make the purchase anywhere.

Two years ago, in order to meet the need for materials to be used in the division normal institute, and in order to supply the towns with most of the materials required for the year's work, a local firm was furnished with lists of materials needed and given all information available as to the kinds of materials wanted and where purchases should be made. Goods were bought, of course, in wholesale lots and distribution made at the store according to orders previously given. Prompt payment by munic-

ipal treasurers was insisted upon. The store added from 10 to 15 per cent to cost prices, yet it was possible for the schools to purchase materials at Manila prices and lower. Slightly higher prices had to be asked for stock which moved slowly. The supplies purchased locally ranged from garden and shop tools, pumps, cement, fencing, roofing, and reinforcing iron to cloth, thread, thimbles, and needles.

This initial venture in supplying the schools with proper materials at reasonable prices opened the way to a permanent and regular trade with the schools. Since then there has been a tendency on the part of local dealers to increase prices. The stores were expected to keep on hand stock enough to meet the needs of the schools. As these needs varied from time to time there was some stock that turned very slowly. Owing to the large amount of capital necessary to carry materials sufficient to meet all requirements, the stock was allowed to go down to where individual orders from schools were ordered by the merchants from Manila with the increased cost price and transportation added to the bill. In time the same profits were demanded on school purchases as were received on other sales. Such a development as here recounted might not have occurred at a time when all business was normal.

The chief advantage in securing industrial materials through local firms is that of payment. The local firm receives the order from the municipal treasurer, approved by the supervising teacher and the division superintendent, and knows that there will be no question as to payment. The arrangement is more satisfactory to the supervising teacher because he does not have to advance money on school purchases.

From the experience in local buying here related, it will be seen that for it to be satisfactory orders should be submitted before the materials are actually needed, so that the items can be combined, and the orders should be sufficiently large so that their frequent repetition will not be necessary.

THE TEACHER'S OPPORTUNITY IN COMMUNITY COÖPERATION.

By J. H. TISSA, Principal, Central Luzon Agricultural School.

The teacher's interest in community life is too often confined to social affairs and to activities which directly affect school work. He feels on safe ground when aiding in a literary program or a fiesta, or in organizing the community for the construction or repair of the schoolhouse. He is usually willing to aid in any beneficial activity already under way, but he

seldom gets beyond a vague wish to initiate community action or any activity not directly connected with social life or school work. Timidity and the rareness of such action by teachers are the principal causes of this inaction.

The schoolmaster has generally been a symbol of business inefficiency. In many cases his training has been such that it has actually unfitted him to take an active part in the practical affairs of the community. His mode of life has shut him away from the every-day problems of the people to such an extent that a suggestion or plan from him not connected with social or school work is usually afforded scant respect. For this, the teacher himself is to blame. It is comparatively easy for a teacher to become a community leader in any one of a number of problems, as soon as the people have been shown that his opinion is entitled to consideration.

In every community the teacher daily encounters conditions which should be bettered and which can only be improved by community effort. Knowing his limitations he will readily recognize the conditions which he is able to improve with the forces at his command. But before starting on such work the teacher must know exactly what he wishes to accomplish and the means that are to be employed in reaching the desired result. He must remember that in the first burst of enthusiasm it is comparatively easy to launch almost any community endeavor, but that only by careful planning and persistent effort will it be brought to a successful conclusion.

The teacher can most easily work through the medium of his pupils. Home gardens, home tree planting, and the food campaigns of the Bureau of Education, with their results in awakening the interest and coöperation of the parents in the community, show the general plan of such activities. He can adapt these same methods to other endeavors, and by tactful coöperation with his pupils can extend his operations to activities not directly connected with school work yet of considerable importance to the community. The value of such a local campaign would be demonstrated if it resulted in making every week a clean-up week, in keeping the barrio streets free from cogon grass, or in providing every home with sanitary arrangements.

After a teacher has successfully carried on one or more projects with the aid of his pupils, he will have established a standing in the community and an ability which will allow him to attack larger community problems. In this he must work more especially with the influential members of the community. If they can be impressed with the need and the possibility of the

improvement, and can be induced to set the machinery in motion to remedy the condition, it is of little consequence whether the teacher receives due credit for his service or not.

Having been a definite factor in improving the health conditions of a town, in improving a municipal irrigation system, or in improving the social and moral condition of a community, a teacher's value to the people among whom he works will have been much greater than if he had confined himself strictly to his books and classes. The reaction on the teacher himself cannot help but be beneficial. To find that he is really being accepted as a man among men, and not merely as a schoolmaster, is worth to him personally all of the effort made.

WOULD YOU GIVE YOURSELF A JOB?

If you applied to yourself for a job would you get it? Think it over.

Just be "boss" for a few minutes, then check up your record for the past month as an employee.

Remember, now, it's your money meeting the pay roll.

Have you, as an employee, filled your hours with productive, conscientious labor, or have you been too busy watching the clock?

Have you produced enough in that month to make you a profitable investment?

Have you put your shoulder to the wheel—forgotten petty differences and difficulties—or have you put sand in the bearings?

Have you asked questions and improved, or have you been too wise to learn?

Have you analyzed what you are doing, and why, or used instinct instead of reason, and got an indifferent and methodless result?

Have you allowed your mind to become poisoned with anger, worry, or envy, and by so doing contaminated and reduced the efficiency of others?

Have you gone through the month, a vision of pay day the oasis in your desert of work? And have you let this vision shut out from view all else in the day's work that would build you to a size where you would give yourself a job?

Or have you been heart and soul in the work, on the job every minute with a breadth of vision that made of the desert of work an oasis of opportunity?

Check up. Be truthful. Would you give yourself a job?
(J. R. Worden in *The Artisan*.)

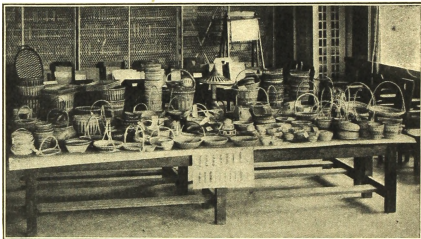
GENERAL TOPICS.

RÉSUMÉ OF THE VACATION ASSEMBLY, 1916.

By W. H. H. LIESCH, Head Teacher, Misamis.

Preparedness, a word conjured with in these days, was the keynote in taking the preliminary steps which were to result in the 1916 Teachers' Vacation Assembly.

As early as July 23, 1915, comment and suggestions which might help to make the next assembly better, were requested from all divisions. Expressions of views on organization, addition or elimination of courses, conflicts, the supplying of materials, and the selection and assignment of teachers were especially desired. A number of suggestions were received



The baskets made at this year's assembly showed marked improvement in both quantity and quality over those of former assemblies.

from the field. Some of these were very valuable and they aided materially in the formation of plans for the 1916 assembly.

To avoid conflicts, the circumvention of which always takes so much time, work was early begun upon the gathering of definite data and upon the selection and suitable arrangement of courses. In making the program, the instructions contained in the announcement were kept in mind. Among other things these emphasized the following points:

(a) The assignment of each teacher to not more than six hours' work.

(b) The attendance of teachers who had not been present in previous years.

The high standard of work done by the instructors has already proved the wisdom of the first requirement, and the work of the teachers at the normal institutes will be the test of the second.

The program indicated that the classes would be in session from 7.30 a. m. to 12.30 p. m. and from 1.15 to 5.15 p. m. No instructor or teacher was expected to work for more than six hours. The policy of correlating the industrial work and the definite assignment as to designs, had proved its value in the preceding assembly, and consequently no changes were made which might affect this policy.

The date set for the opening of the assembly was April 17, and practically all of the 696 teachers were enrolled on that date.

Due to the fact that fewer courses were taught, the number of instructors was less by five than at the previous assembly, as is seen in the following table:

Instructors.	1915		1916	
	Male.	Female.	Male.	Female.
American	13	11	9	11
Filipino	27	14	20	20

The figures given in the above table include the pensionados employed as instructors.

Course No.	Name of course at the Philippine Normal School.	Teachers.			Instructors.			Remarks.
		Male.	Female.	Total.	American.	Filipino.	Total.	
1 A	Elementary embroidery	59	59		6	6	Including 1 supervisor.	
1 B	Advanced embroidery	81	81					
2 A	Elementary bobbin lace	22	22		2	2		
2 B	Advanced bobbin lace	24	24					
2 C	Filet lace	6	6		1	1		
4	Crochet	16	16					
6	Housekeeping	75	75		2	2		
	Sewing:							
7 C	Grade III				1	1		
7 D	Grade IV				1	1		
7 E	Intermediate				1	1		
8 A	Elementary hand weaving, soft strips	9	8	17		1		
8 B	Elementary hand weaving, hard strips	17	5	22		1		
9 D	Coir mats	18		18		1		
10	Hat making	1	2	3		1		
11 A	Native basketry	30		30		2		
11 B	Export bamboo basketry	48		48		2		
12 A	Elementary Polangui basketry	13		13				
12 B	Advanced Polangui basketry	17		17		2		
13	Vetiver basketry	9	1	10			Taught by instructor of 11A and 11B.	
15	Buntal basketry	12		12		1		
16	Stem basketry	10		10				
18 A	Coiled stem basketry	9		9				
18 B	Coiled fiber basketry	6	2	8		2		
18 C	Coiled strip basketry	12		12				
	Slippers:							
20 A	Abaca	13	3	16		1		
20 B	Sedge	4	1	5				

Course No.	Name of course at the Philippine Normal School.	Teachers.			Instructors.			Remarks.
		Male.	Female.	Total.	American.	Filipino.	Total.	
21	Loom weaving	1		1		1	1	
23 B	Bamboo furniture	18		18		1	1	
23 C	Rattan furniture	14		14		1	1	
26 A	Primary gardening	46		46	1	2	3	
26 B	Intermediate gardening	20		20	1		1	
27 F	School-ground improvement	27		27	1		1	
29 A	Primary drawing	41	10	51	1	1	2	
29 B	Intermediate drawing, free-hand and decorative	21	13	34	1		1	
30	Dyeing	39		39				
36 A	Conversational English for primary grades	69	69	118				Taught by instructor in 9D.
36 B	Conversational English for intermediate grades	25	13	38	1		1	Taught by instructor in 26F and 45.
38	Good manners and right conduct	46	40	86	1		1	
39	Music	16	23	39	1	1	2	
40	Phonics	71	52	123	1		1	
41	Writing	47	23	70	1		1	
	Methods:							
	Grade I	21	24	45				
42	Grade II	17	16	33	1	6	7	
	Grade III	21	9	30				
	Grade IV	37	5	42				
43 A	Academic supervision	41	3	44	1		1	
43 B	Industrial supervision	19	2	21	1		1	
44	Municipal accounting system	49	3	52	1		1	
45	Athletics	44	21	65	1	1	2	

AT THE PHILIPPINE SCHOOL OF ARTS AND TRADES.

23 A	Woodwork, primary and intermediate	31		31				
29 C	Mechanical drawing	6		6				
31	Estimating applied to woodwork	26		26	2	2	4	
32	Wood finishing	6		6				
37	Shop English	26		26				
	Record clerk					1	1	
	Property clerk					1	1	
	Total				21	42	63	

FINANCIAL DATA.

The value of supplies and equipment purchased especially for the vacation assembly, plus that taken from the stock room of the Philippine Normal School for assembly use, was as follows:

Embroidery	₱151.28
Bobbin lace	129.29
Filet lace	3.75
Crochet	14.85
Housekeeping and cooking	66.39
Sewing	250.73
Hand weaving, including basketry, hat, mat, and slipper making	422.52
Bamboo and rattan furniture	83.06
Gardening and school-ground improvement	107.21
Drawing	66.50
Dyeing	68.97
Methods	25.80
Total	1,390.35

In addition to the above, the students themselves furnished materials as shown below:

Embroidery	₱66.35
Lace and crochet.....	12.80
Sewing	85.37
Hand weaving	19.20
Gardening	38.19
Notebooks, bulletins, outlines, etc.....	119.78
Total	340.69
Grand total	1,731.04
Less supplies returned to the Philippine Normal School	470.13
	1,260.91

These figures show that the students at the vacation assembly used an average of approximately ₱2 worth of industrial materials.

In accordance with arrangements, the total enrollment, except of women teachers, was smaller than that of 1915, as will be seen below:

	1915	1916
Male	511	395
Female	293	295
Total	804	690

The Manila schools sent the largest number. The Department of Mindanao and Sulu was not represented. A comparison of enrollment figures for 1915 and 1916, from all provinces, shows that approximately 80 per cent of the divisions sent fewer teachers this year than last.

Counting methods as four courses, sewing as three, and conversational English as two, there were 54 courses taught this year compared with 69 last. Thus, there is seen to be a decided movement in the direction of specialization.

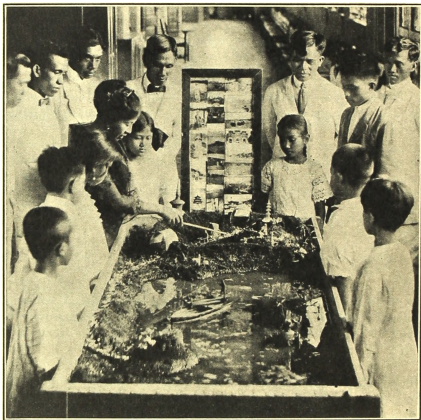
A brief outline of the work carried on in connection with the various courses is given in the following paragraphs:

HOUSEHOLD INDUSTRIES FOR WOMEN.

Emphasis was placed on Valenciennes lace. Not so much was accomplished in this as was hoped for, due to the fact that this was the first assembly at which it has been taught. While the sampler work in embroidery was a trifle lighter, the total accomplished was greater, than last year. Special emphasis was placed on designs and articles to be made on orders from the General Office for the coming year.

HOUSEHOLD ARTS.

The work as outlined and completed during the 1915 assembly was repeated this year with but few changes. All but two of the girls in advanced sewing made and took with them to their stations the following garments: An athletic suit, a handmade nightgown, and a youth's Russian blouse suit. Cutting and altering of patterns, fitting, and putting together of garments were



A practice class at the sand table.

given special attention. The tentative revised course in sewing was followed. The advanced work was entirely new and consisted of making up embroidered nightgowns.

ELEMENTARY HAND WEAVING.

The courses as taught in 1915 were given with practically no change. All but two of the 22 teachers completed the work in hard strips, which consisted of 18 exercises in simple sawali weaves, 2 in hexagonal mad weave, one candy basket, and one

fan. Specifications were followed very closely, and each teacher kept an accurate account of time and materials expended. Records were kept of costs, both individual and total.

MAT MAKING.

Although only one loom was provided for every three workers, each teacher completed a coir mat. The quality of all but three of these was excellent. All material was prepared at the assembly. The results were considered very satisfactory.

BASKETRY.

In general, the work in basketry was very successful. Fifty per cent more baskets were completed than at the previous assembly. This was due in large measure to the fact that many brought their own materials already partially prepared.



These teachers are wearing athletic uniforms which they made in the sewing classes.

Because of the lack of dyes, the rapidity with which lupis baskets can be made, and the greater demand for them lupis basketry was taught almost to the exclusion of other coiled basketry.

HAT MAKING.

The fact that only three students enrolled in this course indicates a falling off of interest in hat making as a school industrial subject.

FOOT LOOM WEAVING.

As an industrial course for the public schools, foot loom weaving met with little demand and it is safe to say that it will not be taught at a subsequent assembly.

BAMBOO-RATTAN FURNITURE.

The required work and the designs for bamboo-rattan furniture were the same as those for last year.

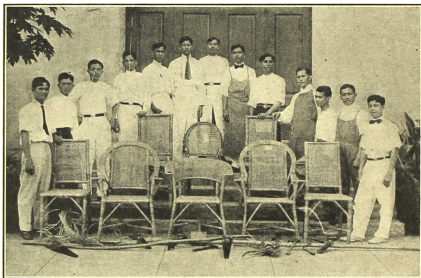
GARDENING.

A model primary garden was fenced, laid out, and planted. The intermediate garden made by students at the Philippine Normal School was used as a model for demonstration purposes. Emphasis was placed upon the correct use of fertilizers.

The Bureau of Agriculture cooperated by furnishing each teacher with seeds with which to plant the school garden upon his return to the provinces.

SCHOOL-GROUND IMPROVEMENT.

The work in this course followed the plans laid down for the two previous assemblies. More emphasis, however, was placed



Bamboo-rattan furniture and its makers.

on field work and less upon theory. The class made walks and concrete fence posts on which they stretched and fastened the woven wire fencing. Lawns were made and hedges set out. Many took home with them cuttings of ornamental plants and shrubs with which to adorn school or home premises.

DRAWING.

More than usual emphasis was placed on how to teach primary drawing. The results secured in intermediate free-hand and decorative drawing indicate that the work in this class was well taught.

Much of the success in drawing was due to the proper selec-

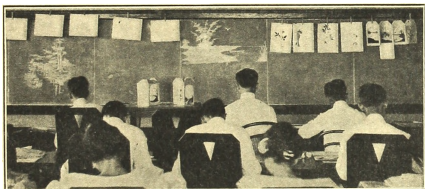
tion of materials and to the care with which the teachers who took this work must have been chosen.

GOOD MANNERS AND RIGHT CONDUCT.

Pictures and dialogues were used extensively in this course, and, through these as a medium, there was firmly inculcated in the teachers the need of obedience, punctuality, order, quiet, and cheerfulness. Approved methods for using the Perry pictures were shown. The matter of individual and true politeness was given due stress.

MUSIC.

Most of the time was spent in presenting to the students methods for teaching music in Grades I to V, inclusive. The



The class in free-hand and decorative drawing.

members of the class were required to do practice teaching, using the methods previously given. Special emphasis was placed upon the teaching of rote songs; tonal dictation, both oral and written; and sight reading.

PHONICS.

The same outline was used as last year. Special emphasis was placed upon proper vocalization and the recognition of sounds. This course was popular and the students were much interested. They seemed to appreciate especially the story telling given in connection with it.

WRITING.

Much attention was given to methods in the work of this course. The reduction from a two to a one hour period gave better satisfaction.

METHODS.

There were four model classes. These were conducted by six carefully selected Filipino teachers of the Manila schools. The outline covered observation, practice teaching, and conferences with critic teachers. The two-division program, special methods and devices, picture studies, materials for opening exercises, story telling, and lesson plans formed an important part of this course.

ACADEMIC SUPERVISION.

This course consisted of instruction in methods, and discussions of why certain methods were more desirable than others. The outline was unusually well prepared and received by the teachers, most of whom became so much interested in the work as to purchase books on methods, psychology, and pedagogy before returning home.

INDUSTRIAL SUPERVISION.

The outline divided the work into two parts: (a) Supervision and inspection of industrial classes; (b) judging of finished industrial articles. The course was well outlined and merited a larger enrollment.

MUNICIPAL INDUSTRIAL ACCOUNTING SYSTEM.

This course was very comprehensive and especially popular with the students. It was even more thoroughly outlined than last year. Those who took it should be well equipped to teach the subject at normal institutes.

ATHLETICS.

The subjects taken up in this course were athletic courtesy, the handling of crowds, athletics for girls, training of track athletes, and the social side of athletics. In addition to daily group games, there were a number of very interesting indoor baseball games.

SOCIAL EVENTS, LECTURES, AND EXCURSIONS.

The Vacation Assembly was not all work, for there were a number of pleasant social events, lectures, and excursions, all of which were well attended.

On the opening day the Director of Education, Mr. Frank L. Crone, delivered a short address, and during the following weeks other addresses were made by Mr. H. A. Bordner, superintendent of the Philippine Normal School; Mr. Henry S. Townsend,

division superintendent of schools of Rizal; and Mr. Francisco Benitez, assistant professor of education, University of the Philippines.

Excursions were made to points of interest on Saturdays. The Aquarium, Bureau of Printing, the cigar factory of the Compañia General de Tabacos de Filipinas, Oriental Brewing Company, Wm. Ollendorf Embroidery Company, the Pickett-Johnson rope factory, Corregidor, and the agricultural experiment station at Lamao, Bataan.

Classes were held till 4.15 on Friday, the last day, immediately after which a literary program was given and the Eleventh Teachers' Vacation Assembly came to a close.

Although the assembly just closed was the most successful thus far held, it is expected that next year's assembly will show improvement because of the following measures which it is planned to adopt:

More expeditious method for matriculation is to be put in practice.

The program is to be so arranged as to give greater latitude in the choice of courses.

Designs desired by the General Office are to be in the hands of the superintendent before the opening of the assembly.

The instructions of the Bureau of Education as set forth in the vacation assembly announcement should be followed more closely, particularly with regard to the quality of teachers, the courses to be pursued, and the special privileges, if any, to be enjoyed.

HOW THE SCHOOL SITE AT PASSI, ILOILO, WAS IMPROVED.

By JOSE LACOS, Supervising Teacher, Passi, Iloilo.

At the beginning of the school year the grounds of the central school at Passi were about as sightly as an ordinary rice field covered with tall grass and stagnant water. The rains that fell almost incessantly in this locality at the time made conditions worse than usual. The plaza and the streets around the school grounds were used by the children for athletic purposes. The paths which led to the building and to the outhouses, and which had been placed in good condition during the previous school year, were completely covered during the vacation with tall weeds and grasses, and the ditches had filled up. As the posts for the wire fence which surrounds the site were of temporary material, many of them had decayed and given way to the wind. Little or nothing had been done to relieve the barren appearance

of the outhouses. No hedges had been planted around the building nor along the margins of the walks. Such was the condition of the grounds at the beginning of the year.

While one can tell at a glance whether or not school grounds need attention, plans for improving them cannot be matured and carried out so quickly. How the site should be improved was carefully considered by the teacher responsible for the work in the schools of the district. A plan was drawn up and discussed with the teachers and pupils. The coöperation of the local officials and the townspeople was solicited and secured.

The grounds are divided by a street. The improvement of the part to the east was turned over to the intermediate teachers and pupils; that to the west to those of the central school. Each school was to take care of the section to which it was assigned. The necessary repairs on the fence; the work of leveling, grading, and cleaning; the construction of ditches, walks, and flower beds were equally divided among the teachers who, in turn, parceled out the work among their pupils. The boys were assigned to the heavier work and the girls to the planting, the cultivation, and care of flower beds, plants, and lawns. Plans were so definite and detailed that each pupil understood clearly what his share of the work was for each day. In order to secure uniformity, the work was regularly inspected by each teacher and compared with the original plan.

Since the carrying of gravel to cover the walks previously laid out would have required so much additional time and sacrifice on the part of the pupils, the local officials provided funds for the purchase and transportation of gravel. The people constructed a building with iron roof and wooden floor for domestic-science and woodworking classes. The expenses connected with the carrying on of both of these classes were borne entirely by the community. Everyone connected with the undertaking was devoted to it and did his part of the work unselfishly, being assured that it was for the good of all.

Of course, no one was obliged to help, but the work was so well organized and the purpose was so well understood, that each did his share as a matter of course. The pupils marched to school early, books in hand, with hoes, shovels, bolos, or occasionally stems of *dapdap* on their shoulders. From the time they reached the school until the first bell rang each went to the place to which he had been assigned, and dug a post hole, erected a post, nailed the wire to the posts, leveled the grounds, picked up and gathered sticks or bits of paper, or piled and carried off the

grass that had been cut. Each tried to make a little better showing than his companion. Teachers might be seen moving about from one end of the grounds to the other, commenting, encouraging, instructing. Walks were constructed, capped with gravel, and bordered with violet hedges; the outhouses were screened with morning-glory vines; lawns were planted and trimmed; and flower beds which were raised and surrounded with a wire fence were planted with flowers. Thus a site which at the beginning of the year was little more attractive than an uncultivated rice field, and whose improvement was thought by some to be impossible, was turned into the beauty spot of the town.

The barrio schools tried to duplicate the work of the central school and were successful in so far as the means at their disposal allowed. Barrio as well as central school pupils caught the contagion of unselfish service to such an extent that they desired to put into practice at home the ideas of cleanliness and beauty, which they had acquired at school. When school closed for the day, the pupils were less frequently seen in the street playing "bantil" or "tubiganay" in clouds of dust or in the mud. They were at home trying to improve their surroundings. It is hoped that it will not be long before the desire for the better keeping of the home and its premises will have been carried by the pupils into every household.

OUTLINING WORK FOR INDUSTRIAL CLASSES.

By E. FORD HICKMAN, Division Industrial Supervisor, Ilocos Sur.

The industrial work of the schools is divided into two general classes—direct betterment and commercial. The latter may be divided into two classes—export and local.

The work in the direct betterment courses is outlined by the course of study. For the girls, plain sewing and cooking are prescribed; for the boys, hand weaving, gardening, and shop work. Where and when these courses are to be taught is definitely stated in the course of study, so very little attention will be paid to them here. The question as to whether hard or soft strip hand weaving is to be taught should be determined by the local supply of raw material; or, if materials for the two courses are equally convenient, it should be determined by the kind of commercial work to be done in advanced classes.

Immediately following the course in hard strip weaving, a course in native basketry should be given. This should consist

of types of baskets used locally; such as rice baskets, winnowing baskets, and market baskets. Sizes and shapes that are in local demand should be adhered to, and the finished product offered at local prices. In many cases the style of basket varies in different localities of the same division, so it is a good plan to leave to the supervising teacher the selection of the kinds of baskets to be made in a district. Since local demand, as a rule, does not require excellent workmanship, baskets made by beginners can be sold for more than the cost of the material. Good workmanship must be insisted upon, however, even though local demand does not require it, otherwise the educational value of the work is lost. The making of these baskets gives the necessary training in the preparation of materials—bamboo, nito, and rattan—used in the advanced basketry classes. It is valuable, also, because the selling of the baskets is an incentive to commercial work.

The course in the hand weaving of soft strips may be followed by the making of book satchels, cushions, and mats, which meet a local demand. In the third, fourth, and intermediate grades, the pupils of the plain-sewing classes, besides making clothes for themselves, may make garments which can be sold locally. Some line of work which will supply articles to meet a local demand should be prescribed for every school.

Quick financial returns, even though small, from any of these courses stimulate interest not only among the pupils, but also among the parents, and make the benefits of the industrial classes the more evident to the community at large.

Prescribing work for export trade is a more difficult matter. There are many points to be considered for every school, among which the following are important: a supply of raw material, a market for the finished product, and the ability of the pupils and teachers.

The supply of material and a possible market must be considered together in planning work. There may be an excellent market for a certain line of work; but if the supply of raw material is inadequate, or if it is so expensive that the school cannot produce the articles for prices at which other schools produce them, then that line of work should not be prescribed. An adequate supply for the year should be in sight when work is planned. In places where a large supply of a certain raw material is at hand, a line of work should be given which will use this material and for which a ready market can be found. Technical Bulletin No. 26 (revised) will aid in determining the lines of work which are the most salable.

The ability of the pupils depends upon the kind of preparatory work they have had. In this connection the elementary work given and the courses previously taught in the school should be considered, and work prescribed which is based on them. Teachers should be assigned to schools where the work they are best able to teach is prescribed. It is a mistake to change the kind of work in a school to conform to the kind of work the teacher assigned is best able to teach.

The question of what it is best to make in industrial classes is before the industrial supervisor at all times, but is given most consideration during the closing months of school, when definite plans are being made for the following year. He then knows what work has given the best returns during the year; the work of individual schools is fresh in mind; so plans for the following year can be made to advantage. Where changes are contemplated by the division office, the supervising teacher should be conferred with; for he is on the ground and, as a rule, should know conditions better than either the superintendent or the industrial supervisor. A written outline, definitely prescribing the work to be taught in each school of the division, should be prepared at this time and issued to the field. The assignment of teachers to industrial classes in the normal institute should be based on this, and every teacher enrolled given a very clear idea of just what he is to teach during the following year.

The number of courses given in a division should be kept as low as possible. This greatly facilitates the work of supervising classes, of furnishing material, and of marketing the finished products.

In making definite plans for the work in a school, the following points should be considered:

The number of grades in a school and the age and size of the pupils.

The number of teachers provided for the school.

The materials available.

The probable markets for the finished products.

The courses previously taught.

To secure the best results, a teacher should handle one line of work only; but in schools having but one teacher this cannot be done, so the teacher has to handle at least plain sewing, hand weaving, and native basketry, and, usually, gardening. While this is not an ideal arrangement, yet conditions make it necessary in many places and it can be done with good results.

As soon as the work to be done the following year is determined, an article combining all the best points of a course should

be secured for use as a model in the normal institute. No line of work should ever be considered perfect; a lookout should be kept at all times for improvements in methods and designs.

Changes in industrial courses should not be made until the matter has been thoroughly considered from every point of view. Care should be taken not to adopt a fad for school work; for just when the workers become proficient in production, the fad may go out of style and the producers, finding no market for their work, will have to take up and learn something new.

QUARTERLY REPORT OF INDUSTRIAL WORK.

By O. C. HANSEN, Chief, Accounting Division.

The quarterly report of industrial work, B. of E. Form No. 153 as revised December, 1915, was designed with a view to providing the maximum of information with a minimum of work. At various times the necessity for providing uniform headings for grouping of materials and fabricated articles has been emphasized in order to simplify the form of the report and to make possible a satisfactory compilation of reports for provinces and for the Islands.

Materials purchased and expended should be summarized, in so far as possible, to show materials under the following main classes; articles completed should be listed as stated below:

MATERIALS.

- | | |
|---|---|
| <p>Cloth:</p> <p style="padding-left: 2em;">Linen—</p> <ol style="list-style-type: none"> 1. Fine handkerchief. 2. Medium handkerchief. 3. Cambric. 4. Fine household. 5. Sheeting. 6. Toweling. <p style="padding-left: 2em;">Cotton—</p> <ol style="list-style-type: none"> 7. Batiste. 8. Nainsook. 9. For plain sewing. 10. Other. <p style="padding-left: 2em;">Threads and yarns:</p> <ol style="list-style-type: none"> 11. Linen lace. 12. Sewing, glazed. 13. Sewing, unglazed. 14. Embroidery (white) skeins. 15. Alexander (balls). 16. Crochet. | <ol style="list-style-type: none"> 17. Colored. 18. Other. <p style="padding-left: 2em;">General:</p> <ol style="list-style-type: none"> 19. Abaca. 20. Buntal. 21. Other fibers. 22. Rattan (whole). 23. Rattan peel. 24. Bamboo. 25. Air roots, vines, and rattan core. 26. Midribs. 27. Petioles and banban. 28. Leaf strips. 29. Coconut husks. 30. Vetiver. 31. Sedges. 32. Miscellaneous. 33. Lumber. 34. Other woodworking supplies. |
|---|---|

ARTICLES.

Articles to be listed by Bureau of Education, Craftsman, and Division design numbers either with or without the names of articles or, if they have no design numbers, by courses as per Technical Bulletin No. 26. For example:

- Lace, B. E. 5511.
- Basket, B. E. 1038.
- Mat, Div. 1400.
- Chair Cushion, Div. 850.
- Hats.
- Garden products.

When the inventory and purchases are entered in the Industrial Record Book (Form 151A) the classification number of the materials, as listed above, should be entered in the blank column in the center of the double page. This will assist greatly in summarizing figures for the quarterly report. All materials not specially provided for by this list will be reported under miscellaneous, excepting where the value of a certain kind is particularly high, in which case it may be shown separately.

In reporting articles fabricated, the design number alone is sufficient to indicate the kind of article, and reports to the General Office may be rendered in this manner. Unless otherwise instructed, however, the principal should show the name of the article as well as the design number.

Very few schools will, of course, be required to report articles fabricated under all of these classifications, as the work of any one school will be limited to a few courses. With articles listed under these classes only, the compilation of reports will be greatly facilitated. Unless especially called for, reports should not go into greater detail than that above indicated; but should additional subclassifications of materials be required, all items should be grouped and listed under the prescribed classes and in the same order.

In preparing such a detailed summary report, should the number of lines provided on the report form be insufficient, a line may be drawn through the words "Articles fabricated," and the bottom of the report which begins with the words "Sold during quarter" may be cut off, thus providing 23 lines on the first page for listing materials. Below the word "Materials" on the second page, 22 lines are also provided for articles fabricated. Totals of the "Materials" columns should be carried forward to the second page, opposite the word "Materials."

The primary object of the municipal industrial accounting

system is to insure an accurate accounting for all funds expended on account of industrial instruction and for all money received from the sale of industrial products. It also serves to provide certain valuable statistical information. A comparison of the cost of materials purchased with the value of the completed products—taking into consideration, also, the value of materials produced locally and furnished without charge and those purchased from other than Government funds—will generally show the lines of work most profitable to follow. The report, as a supplement to the knowledge of local conditions in each school, which the division superintendent and industrial supervisor should have, will enable them to determine the courses to be emphasized. The proportion of goods actually sold compared with the value of articles taken up as salable must also be carefully considered.

Were it not for the extra labor involved, it would be well to include in the quarterly reports full and complete details of all the kinds of materials purchased and of the classes of articles fabricated. The summary of such reports would be very valuable, indeed, in assisting to determine the quantities of materials required each year for distribution throughout the Islands, as well as in securing markets for finished articles. With a view, however, to simplifying the report as much as possible, the above grouping of materials and articles is prescribed.

THE ANNUAL INDUSTRIAL EXHIBITION.

By SAMUEL J. ROWLAND, General Office.

Sixteen hundred ninety-two school-made industrial articles, valued at ₱2,885.81, were on exhibition at the Philippine Normal School for five weeks during the Eleventh Annual Teachers' Vacation Assembly. Every industrial course taught in the public schools was represented. In value, the articles ranged from a nominal figure for embroidery, plain sewing, and hand weaving samplers to ₱40 for such elaborate articles as the red narra desk from Capiz and a filet crochet bed set from Manila.

Beginning with 1910, an industrial exhibition representative of every part of the Islands has been held annually in Manila. Up to 1915 the principal feature was the sales. Last year, however, the annual exhibition was held in connection with the vacation assembly, and the sales feature was subordinated to the educational side of the display. It was intended primarily to give the teachers in attendance at the assembly an opportunity

to observe the products of divisions other than their own, and to compare the work of their divisions with the work of others which had used the same designs. But the large collection of well-made articles attracted considerable attention from the general public in 1915 and again this year.

The 1915 exhibition was concluded by a sale of about half of the articles of which it was composed; the unsold balance being in every case returned to the division from which it came.

The following figures are for the articles shown in 1915:

Total invoice value.....	₱3,894.63
Sales.....	1,986.57
Returned.....	1,954.53

This year all of the exhibits were turned over to the newly organized sales department of the General Office by which payment will be made for all articles except those sent in marked "Not for sale." These were returned to the divisions.

The last exhibition was better than that of 1915. One reason for the improvement is that the number of articles requested from any division was limited to 50, thus keeping out all but the very best products. Although only about half the number of articles was received, the total invoiced value was approximately 75 per cent of that of last year. The fact, too, that the educational purpose was better understood in the divisions, was an influence favorably affecting the grade of articles. Each division sent the best of its products, eager that they stand the test of comparison with the output of other provinces.

The exhibits were housed on the second floor of the Normal School Building, and the 40 cases in which it was displayed took up practically all available room. Many of the bulkier articles, and some of the larger embroidered pieces, could not be shown because of lack of space. Everything was neatly arranged. There was no overcrowding.

Although only 50 articles were in any case called for, six divisions sent more than 50. Bohol sent 158. This may be excused by the fact that in this province there is such a diversification of industrial work that 50 articles would not have fairly represented the work of the division.

While no attempt will be made to indicate the relative merit of the various division exhibits, as lack of time prevented judging them, there is given below such comment as the casual observer might offer, and such as may be of more general interest.

Agusan deserved credit because of the fact that it exhibited 25 articles this year, while last year it exhibited none. Its dis-

play of midrib baskets was good, but the Polangui work and desk baskets were only fair, as the rims lacked finish.

Albay stood first and almost alone in such articles as filet drawnwork, karagumoy baskets, and colored lupis trays.

Antique showed some excellent Polangui baskets of B. E. design 1012 and 1006, the trinket baskets of the latter design being the best submitted from any division. This province also had the distinction of being the only one to submit an article in which the common seashore pandan was used in the fabrication.

Bataan was conspicuous for its Polangui baskets.

Batangas, Tayabas, Cavite, Cagayan, and Isabela exhibited some excellent small articles of red narra, including paper weights and knives, inkstands, and bookracks.

Bohol attracted attention with its rather elaborate solid silver rosaries made by fourth-grade pupils of Dawis. The dapdap basketry molds were the best example of homemade basketry devices, and should offer a strong argument for the possibility of more schools using molds in basketry classes.

Bulacan had, in addition to some excellent embroidery luncheon pieces, coiled bamboo (lapat) trays with designs in colors produced by means of potassium permanganate, filet crochet, and a practically perfect buntal hat. This hat, made by a 14-year-old boy of the fourth grade in Baliuag, well merited the 100 per cent which it had been given and deserved the ₱25 at which it was marked. The hat was a fine example of the perfection of an ancestral craft under the influence of public school industrial instruction.

Camarines excelled in mosaic embroidery and in white lupis tray work.

Capis had some excellent articles of buri raffia. The Polangui wastebaskets, B. E. design 1019, were models in workmanship and color combinations.

Cebu showed some very attractive pillowcases adorned with filet crochet.

The Ilocos Sur exhibit unfortunately arrived too late to be put up. The best work consisted of coiled baskets of maguey notable for cleanliness of material and simplicity of design, carved articles of lanete, and napkin rings wrapped with buri and nito.

Iloilo exhibited some excellent black and white book satchels made of buri midribs, a good collection of seeds from Sara, and a placard of photographs showing Sara's school garden activities.

Laguna was the only division to send an exhibit of products of a cooking class. These consisted of cans of preserved pine-

apple, cocoanut sprouts, and breadfruit. Due, however, to the ease and frequency with which glass jars are broken or leak, it is deemed inadvisable to send exhibits of this nature to future exhibitions.

Leyte showed some Polangui wastebaskets of B. E. design 1016, upon which it would be difficult to improve.

Manila excelled in piña embroidery.

Mindoro had the smallest exhibit, but its wastebaskets 1016 and the desk tray of red narra were among the best.

Misamis did very well with sewing baskets of design 1019. There were also some well-made abaca coiled baskets.

Nueva Ecija exhibited some very good buntal baskets.

Nueva Vizcaya had some fine examples of coiled stem basketry.

Occidental Negros stood alone in its exhibit of cooking utensils, among which were an oven, a lid, and a stand made of galvanized iron, to be used with the native clay stove. The articles will add much to the cooking efficiency of the common clay stove.

Palawan sent some very well-made black and white bamboo baskets in a variety of weaves peculiar to that island.

Pampanga's lace and embroidery, especially that on baby dresses, was excellent.

Pangasinan sent in an exhibit which for general excellence of workmanship was surpassed by no other division.

Rizal, Manila, Bataan, Samar, Cagayan, and Isabela were well represented with bamboo and rattan furniture.

Samar showed baskets both of coiled stem and coiled abaca fiber, the latter excelling in sheen.

Sorsogon maintained the place it has long had in coiled baskets of abaca cord.

Surigao sent in some wrapped canes. While these were very well made, they are not regarded by the General Office as very salable.

Tarlac's most interesting article was a brown buri raffia hat. There was also shown a placard bearing a complete statistical record of last season's garden classes.

Zambales had its usual good display of the basketry to which it gave its name.

The Philippine Normal School and Ilocos Norte had some good examples of cotton weaving on improved foot looms.

Union showed some good vetiver baskets.

It is believed that this exhibit marks the end of colored embroidery. Manila showed luncheon sets in blue thread on Canton linen, in design 3713. These have been salable recently, but

this work is believed to be only a passing fad and no market can be depended on for next season. Neither are pillow cushions and hand bags in colored threads any longer salable in Manila, except to a very limited extent as curios.

The effect of the present dye famine was apparent in the appearance of the Zambales baskets exhibited from various divisions. Green, yellow, red, red-violet, brown, and black baskets were sent in, but only the brown and black ones were of the proper shades. In many cases the spokes and the rims did not match as they should. It is thought that only brown and black can be depended on for next season.

A list showing by divisions the value and the number of articles exhibited follows:

Name of division.	Articles.	Value.	Name of division.	Articles.	Value.
Agusan	25	P19.08	Nueva Ecija	50	P50.84
Albay	65	90.65	Nueva Vizcaya	50	57.30
Antique	50	55.10	Occidental Negros	42	131.63
Bataan	19	27.45	Oriental Negros	48	65.70
Batangas	49	116.75	Palawan	50	62.96
Bohol	158	223.20	Pampanga	48	122.20
Bulacan	49	125.55	Pangasinan	32	91.55
Cagayan	48	65.35	Rizal	48	61.20
Camarines	33	90.70	Samar	50	87.23
Capiz	63	112.96	Sorsogon	36	50.55
Cavite	51	95.00	Surigao	16	40.80
Cebu	31	59.55	Tarlac	28	28.35
Ilocos Norte	40	70.65	Tayabas	50	76.35
Ilocos Sur	52	57.75	Union	50	55.30
Iloilo	45	81.21	Zambales	45	67.80
Isabela	34	42.96	Normal School	54	89.60
Laguna	46	70.30	Misamis	38	36.30
Leyte	39	70.55			
Manila	51	226.95	Total	1,692	2,885.81
Mindoro	9	8.43			

Thus it is seen that, while every division was represented, not all sent in the full number of articles called for while others sent in more.

Some of the exhibits were received late. This made it necessary to install them while the classes were being held in the building. Delay was also caused due to the fact that not all boxes, crates, and packages were so marked as to show that they were intended for the vacation assembly exhibition.

As a means to improve next year's exhibit, pupils should be advised early of the fact that at the close of the year a selection will be made of the best articles from the schools of each division. Furthermore, it is planned that next year a person will be placed in charge of the exhibition during the entire session of the assembly so that articles may be taken from the cases for closer examination by the students. More and better cases will be provided so that a greater proportion of the exhibits may be displayed.

EDITORIAL.

COÖPERATION.

Examples of united activity for the common good can be found in every age in every country. But not until recently has the subject of coöperation been given much study, and to many it still signifies little more than a term with which to adorn magazine articles of a commercial or a political nature.

Joint action may exist between individuals and people of a certain class, or between groups of individuals which compose an organization. Mutual aid finds motive in necessity, as with primitive men and in pioneer communities; self-interest, as in modern business enterprises; altruism, where ideals prevail. Whenever two or more people, however actuated, help each other to accomplish a common object, such people coöperate.

Coöperation presupposes a mutual agreement which may be expressed or implied. It is most active where the purpose for which it exists is best understood. In its finest manifestation it requires the highest intelligence, the most unqualified altruism. Yet, there may be successful coöperation where the motive is other than benevolent. And the best that can be hoped for under the present organization of society is a practical kind of coöperation arising from a broad-minded self-interest.

Unselfish coöperation is an ideal toward which all should work. It is almost synonymous with harmony and sympathy. It probably nowhere exists in the degree to which it might attain; but this, rather than being a discouragement, should be an incentive to those who would further united action. The reward will always be proportionate to the effort.

In no organization is the value of coöperation greater, nor are its results more evident, than in the schools. They are the logical centers for radiating the spirit of coöperation throughout the Philippines. It is among teachers, pupils, parents, and local officials that the principle should be fostered. While the subject is of general concern, it is in many of its phases of peculiar interest to craftsmen.

It is natural, then, that from among the leading thoughts which were selected as suitable for each of the nine numbers of Volume V, coöperation was chosen as appropriate for the first number.

TRADE COURSE AS GIVEN IN MUNICIPAL INTERMEDIATE SCHOOL SHOPS.

Of late there has been a growing desire on the part of principals and supervisors of large intermediate school shops, which have been doing good work and producing a large number of finished articles, to place these schools on such a basis that the graduates might be awarded the regular trade-course certificate.

These teachers should stop to consider the inconsistency of classifying graduates of municipal intermediate schools giving the trade course with graduates from this course as given in the provincial trade schools, or of school shops where they have the benefit of special teachers, the use of machinery, a suitable equipment of tools, and ample supplies. It is believed that such a teacher would consider himself far more successful with his big intermediate shop than he ever could hope to be with a school shop which lacks the essentials, but still ranks its graduates as having attainments equal to those of pupils who have completed the work in a regular trade school.

For the year ending December 31, 1914, the value of articles produced in the 267 municipal school shops amounted to ₱37,894.28. Of this total six municipal intermediate schools giving the trade course to 570 pupils fabricated articles valued at approximately ₱5,000 or an average of ₱8.77 per pupil. During the same period the provincial trade schools and school shops produced articles valued at ₱111,628.02, or an average of ₱30 per pupil.

It is believed that this showing is sufficient to warrant the Bureau of Education in planning to gradually eliminate the granting of trade-course certificates from schools other than provincial trade schools or school shops. Pupils of a mechanical turn of mind should have the benefits of all that the Bureau has to offer them in trade-course work, a condition which is believed to be possible only in schools having a sufficient equipment of machinery, tools, and supplies and the services of competent teachers. Pupils who have utilized the advantages of a real trade-school course should receive certificates which are not cheapened in value on account of their being granted to pupils who have not been able to enjoy the benefits of attending a well-equipped trade school, but who have completed only the wood-working course as offered in municipal intermediate shops.

TECHNICAL ENGLISH.

Attention has often been directed in the columns of this magazine to the urgent necessity for pupils in industrial work acquiring a vocabulary in English that shall be sufficiently comprehensive to allow them to describe adequately the operations they perform and the materials used. Less has been said and written relative to the qualifications of industrial teachers in the matter of technical English. In many instances it has perhaps been taken for granted that the industrial teacher was as proficient in this respect as in his specialty, though such an assumption has often proved to be erroneous.

A large majority of the teachers in charge of industrial branches are subscribers to such publications as "The Modern Priscilla," "The Manual Training and Vocational Education Magazine," "Popular Mechanics," and "The School Arts Magazine." It should become a habit and practice with teachers taking such magazines not only to read them discriminatingly, but to read with the idea of building up their vocabularies. If the context does not make clear the meaning of a word, it should be looked up in the dictionary.

Too much cannot be said in favor of the "dictionary habit." Herbert Spencer, the famous English scientist, recommended the dictionary as the "university" open to all comers; the extensive vocabulary of the poet Browning was due in a great measure to his familiarity with the dictionary and his fine appreciation of the exact meaning of much of its contents. Recent editions of standard dictionaries are so replete with illustrations and quotations giving the proper use of all words, that the teacher who bungles in his speech, or fails to use aptly the word or phrase required to express his ideas clearly, runs the risk of suffering a loss in his personal prestige as a teacher.

BEING USEFUL.

Two of the main objects in school industrial work are to train pupils to become proficient with their hands, and to prepare them so that they may be better able to cooperate in the economic and industrial development of their country. This underlying purpose can be considerably strengthened if teachers and pupils

will keep in mind that opportunities presented to them for applying the practical instruction received in the school, are to be grasped and utilized.

For instance, a schoolboy observes that the garden fence is falling to pieces, or that a bench in his home has a broken leg. His school training should at once lead him to make the necessary repairs. Similarly, the schoolgirl should be quick to restore articles to a serviceable condition.

This helpful and earnest attitude of pupils with regard to matters of general as well as of individual interest is one of the most important traits which our public schools can develop. Such an attitude will also insure citizens who will take an interest in, and who will concern themselves actively about, matters of public welfare.

As conditions exist in the Philippines, that teacher who leads his pupils to be ready to put their practical knowledge to useful purposes, will be of the greatest value to the school system and to his country.

ARTICLES HELD OVER.

Lack of space prevents the publication in this issue of a number of contributions. These are being held over for August. Among them are the reports on the division superintendents' convention, and on the industrial conferences.

The Dunwoody Industrial Institute, established in Minneapolis with a \$6,500,000 endowment, the bequest of William Hood Dunwoody, proposes to adapt itself to the needs of the workers. A plan has been evolved which will enable students to divide their time between academic and technical instruction, and actual shop work. The classroom and shop work is to be standardized by the institute authorities and representatives from the trades, and no diploma will be granted before the student has passed a satisfactory test in the trade he has chosen.

There will be evening classes for bricklayers, machinists, carpenters, printers, electricians, plasterers, painters, firemen, engineers, and bakers. In January and February the so-called dull season, day classes will be held in bricklaying, plastering, plumbing, and printing. "We expect," declares Dr. Charles A. Prosser, director of the institute, "to turn out each year groups of young fellows well prepared for their work—boys of high ideals of life and workmanship, whose influence in the trades cannot be otherwise than wholesome." (The Christian Science Monitor.)

INDUSTRIAL NOTES.

CAPIZ.

Notice was given out at the close of school in March that plans were being laid to keep the provincial school shop open during the long vacation. Twenty of the students signified their desire to work. As a result over ₱1,000 worth of school desks and office furniture, for provincial offices and supervising teachers, was turned out under the supervision of Tomas Olivares during the vacation just closed.

In spite of the unusually heavy rains during January and February, the production of vegetables from school gardens showed an increase of 20 per cent over that of the preceding year.

During the past year the teachers of Romblon conducted a very successful camote campaign along much the same lines as those of the corn campaign. (H. W. B.)

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BETTER-BABIES CONTEST IN BULACAN.

On Saturday, April 1, the final examinations in the better-babies contest in the Province of Bulacan were held under the auspices of the Public Welfare Board of the Philippine Islands. Specialists from Manila judged the six best babies from each municipality in the province. These had been selected in an elimination contest conducted during the earlier part of the month.

A feature of Baby Day in Malolos was the demonstration by the provincial nurses of the proper method of preparing the local supply of milk. This was attended with great interest by the mothers of young babies. There were attractive exhibits of milk and food products. The companies making these, donated acceptable prizes to the best babies. A free cinematograph entertainment show-

ing the process of preserving milk was given at the local theater. The baby who won the grand prize was Amado Santa Ana of Meycauayan.

This contest was in progress during the whole month of March. It aroused the very liveliest interest throughout the Province of Bulacan, and great crowds attended. The attention of parents was brought to bear upon the best methods of feeding infants. Campaigns of this kind exert a great influence in reducing the large infant mortality which restricts the proper growth of population in the Philippines. (G. G. L.)

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SUPERVISION OF DOMESTIC SCIENCE IN THE HOME.

To stimulate interest in cooking as taught at the provincial school of Oriental Negros, a series of teas were given by the different classes, each girl inviting and entertaining one or two of her relatives or friends. As far as was possible, these invited guests were parent, guardian, or some member of the girl's own immediate family.

After refreshments were served, the guests were taken through the different rooms of the domestic-science building where the girls exhibited their own needlework, explained the use of the small private bedroom in connection with their housekeeping training, and last, but not least, led the way to the kitchen with its dozen of native ovens and stoves where the actual cooking of the refreshments just served had been done. Each girl took great pride in opening aparadors, linen closet, and drawers of cooking table, explaining the arrangement and use of each, to the interest and admiration of the guests.

These teas proved so interesting and satisfactory that it was decided to cooperate further with the parents

by having each girl of the seventh-grade cooking class prepare one entire meal in her own home to demonstrate her real efficiency in domestic science as applied to the home. Accordingly, arrangements were made with parents and special lessons planned for such a time as the cooking teacher could visit each home and inspect the work. The same plan of inspection was carried out as is used in the domestic-science building, each girl being held responsible for the sanitary conditions of the kitchen. The reports on these home lessons were very satisfactory, indeed. In one home the father was found bringing in the fuel and looking after the fire while the mother busied herself in the yard so that the daughter could have entire charge of the kitchen to carry out her domestic-science ideas in the preparation of food for her own family.

Feeling that the hearty approbation of the parents has been served, it is expected to further extend the work the coming year by having the girls do more real home work in housekeeping. (V. G. W.)

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**COST RECORD OF ARTICLES FABRICATED—
OCCIDENTAL NEGROS.**

The accompanying form was evolved from a similar one which originated with the division of Bulacan. It was given a trial in the domestic-science department of the provincial school in Bacolod and was so successful during the past school year that it has been prescribed for 1916-17 for all schools of Occidental Negros.

The value of this form consists in the fact that it meets all requirements both as to time and materials expended upon articles, and that the pupils themselves make the entries. The cost sheets are issued when work is given out. They are distributed and collected daily by monitors, and

returned for file when the finished articles are turned in. Teachers maintain a careful supervision of the records and may actually make the entries. Usually, however, it is essential only to see that proper entries of materials received have been made. Pupils have no incentive to augment the time involved in the fabrication of articles and the record of the date begun precludes a minimization of it. Incidentally, the pupils learn the value of time, the names and the cost of materials, and the value of their labor as compared with that of their fellows in the class. Credit for home work is given by the teacher according to what has been accomplished.

When a cost sheet is turned in with the finished article the following summaries are made by the teacher:

1. Totaling the "Hours" column.
2. Determining the total cost of material with the usual 10 per cent added.
3. Placing a value on the pupil's labor.
4. Placing a value on the finished article—the value of materials used, plus value of labor.
5. Recording the authorized price.
6. "Variance (below, above)," is a comparison of items 4 and 5 given above, crossing out of either "below" or "above" when the value of the article is above or below the authorized Bureau price.

In the provincial school where this form has been in use, the teacher arrived at the value of a pupil's labor by a comparison with what other pupils were able to do and what she was able to do herself, valuing her own labor on embroidery work at 10 centavos per hour. The same rate was allowed to pupils who worked equally fast, and higher or lower rates were allowed to pupils who worked faster or slower. Quality of work was given consideration

Cost record of articles fabricated in schools.

Article: Baby dress. Design No. 15-117.

Begun: September 6, 1915. Finished: October 5, 1915. School: Provincial.

Record of labor.			Cost of materials used.			
Part worked.	Amount finished.	Hours.	No.	Unit.	Name of material.	Cost.
Bottom	8 leaves, 4 flowers	2.00	185	Meters	Pearline	₱0.79
	10 leaves, 2 flowers	2.00	1	Skein	Thread No. 60	.04
	11 leaves, 2 flowers	1.00	1	Skein	Needle	.005
Neck	10 leaves, 2 flowers	2.00	1	Skein	Thread No. 10	.04
	7 leaves, 1 flower	.40			Padding thread	.01
	5 leaves, 2 flowers	1.20	1	Skein	Thread No. 60	.04
	2 leaves, 1 flower	.40				
	2 buds, 1 flower	1.20				
Sleeve	14 leaves	2.00			Total	.925
	8 leaves, 1 flower	.40			Plus 10 per cent	.092
	7 leaves, 2 buds	1.20			Cost	1.017
	16 leaves, 6 scallops	2.00			Total cost of materials	1.02
	76 scallops, P	2.00			Estimate of labor, 25 1/2 hours at ₱0.03	1.77
	40 scallops, P	1.20			Value of complete article	1.79
	58 scallops, C	1.20			Authorized price	2.00
	15 scallops, C	1.20			Variance (above)	.21
25 scallops, C	1.20					
20 scallops, C	1.20					

REMARKS.—Standard price has not been received. This article was sold for ₱2.

Materials furnished by school.

Names of pupil working: Liberata Lamano.

Total number of hours: 25.41.

Certified correct: Eufemia Ebro, teacher.

Submitted this 4th day of January, 1915.

in estimating the value of the labor.

The form affords an accurate check on stocks of materials; it definitely determines the time required in which to make an article; and it furnishes an accurate basis on which to determine the selling price of an article that it may bring a profit. Such a record supplies accurate data for Municipal Form No. 48-A, and entries under "Materials Expended" on Form No. 153 may be made from a quarterly summary of these records made by the industrial teachers. (W. J. R.)

HANDLING LARGE COOKING CLASSES.

For a teacher accustomed to having only 8 to 12 in a class, it is quite a problem to handle classes containing three times that number. Such, however, was the situation in the cooking and housekeeping courses in the intermediate grades of the Sorogon High School at the beginning of the past school year.

There were 34 girls in one of the classes; 26 in another; and 34, divided into two sections, in a third. A kitchen, a native stove, and an American stove were needed; the zinc worktable, aparadors, and a well-made sink were already a part of the equipment. Without either a native stove or an American stove a cafeteria was begun, but the cooking had to be done over stones underneath the porch in such contrivances as ovens made out of petroleum cans.

The classes were divided into groups, each group cooking one kind of food. Occasionally a lesson was given in cake baking. Each group then had an oven and the girls were encouraged to see which group could produce the best results with the conveniences at hand. The results were satisfactory to all. Since many of the girls are compelled to use such ovens at home, it was decided to include a few such lessons during the succeeding year, despite the better facilities.

The initial inconveniences made everybody the more keen about getting a new kitchen and the necessary stoves. These were secured. The kitchen is so large that two or three groups of six each could cook in it at the same time. Often they did so; but ordinarily the classes were divided into five groups doing the following kinds of work:

First group, cooking.

Second group, cleaning the sink, stove, dishes, tables, and boiling water for the dishes and the towels.

Third group, cleaning and arranging the articles in the aparadors, changing the water in the bowls underneath, washing the dish cloths, and folding and putting away the uniforms.

Fourth group, polishing the floor of the recitation room adjoining the kitchen, mopping the kitchen floor, cleaning the water jars and putting fresh water in them.

Fifth group, cleaning the grounds below the kitchen and the near-by yard, and cleaning the toilet, in which task the janitor assisted.

By rotating the groups, every girl got her rightful share of each kind of experience. Group one on Tuesday became group two on Thursday, group two became group three, and so on until in the course of five lessons every group had moved on, so that in the sixth lesson, group one was again doing the work of the first group.

In order to give every girl an opportunity to be dressed and ready to form in line immediately when the bell rang, two or three girls dressed about three minutes before the close of the double period. These girls then took the place of those at work and finished whatever was left to be done before their class was dismissed, while the others dressed. This plan was used for about three months and it was found to be extremely satisfactory. Every girl was busy during every minute of the double period.

Each girl had a chance to demonstrate her ability in every phase of the work, and the appearance of the floors, table, stoves, dishes, and the room as a whole, was gratifying to all. The system devised had proved a success. (Mrs. H. E. McW.)

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DISPOSAL OF INDUSTRIAL ARTICLES.

Upon the degree of culture attained by the majority of the members of a community depends the success and profit with which industrial work can be carried on in the schools of that community. The financial condition and the cultural needs of the people determine the extent to which the fabricated articles may be disposed of locally. When the people are educated to the point where they demand for themselves the best that can be had and are financially able to gratify their desires, the problem of disposing of the industrial output of the schools becomes very simple. The schools at Bacolod, the provincial capital of Occidental Negros, are fortunate in that there are combined the culture and wealth necessary for the development of a local market for high grade industrial articles.

Until the past year these articles were disposed of at exhibits. But such a method was not satisfactory in every respect, as only the good articles were taken, while the poorer ones were returned to be sold at reduced prices. Since it was only the articles of inferior quality that were returned and put on exhibition, the people were led to believe that all of the work was of this quality.

As a means of correcting this wrong impression, at the beginning of the school year 1915-16, the girls were told that the articles on which they were working, aside from orders, might be purchased by themselves. The announcement was received with a great deal of satisfaction and practically all elected to take the articles on which each had been working.

When these articles were finished, taken home, and shown to parents and friends, the result was gratifying indeed. It was not long before the people who had never taken any interest in industrial work called to see what was being done and to leave their orders. Now that the people of the town know that they can get at the provincial high school the articles they want, there will be no difficulty in getting as many orders as can be filled.

This means of building up a local market for the output of the industrial classes may not be possible or even advisable in all the provinces nor in all the schools of this province, but it has worked out here to good advantage. In order to retain this local patronage, special designs in keeping with the tastes of the various localities may have to be developed. By so doing, however, it is believed that the local market will remain sufficient to care for the output of the schools. (G. B. M.)

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INDUSTRIAL SUPERVISORS, 1916-17.

Agusan	Jose C. Ortigas.
Albay	O. P. Allen.
Antique	Severo Encarnacion (act- ing).
Bataan	M. Buensuceso.
Batangas	Ward B. Gregg.
Bohol	Gilbert S. Perez.
Bulacan	O'iver Z. Stout.
Causayan	Alexander Wiley.
Camarines	Ernest Shaffner. D. Macandog (assistant).
Capiz	Miner F. Smith.
Cavite	Sixto Balayan.
Cebu	B. F. Bennington.
Ilocos Norte	Gil Raval.
Ilocos Sur	E. Ford Hickman.
Izolo	Carl P. Claypool.
Isabela	L. Palagan.
Laguna	Mateo Alfonso.
Leyte	Sidney O. Dye.
Mindoro	Faustino Sabile.
Mountain	Miguel Nebrija. Mrs. M. Agdamag.
Nueva Ecija	John C. Cudoba.
Nueva Vizcaya	Jose Hernandez.
Occidental Negros	Walter J. Robb.
Oriental Negros	Charles Singletarry.
Palawan	Manuel Bacosa.
Pampanga	Jacob A. Robbins.
Pangasinan	Luther Parker.
Samar	G. I. Smith.
Sorsogon	Hugh A. Wilson.
Tarlac	C. M. McElfresh.
Tayabas	J. J. Carl.
Union	Leroy Martin.
Zambales	W. J. Cushman.
Zamboanga	E. H. Hespelt (provincial).
General	H. D. Fisher.

AGUSAN.

THE SETTLEMENT SCHOOL FARM.

The settlement farm schools of Agusan continue to develop and increase in importance and in their influence on the agricultural development of the province in spite of the many drawbacks they have encountered during the past two years. The annual production for the school year of 1915-16, shows an increase of 33 per cent over that of the previous year, notwithstanding the fact that practically all crops were destroyed by floods during the last three months of the school year.

The products of these farms have been of great value in giving the pupils a greater variety of food, and their influence on the Manobo people in general is becoming more noticeable year by year. More diversified crops are being grown by the people and they are learning that it is economy to maintain a permanent farm instead of making a new clearing every year or two as was the custom before the influence of the schools was felt.

In two or three settlements the people have established community farms modeled after the school farms and are making a success of the plan.

THE RATTAN SUPPLY.

The Province of Agusan offers great opportunity for the development of the almost inexhaustible supply of rattan which is found throughout the province.

This supply has hardly been touched except in the region around the barrio of Nasipit, from which place small quantities are exported to Cebu and other southern points.

Several varieties of rattan are found in abundance and could be made the source of large revenues if properly handled.

During the past year manufacturing rattan furniture was introduced into three schools of the division of Agusan with fair results, and the

work will be extended to other schools during the present school year. This is the first step toward the use of the supply of rattan. It is believed the work should be developed and a shop established with machinery for the production of furniture to take the place of that now imported from China. (C. A. B.)

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ALBAY.

Mr. Felix Abejero of Zamboangita, Oriental Negros, has been assigned to this division for the purpose of giving instruction in bamboo and rattan furniture. He is now working in the Catanduanes district.

Greater stress is being placed upon lupis coiled basketry than ever before. Polangui and karagumoy basketry are next in importance.

Fillet drawn work is very popular and bids fair to become the most profitable form of girls' work in the division. It is being introduced into several additional schools this year. (T. H. C.)

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ANTIQUE.

THE SINAMAY INDUSTRY OF PANDAN.

The art of weaving on native looms is an important industry in the Pandan district. There is hardly a house in the entire municipality that is not provided with a native loom, and several families depend entirely upon this industry for their livelihood. In this district the young woman who does not know how to weave is considered poorly prepared for life. Day and night these women are busy knotting and sorting the fibers preparatory to weaving.

Of the several kinds of sinamay made here, the most profitable is the coarsest, commonly called "bajol." It is sold at 10 to 15 centavos a meter and the merchants export it to Manila. Thousands of meters of this heavy sinamay are sent to Manila

from Pandan every year. Practically all women in this section weave their own clothing, which makes them less dependent upon imported goods. (M. S. D.)

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ILOCOS NORTE.

The housekeeping course has been introduced into the intermediate schools of Pasuquin, Bacarra, Vintar, Sarrat, and Badoc. There are now eight intermediate schools giving this course.

Hilario Bonoan and Elias Eugenio, recent graduates of the Philippine School of Arts and Trades, are teaching woodworking in Bacarra and Badoc, respectively.

Liceria Duldulao, Eugenia Ligot, and Margarita Roda, graduates of the domestic-science course at the Philippine Normal School, are teaching domestic science in Laoag, San Nicolas, and Sarrat, respectively.

During the month of May and June a ₱280 order for lace was filled.

During the vacation months, orders for vetiver fans amounting to ₱284 were filled.

The sixth and seventh grade boys of the Laoag Trade School are starting their work this year with some good practical experience in construction. The increase in attendance at the high school made it necessary to provide six additional classrooms for the use of seventh-grade pupils. No suitable building could be found near the high school and so it was decided to erect a new building, containing six rooms, on the hill overlooking the garden and the athletic field. Nearly all the materials, except nipa for roof and sawali for the sides, were obtained from the front part of the old Government building which was unroofed by the baguio last October. The experience in taking these materials from the old building was as valuable as will be the actual work of

construction. The new building will be ready for occupancy on July 10, 1916. (H. S. M.)

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OCCIDENTAL NEGROS.

Modesto Machan, the instructor in abaca coil basketry, formerly employed at Silay, is now employed as a teacher in Oriental Negros.

The Bulacan work basket, design 1105, was produced in the teachers' normal institute in nineteen hours, ten minutes by Esteban Bobe, an experienced basket maker of the Valladolid Central School. The cost of materials was 15 centavos. Figuring nineteen hours ten minutes at 4 centavos per hour—a low estimate for this vicinity—the labor amounts to 77 centavos, which, with 15 centavos added for materials, brings the production cost to 92 centavos.

The Occidental Negros wastebasket was produced by Generoso Legaspina, Washington barrio, Escalante, in the teachers' institute in twenty-five hours fifty minutes; counting 26 centavos for materials, production cost comes to ₱1.29. It is a thoroughly satisfactory wastebasket, and will nest and ship with little damage. With an export demand, it might have commercial possibilities. (H. B.)

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ROMBLON.

THE SUBPROVINCIAL INDUSTRIAL EXHIBITION: ITS EDUCATIONAL VALUE.

The people of Romblon, busy the greater of the year with their own affairs, have gained a clearer insight into the work of the schools through the recent industrial exhibit. Their notion that the industrial work is just a "keep-the-hands-busy" course has been changed, and the school now appears to them as the institution in which their children are trained to become useful citizens, capable of supporting themselves. To those in

charge of the schools, the sale was instrumental in deciding what articles were in local demand, and at what prices they could be sold, a knowledge which should be of great assistance in the planning of industrial assignments for the ensuing year.

The prices of articles at the exhibition were low enough to be within the reach of all. There was no profit on about 85 per cent of the articles sold; and many articles were sold at less than the actual cost of labor. The object was to sell the articles, to get them into the possession of people scattered about in the different localities of the subprovince of Romblon. Where the communities are more or less isolated, school advertising is sorely needed to arouse the people's interest in support of the work; so it was thought better to sell as many articles as possible than to raise the prices to a strict business basis and have two thirds of the articles left unsold. The articles bought become, undoubtedly, the subject of conversation in the respective towns and barrios where they are now found, and the schools and industrial instruction cannot but occupy a prominent place in these talks.

On the tables were displayed, and seen in use during the exhibit, models, forms, tools, charts, blue prints, designs, samplers, materials, and other devices and aids to industrial instruction. Well-informed teachers of industrial work were detailed to attend to visitors, to explain the work of each class and to answer intelligently all questions relative to industrial work.

The visitors were very much interested in seeing how the articles which they purchased were made. A few remarked that that was the first time they had ever seen lace made. Many sought explanations as to the use of the tools, others showed interest in the samplers, and some inquired how the blue prints aided the

teachers. This feature of the exhibition alone has given the people a knowledge which they could not have acquired otherwise in so short a time.

Another instructive feature of the exhibition was the information poster. These posters, which gave certain pertinent facts about the schools and their activities in the subprovince of Romblon, were in English and in Spanish. Some of the most important are here briefly described:

"The industrial primary course aims at industrial efficiency for every pupil."—This poster was adapted from one of the charts of the Bureau of Education at the Panama-Pacific International Exposition. It told briefly what the industrial primary course trains the Filipino boy and the Filipino girl to do.

"The Hinugusan camote."—This poster told of the excellent kind of yellow camote found in the barrio of Hinugusan, Badajoz; that this camote was planted in every school where gardening is prescribed, as it is one of the plants on the "dissemination of food plants" program.

"The Odiongan Farm School."—This concisely described the work of the farm school at Odiongan. Among other things, it told of the poultry work in that school.

The carnival committee for the fiesta was kind enough to appropriate ₱30 to meet expenses, and the teachers of Romblon and the pupils of the Romblon Provincial School did the cooking and serving. Of the foods served, the corn-meal mush with pork was the favorite. Over 2,000 people were served and attended the lecture and the seed-testing demonstration. The carnival queen and her court of honor were guests. This was the most largely attended corn demonstration ever held in Romblon.

The Romblon subprovincial exhibition has, it is believed, given the school patrons a broader view of the school industrial situation. While there is no room for complaint re-

garding the interest the people have taken in the school work in the past, it is hoped that through the medium of this exhibition more in the way of coöperation from them will be forthcoming and that a step has been made in promoting the aim of the Philippine educational system to extend to the homes the knowledge gained in the schools. (F. V. B.)

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UNION.

THE EMBROIDERY IN SAN FERNANDO.

One of the first industrial centers to be established by the Bureau of Education is the embroidery center at San Fernando, Union. This was started under the leadership of Miss Oligario, a traveling industrial teacher, of Macabebe, Pampanga. The classes have been held in the old primary school building, but recently they have moved into more comfortable quarters in the provincial building. At present there is an enrollment of nearly 20 young women.

Included in this number are graduates of the School of Household Industries, former municipal school girls, and others who have had little if any school training.

The product which consists of corset covers and nightgowns is of good commercial quality. While the center has not been long enough established for any of the workers to make records for themselves, all those who have worked steadily and faithfully have made a wage, which is reasonable considering the limited experience they have had.

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ASSIGNMENTS OF TRAVELING INDUSTRIAL TEACHERS.

Assignments of traveling industrial teachers for 1916 normal institute work were as follows: Miss Teodora Bellen, filet lace, Batangas; Mrs. Segunda Ocampo, embroidery, Bohol; Mr. Eliseo Ocampo, coir mats and loom weaving, Bohol; Mrs. Bal-

bina Libornio, embroidery, Cagayan; Mr. Bernardo Picardal, basketry, Cagayan; Miss Felicidad Mendoza, embroidery, Cavite; Miss Euladia Madamba, valenciennes lace, Ilocos Norte; Mr. Paulino Pagui, loom weaving, Ilocos Norte; Miss Guillerma Lucas, embroidery, Ilocos Sur; Miss Perpetua Vasquez, embroidery, Iloilo; Mr. Edilberto Bien, basketry, Iloilo; Miss Maxima del Rosario, embroidery, Laguna; Miss Teofista Estrella, valenciennes lace, Occidental Negros; Mr. Guillermo Careño, coir mats, Occidental Negros; Miss Juana Guerrero, filet lace, Tayabas; Miss Ana Oligario, embroidery, Union; Mr. Celso Militante, basketry, Oriental Negros; Mr. Luis Duka, industrial work in general, Surigao.

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THE POTTERY INDUSTRY OF SIMONOR, SULU.

It seems that from time immemorial the people of Simonor have been engaged in making clay pots of various shapes and sizes. Possibly it would be more specific to say that the women of Tubig Indangan are noted for their interesting pottery work, for it is the women only that do the work.

Simonor is an island of South Sulu, just south of Tawitawi, and has a population of approximately three thousand people. Tubig Indangan is the largest village on the island, and it is here that all the pottery work is done. When one learns that these people transport in vintas the clay for their work from Pababag, an island fifteen miles away, one wonders why the people from Pababag, or the people from nearby villages have not learned the pottery industry. The people from Tubig Indangan claim that other villages have attempted at various times the work, but has never succeeded in making a finished product as perfect as have the Tubig Indangan people. Therefore it seems that

they have decided to leave their more experienced neighbor without any real competition in this industry.

The only part the men take in the work is to procure the clay and market the finished product. Small boys and girls help in preparing the clay, and baking the pots. The rest of the work is left entirely to the women, some of whom in time become quite proficient in the work. One woman, after all the clay has been prepared, can make about six pots in one day. These will sell locally for from 4 to 20 centavos each, while if sold in Jolo or other places they will bring from 10 to 50 centavos each. Practically the same amount of time and work will be put on the smaller pots as on the larger ones.

The tools used in making these pots are few and very crude. The potter's wheel, "lumpang," is 15 or 18 inches in diameter. It is held on the lap of the worker, and on this is placed the clay to be worked into the desired shape. The table or wheel is turned at will on the lap of the worker as the work progresses. In the left hand is held a small hardened clay ball called "babato." It is bottle shaped. The neck is used as a grip for the worker. The "babato" is pressed against the clay on the inside of the pot, while with a wooden paddle, "tamampa," in the right hand the clay is beaten into shape. With a smaller light paddle made of bamboo, called "cohot" the outside of the pot is smoothed over and made ready for the fire. After the pots have dried in the sun for some time they are baked for several hours in a hot fire. This is done by putting the articles in a pile and building a fire around them. After baking they are ready for the market.

The articles made are those for which the people have immediate use with the possible exception of a teakettle shaped pot. The model for this is said to have come from Bor-

neo in the form of a metal teakettle. The shape appealed to the fancy of the people who modeled one in clay and burned it. A very serviceable article resulted, very similar to the original.

The following are some of the more common earthenware articles made: "Banga," pot for cooking fish; "lupo," pot for cooking rice; "binki," jar for drinking water; "lapohan," stove; "linga," large, flat, plate-shaped pot for cooking tapioca; "paso," wash basin; "tanang," small bottle-shaped water jar; "tataup," or "tambultambul," jar for keeping cooked food from one meal until another; this, however, it might be added, is very seldom put into actual use, as these people usually manage to consume all the food that is in sight and then wait until they feel hungry again before they begin to look for another meal. The clay teakettle is called "sille," and is used principally as an ornament. Many other useful and ornamental articles are fabricated. Much improvement could be made and many new ideas might be introduced.

These pots from Tubig Indangan find their way to Jolo, Zamboanga, Cagayan de Sulu, and all parts of the Sulu Archipelago. Usually four men will start out in a sapit with about 100 pots of different sizes for each man. They figure that on a trip to Jolo, or Zamboanga, one fourth of the pots will be broken by careless handling and bad seas. Some are traded for tapioca, some for palay, and a few are sold for actual cash. Formerly, the people claim, the best market for these pots was in Borneo. The prices were better and they could buy in exchange nipa, and rattan and other needed building materials. It seems a pity to see the number of houses in South Sulu that are poorly roofed when nipa could be secured so easily if they were only allowed to bring it from Borneo. Customs regula-

tions however prevent this being brought in except as a dutiable article. At present the majority of their pots are sold in Jolo and there is seldom a day that some of the people from Tubig Indangan cannot be seen in the market there. Often there are in Jolo at the same time as many as three or four large sapits, all containing pots.

It seems as if some way of improving this crude manner of making and marketing an article that is so indispensable to the life of these people might be found. The most feasible way seems to be to begin with the school boys. The men laugh at the idea, and think it absurd, that they themselves should take any part in the actual work. The boys regard it as a part of their duty to help the women with their pottery work, and it would be an interesting experiment if a class in pottery or clay work might be organized in Tubig Indangan. This work should be begun with the smaller boys before they begin to think themselves men and the work undignified. In this way it is hoped that improved methods and new ideas will be assimilated by those whom it is most necessary to benefit. Furthermore, if the clay is suitable for making pots it may be suitable and the supply sufficient for making brick and tile. (J. P. C.)

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SAPPAN AND CAMPECHE DYE STUFFS.

Sappan, commonly known as a dyewood in the Philippines, is sold elsewhere under the name of Brazilwood and is used extensively in all civilized countries. It is a legume and is found in the tropical and subtropical countries of both the eastern and western hemispheres. The name Brazilwood was given to *Caesalpinia sappan*, not because of its being found in Brazil, but because of its fiery red color, *braz* being the Spanish word for a coal of fire.

Logwood dye, or campeche, also is obtained from a legume, *Haematoxylon campechianum*. It, as well as sappan dye, is obtained by boiling chips of the heart wood. Identical colors can be obtained from these two dyes. Sappan or campeche will give a series of colors and shades ranging from tans through various shades of reds and browns to a bluish black, obtainable when the vegetable dye is used in conjunction with iron sulphate and sodium carbonate.

Anything definite as to quantity of either time or material necessary to obtain specific colors when using sappan, is out of the question, since a given amount of heart wood will not give a definite amount of dye, the older wood containing more coloring matter than an equal quantity of younger wood. The dye is accumulative in the growing plant. The only way to obtain a desired color is by experiment. The stronger the dye and the longer the material is left in the bath the darker the red or brown obtained will be. It has been said that lime in the dye bath with sappan will give the bright, blood-red seen on Igorot basketry. This, however, is not true, as three vines known as "isut," "tuptupen," and "sacot" are used in Mountain province in securing this color.

In obtaining blue-black the following process should be followed:

Soak overnight the material to be dyed in a solution of sodium carbonate, 50 grams to a liter of water. Dissolve iron sulphate in the proportion of 100 grams to the liter of water. Sappan paste should be prepared as described in technical bulletin No. 43, or sappan solution may be used without making the paste. The water in which chips have been boiled should dye the material a deep wine color in 10 minutes.

The materials having been soaked in the sodium carbonate solution, are immersed in the boiling iron sulphate solution for a short time, not to ex-

ceed 2 or 3 minutes, as the acid present in the iron sulphate, will weaken the fiber. The material is then cooled and drained slightly and while still dripping with the iron solution is placed in the boiling sappan bath where it is allowed to remain about ten minutes. When it is almost black the wet material is immersed once more in the sodium carbonate solution. After about a minute it may be taken out and dried. The color will be found to be a blue-black.

By making the sappan bath very strong or by using 150 grams of campeche gum, and adding 73 grams of FeSO_4 , to the liter of water, a dead black may be obtained without using two different baths.

The necessity of reducing sappan to a paste is doubtful. It gives an approximate standard to the dye, but the chance of burning the dye and the amount of time and firewood necessary to produce the gum, make it more satisfactory to test the bath with abaca or lapat until it is seen to give the desired color. With care, however, sappan dye can be reduced, by boiling, to a gum which is a very satisfactory form, since it is of a definite standard.

A black dye can be produced by adding 20 grams of iron sulphate (FeSO_4) to the extract from 2,000 grams of sappan heart wood, and boiling the mixture to a gum.

Campeche may be obtained from the Chinese stores in nearly every province, and should be used in case sappan is not obtainable, or in case the former is found to be less expensive.

In places where sappan is abundant the dye wood industry should pay. The trees could be grown from seedlings, and cared for, thereby making production sure. The useless brush and parts of the wood, as well as the chips from which the dye has been extracted could be used as fuel. (C. F. F.)

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 is to be done this year about dyes and dyeing?

Answer.—Fortunately, the Bureau recently has been able to purchase a lot of about 350 pounds of German dyes that had been held as a speculation. The price was ₱3,000. As a means of making the best possible use of these dyes they will be kept at the General Office where much of the dyeing for the provinces will be done. In this connection it should be stated that since 750 tons of German dyes have just been landed by a submarine in America, the dye situation is likely to become less tense.

2. Is the use of Johnson's wood dye for coloring rattan feasible? Who has tried it? Does it permit of use for this purpose? Does it come in black?

Answer.—Johnson's wood dye can be used to dye rattan core, but would not be satisfactory when used on the peel, as the hard shell of the rattan makes it more or less impervious to a dye which is applied cold.

It has not been considered worth while to experiment with it as it is expensive and evaporates very rapidly.

It comes in a color which is considered jet black.

3. Have either American sweet potatoes or Irish potatoes been grown successfully anywhere in the Philippines?

Answer.—American sweet potatoes are now the sweet potatoes of Bukidnon, Mindanao. They were introduced through the settlement farm schools. The Bureau of Agriculture is now making extensive distribution of cuttings of American sweet potatoes.

Irish potatoes are successfully grown in Baguio, Mountain Province, Indang, Cavite, and Batanes, while potatoes of very inferior size are grown in certain towns of southern Cebu.

4. How can cabbages with good solid heads be grown in the Philippines?

Answer.—This question is fully answered in Bulletin No. 31, School and Home Gardens. Well-prepared soil, daily application of water to the soil, and constant cultivation are prime requisites for successful cabbage culture.