

SS: 1011

JPRS: 3680

10 August 1960

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SELECTED ARTICLES ON EDUCATION FROM THE KUANG-MING JIH-PAO  
AND THE PEI-CHING JIH-PAO, MARCH-APRIL 1960

- COMMUNIST CHINA -

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## I. TEN NEW PRECISION COURSES AT T'UNG-CHI UNIVERSITY

Following is a translation of an unsigned article in the Chinese-language newspaper Kuang-ming Jih-pao, Peiping, 23 March 1960, page 1.

To meet the needs of the nation's rapid expansion T'ung-chi University in the spirit of "much, quick, good, cheap" training of constructive personnel, has this term set up courses in designing and making radio equipment, in automation and dynamics, in building gauges, in accounting and mathematics, and in construction physics; all told, ten science and technique precision courses, including some new ones that had been lacking in the construction work have been set up.

At present, over 1,000 teachers and students in the new courses are answering the party committee call to grow up in battle, and besides drafting plans for the whole year's work, to try hard to teach and to study well; they have tried to start some scientific research, promising as quickly as possible to become familiar with the new subject matter. Teachers and students in the mathematics course, on the day this vocational course was opened, went to the Shanghai main railway office to join in using what they had learned about shifting or dispatching trains. Those in the construction physics vocational course, also organized very quickly, and were studying and designing the acoustic items in the Shanghai myriad athletes' hall, the Shanghai film studio and the Hangchow long-distance conference room, and other buildings. Professors of automation and dynamics, designing and radio design, those who specialize in the making of instruments for building, and interested units returning from visits to Peiping and elsewhere to gather material, at once started building new laboratories. They proposed working to the limit, in hardship and ingenuity, to build this semester a set of urgently needed equipment.

As to teachers for the new vocational courses, the school, in accord with the principle of self-renewal, first made some readjustments within the school itself. Before the term opened, each group of old teachers assigned stalwart strong cadres to aid in the new courses; also, after approval by superiors, they assigned 300 students who were good at politics and techniques, whom they trained under the work-study system. On the one hand they studied, on the other they performed certain teaching duties. Ten work-study students in second-year plastics have this term already given other vocational classes some formal lectures in chemistry. The new vocational students transferred from other vocational courses. Now the great majority of vocational courses have first-and second-year students, and some have third-year or higher.

The school party committee in the process of setting up the new vocational courses swiftly undertook ideological work. In

assigning teachers and students, education was carried out in accord with the situation at the time; through discussion the public was made to see the deep importance of setting up the new vocational courses, and to comply happily with the new assignments. After the semester opened, party groups, in line with the lack of confidence existing widely among work-study students, enlisted everyone to study the works of Chairman Mao, and organized the more experienced teachers to lead other persons in preparing lessons, in order to destroy superstition.

These ten new vocational courses started on a shoestring. They were begun during the winter vacation. During the preparations, the teachers collected and examined materials, visited schools with related interests, did science research, engaged in production, and tried to estimate the short range and long range demands of production on these new sciences, thus gradually understanding the subject-matter of these courses and the purpose in using them for training. Some teachers have even contacted related production units, and drawn up topics for scientific study in connection with production. Moreover all the school's units, in the spirit of Communist co-operation, have helped the new courses with all their might. The school factory has tried hard to make equipment and process it for experiments. The original study groups are prepared to build new equipment for scientific research.

## II. CHINA UNIVERSITY OF SCIENCE AND TECHNOLOGY

### IMPROVES BASIC COURSES

Following is a translation of an unsigned article in the Chinese-language newspaper Kuang-ming Jih-pao, Peiping, 23 March 1960, page 2.

The China University of Science and Technology, only one and one half years old, has actively and successfully carried out the spirit of the national conference on science research in higher schools because the school's party committee has been deeply interested in science research particularly since the end of last year. The university has gained some fairly successful experience in starting science research among lower classmen.

Not long after this university's founding, teachers and students began science research activities. Last year, after a national conference on this subject, research activities reached a new crest. Since October of last year, the research projects completed have numbered 197, of which 14 showed originality. Those which formed the basis for new products numbered 45. Many of these were precision products; some were highly regarded and praised by the departments concerned, and have attracted orders from the government. While completing these products, they also wrote highquality learned reports and articles concerning the study and manufacturing processes. At the same time, they joined these closely with teaching needs, compiling 24 new items of subject matter and lecture material, building a new laboratory, and designing many new experiments. For the physics studyroom they designed experiments in dynamics, atomic physics, and magnetism. The chemistry laboratory was enlarged to accommodate definite weight analysis. Further, they made a large quantity of models and samples. The biophysics department and the psychology department made up a system showing the brain-breathing apparatus of certain animals, specimens of their digestive systems, models, etc. All show much originality.

Most of this scientific research at the university was accomplished by first and second year students under the direction of their teachers or of workers in the related research sections of the China Academy of Science. This not only shows that lower classmen can do scientific research, but also proves that research projects can raise the quality of teaching in basic courses. In the dynamics division, 69 first and second year students took part in a certain piece of research. In their study and work they used their knowledge of the theory of adding strength, learned in the strength of materials course, to improve the relative quality of the research. They caused what they had learned in the classroom to be put in practical use and demonstrated the quality of learning in the basic courses. In examinations at the end of the term, half the students

got the grade of "Excellent." While science research was thus stimulating the rise in quality of learning in the basic courses, it was also training research ability and practical ability of the students. This enables upper classmen to do still better research.

This university has gained some experience on how to start science research among lower classmen while they are learning basic theory.

When this university first started scientific research, the chief obstacle confronting the research was that some persons claim that when students are beginning to learn basic theory, or when it has not been learned well, or when it is very difficult material to work on scientific research will positively lower the quality of learning in basic courses. The school on the one hand is constantly explaining the meaning of a higher school engaging in scientific research; on the other hand it exploits the model cases in which scientific research raises the quality of learning basic theory, describes loudly the benefits of lower classmen doing scientific research. The school promptly seized the example of the students in the dynamics division who greatly raised the quality of learning while studying a precision product; they boldly proclaimed it, and publicized a summary of their actual experience in the activity. At that time, they proved these tactics very useful in destroying obstacles, in inspiring the multitude, and in providing a full-size comparison between science research and the school's general activity.

We must arrange a satisfactory schedule for research activities to give scientific research adequate time, and also to preserve the principle of regular times for basic courses. The plan now in force is to use the periods when no regular work is going on (4 hours a week) for research preparations, including inspecting materials, discussing problems, designing, sketching, etc. When there has been sufficient preparation, it should be combined with the consolidated hours of productive labor (one or two weeks every month) and processing. Thus we can combine regular and emergency research very closely, and also guarantee regular teaching of basic theory.

To meet the special problems of lower classmen who lack knowledge of basic theory and in technical ability, we must choose subjects that go from elementary to advanced, that can deliver results in installments, and that can be permanently continued. Thus we can not only obey the law of the students' ceaselessly advancing deeper in learning of basic theory and in ability to solve real problems; we can also play our part in preserving young students' enthusiasm for scientific research and their confidence in their work. A science cell of the thermodynamics section of the physics department decided to study the rather complex problem of making a precision motor engine. They first studied and built a simple primer, then under favorable conditions they were ready to build the more

complex engine. During the study of each project, we should provide skilled guidance (generally undertaken by teachers), force cooperation with the workmen, organize learning of skills, use proper methods of helping these younger students, and take steps to eliminate their deficiencies in techniques and ability.

### III. NORMAL COLLEGE EMPLOYEES ACHIEVE A MAJOR

#### TECHNOLOGICAL INNOVATION

Following is a translation of an unsigned article in the Chinese-language newspaper Pei-ching Jih-pao, Peiping, 24 March 1960, page 1.

Employees at the work-site of the Peiping Normal College, of the city's building company No. 6, high-spirited and enthusiastic, in five days and nights of hard toil and humble learning, have fully done away with a huge object-----the foot and hand frame scaffold. They have succeeded in mechanizing each process from mixing line to carrying whitewash on the part of plasterers and tile-layers, saving the nation a large amount of labor and material and reducing the physical labor.

In times past, a building in the process of construction was surrounded by a scaffold high as a forest. A new building, from start to finish, would take and consume a large amount of lumber, cross-pieces, lead wire, hemp rope. Besides, scaffold-makers were needed to put it up, take it down and protect it. A scaffold has three uses: (1) to support masons and plasterers who stand at an elevation to work; (2) to enable workmen to pass to the top of the building; and (3) to serve for delivering materials. The Normal College work-site solved these problems in a different way. Brick-layers put high benches within the building, and laid planks on them. For plastering the outside walls, where one would have to stand on a high spot, they made a work-frame like a big swing, hung it on the brick wall, and worked standing on this. For men to walk up and materials to be carried, they made "tool-shaped rafter inclines" of wood and iron. On the upper side they nailed wooden strips and small iron rails, so men could walk and materials be moved. In taking down the scaffold, as well as in the mixing of mortar, and in transport, mechanization was shown. Besides, space was saved.

The appearance of these new implements caused the work site to have quite a different look. In a building of over 23,000 square meters floor-space, over 10,000 rafters, 9,500 cross-pieces, 2000 kilograms of lead-wire were saved. Just bringing these pieces of lumber from the construction yard to the work-site would have called for 600 carts for one day. The new implements are highly efficient. By adding iron rails to the ramp, 600 bricks can be moved on one trip. Not comparing with human labor, efficiency of the ordinary "pull-in-and-out" machine is more than equalled or doubled. The result of this series of improvements and extensive use of other advanced implements is that construction work needing 500 by ordinary methods, can now be done by 200. Muscular labor has been much lightened. What used to take wheelbarrows or carrying-poles to

transport is now moved by an electric button being pressed. Many persons have been liberated from clumsy physical labor. Besides, the removal of scaffolds has some benefit for on-the-spot prevention.

How have these big effects been brought about? By politics taking the lead, using the masses' energies; by humble learning, toiling hard and cleverly. On 10 March, after the company was given this contract, the executives held a meeting, informing the public about the employment of these technological developments and about the meaning of mechanization. Next the leaders took groups to the Chang-hsin-tien shops to observe and learn. On their return, they divided into small crews; each crew was provided with electric welding apparatus and welders, led severally by work-site foremen, branch secretaries and other cadres. They followed the good points of their own and other units' advanced implements, adopting and studying, making and installing, putting their whole strength into this work. For five days, workmen and cadres struggled along together. When they met problems, they would solve them at once by common planning and strength; if the problem seemed insoluble, they would "appeal to experience." During this time, they were much helped by the company, operations headquarters, and processing shop. Other units sent men to help.

An outstanding young carpenter, T'ien Wan-hsu, at the Peiping Normal work site has discovered and made an implement-like pattern-plank method, equivalent to a revolution in this process.

Pattern-planks used to be like this: In laying second-storey concrete floors, a whole forest of supporting posts was set up on the floor below, and horizontal planks nailed above, one next to another. Since large amounts of lumber had to be brought over from the warehouse, much labor had to be wasted. Besides, since the room was full of posts, laying cement and other forms of work could not be done, and construction was delayed.

Now by using the method of making forms by pattern-planks, conditions at the site are quite different. By using the principle of dynamics similar to that used in steel girders on a railway bridge, all the weight of cement above is supported, and most of the posts are done away with. After the laboratory construction used this way of making molds, a room of 20 square meters had no more posts or planks, except for 3 supporting posts in a row, and some cross-planks. The advantages of this method are many: (1) saving 60 percent of the lumber and many nails; (2) saving much labor and time, (work which formerly required 2.5 days now takes one); (3) several kinds of work can be done at once, so that construction time is shortened.

This method was worked out by the carpenter T'ien, and is being continually improved. He takes also the experience of others humbly and experiments and does something with it.

After this study of implements succeeded, the carpenters looked at it, were much pleased, and decided to use it. The executives, too, took hold and gave it publicity. All mold makers at the site used this method, and the whole work site experienced a revolution in this field.

After the city's construction company No. 6, work site No. 2, had made known the advanced experience of Point Lei Li-feng, all the employees worked hard for 5 days and nights and got rid of scaffolds. The Chang-hsin-tien locomotive shops belonging to this work-site first used a sloping road and suspended platforms to replace scaffolds; this represents a revolution in building methods. After the party secretary discovered this bit of experience, he at once called an on-the-spot meeting at the site; calling upon all to learn from the innovators, he asked them to work hard for 5 days to show a "work-site without timbers." All the workmen, after observing, studying, and discussing, agreed: "What others can do, we can do too." The whole place started a lively movement; workmen and cadres got to work, each at what he could do. After working hard for 5 days, all spots on the work site were using these new implements in place of scaffolds for any new construction.

After the whole work site publicized this experience, the whole site used 14,000 fewer rafters, 9000 fewer poles, and 230 fewer cubic meters of plank. Reckoning the amount of work at the site for 3-4 months, the saving in used lumber, labor, and transport, 49,000 yuan could be saved.

This is a great event. When men mention a building site, they at once naturally think of many pine posts standing there like a forest, and of a large scaffold, but in the Chang-hsin-tien shops, at Peiping Normal, and such work sites, scaffolds are no longer to be seen. The men use several types of implements, simple and uniform, to replace those huge scaffolds. This is a new matter, a great event.

There are many advantages in getting rid of scaffolds.

1. The making of a scaffold involves much heavy labor, which can be transferred elsewhere. There are now several thousand scaffold-builders in the city. In the past, they had to raise each log weighing several dozen kg., some 10-30 meters into the air, to make the scaffold. After scaffolds are done away with, these clumsy efforts will become history; and this strong band of laborers can be effectively used elsewhere.

2. A large amount of lumber and lead-wire can be saved. The two-story Peiping Posts-Telegraph College, with its 23,000 square meters of floor-space, by doing away with scaffolds, saved more than 10,000 poles and a ton of wire. If the whole city with its several million square meters floor-space in a year, could do away with scaffolds, how much material would be saved! Even reckoning the repeated use of these materials, the amount saved in a year would be enormous. That would enlarge the scope and increase the speed of our building.

3. A large amount of transport energy could be saved. We often say, "Before men and horses start, let fodder and food go first." What is the fodder in building? One big item is the poles, cross-pieces, planks, used in a scaffold. A large building counts poles alone, by the ten thousand. When the location was decided, all these materials would have to be hauled there. With scaffolds eliminated, all this would no longer be necessary. Therefore doing away with scaffolds is very useful for economizing on transport force and for mollifying the conflict in society between transport load and transport power.

4. Land used at the construction site may be saved, thus bringing much help to parts of the city where building is going on.

Still more important is it that eliminating scaffolds will promote the using of much human labor for perpendicular movement and accomplishing mechanization at a high level from the ground, releasing and saving much clumsy human labor. One big use of scaffolds is to serve men and materials going up and down. Men in such robust labor, despite constant technical improvement making labor conditions much better, yet as of now still do fairly heavy labor, and their efficiency is poor. So this line of work usurps much of the labor force. Statistics say this type of laborer accounts for one fourth of the total. When scaffolds are eliminated, transport will need to be replaced with machines. The Chang-hsin-tien railway shops and the Peiping Normal work site are like this; as scaffolds were done away with, a new kind of mechanical or semimechanical transport was brought to light. So we may say that abolishing scaffolds is the key to using a large number of men for perpendicular movement and for making horizontal movement, mechanical or semimechanical. If this change is adopted all over the city, not only we relieve several tens of thousands of husky laborers of hard physical labor, but also save thousands of labor units.

The movement for technical reforms in the building industry is now growing vigorously. We should welcome and adopt proposals and reforms for production and construction that are "much, quick, good, cheap," but in any one period we must have a clear and practical point of attack, in order to lead the masses to put their strength into it, everywhere doing away with clumsy physical labor to put it into speedy and efficient use. This should be a regular, persistent method and technique of leadership because abolishing scaffolds is an important matter affecting many aspects of the building industry concerned with saving labor. Therefore, at the present stage, we should make it a chief objective of attack, to be settled in a limited time.

Conditions for such a settlement are ripe, for we have already had the experience of success. Each work site should deeply stir the multitude to spread quickly this advanced technique, and to coordinate these various operations, along with perpendicular and horizontal motions, into a unified piece of work.

#### IV. PEOPLE'S UNIVERSITY TRAINS MANY CADRES IN SEVEN YEARS

Following is a translation of an unsigned article in the Chinese-language newspaper Kuang-ming Jih-pao, Peiping, 24 March 1960, page 2.

In fulfilling the aim "let school education and spare time education be equally emphasized," the China People's University has taken many steps to promote higher correspondence education. Many in-service cadres in the government, law, finance, and economics departments, after correspondence study, have raised their levels in political theory and in professional knowledge. This university is now drafting a program for the continued growth of correspondence education. Beginning this year it will increase its enrollment by degrees and add professional courses in political theory. While raising political theory and professional competence among in-service cadres, it seeks to train the ranks in theory "much, quick, good, cheap," through correspondence education.

Since China People's University began using correspondence education in 1953, it has enrolled over 17,000 students and has granted diplomas to 4,000 students after systematic study. This summer, 3800 more will receive correspondence diplomas. Many of these correspondence students, joined the revolution early as cadres, becoming secretaries of hsien committees, Party committee secretaries in factories, and leaders in various capacities. They have an eager desire for study but because of the needs of the [party] work, could not get free from production for study. For this reason, using spare time for doing correspondence study became their regular, effective way of improving political theory and professional competence. According to the experience of this university for the past 7 years in correspondence education, the expense of training one correspondence student, is only one-seventh that of a day student. The saving in faculty and equipment is still greater. For this reason, the strong development of correspondence education is another important avenue towards "much, quick, good, cheap" improvement of in-service cadres. Since this university started correspondence education, many agencies, industries, and business houses have listed correspondence study in their plans for training cadres. In the spirit of installment training, each year they have assigned stalwart cadres to correspondence study.

The party committee on universities pays much heed to the growth of correspondence education. The correspondence division has been formed under its direct guidance with 84 teachers specially assigned to it, making 12 study groups. There is close cooperation with the regular teachers. Correspondence teachers make full use of the fruits of the day teachers' research, and do their own research too, continually enriching and improving their teaching. The correspondence division does not need separate organs of general

administration and finance. The whole faculty has fully shown favorable conditions for higher schools to carry on correspondence education.

A. Take Many Ways to Develop Correspondence Education and to Meet the Varying Study Needs of In-service Cadres

The correspondence education at China People's University has been growing every year with rapid gains since 1958. In 1958 and 1959 10,060 correspondence students were enrolled. In 1957 there were 1.3 times as many as in 1953. Distribution of students varies; geographical distribution has changed from medium and large cities to medium and small ones; the number of receiving points increased from 9 in 1957 to 19 this year. Among the 47 hsien in Shansi province, 45 have our students.

Following the different demands of in-service cadres according to their varying circumstances, during the past 2 years this university has constantly been developing new methods of carrying on schools. Besides the original regular correspondence courses and special day and evening courses, elective courses have been added with students taking single courses or training classes etc. The school's correspondence education is also done in collaboration with other schools. For example, the T'ang-shan spare time engineering college has cooperated in starting a correspondence course, with the Tientsin committee industrial department working to train industrial and business leading cadres in a special class in industrial economy. Using many forms to run a school makes it possible for younger cadres to raise their political theory and professional competence systematically over a longer period; it also enables middle-aged and older cadres, and those whose duties are pressing, to have the opportunity for study. Some cadres who in the past were too busy to get into regular or special classes for study now can enter elective courses. In Tientsin, after an elective was started in industrial economy, over 500 leading cadres entered it for study. Most of them could attend lectures or exchange jobs; 70 percent took the recent term examinations, getting very good grades.

B. Closely Rely on the Local Party Committee, and on the Multitude; Use the "Two Threads," the "Three Combinings" to Improve Guidance of Correspondence Education

Correspondence students are numerous and are distributed over a wide territory. Improving the guidance of correspondence education is the key problem of fostering and strengthening it. Since this university's correspondence students are so scattered, it has set up correspondence teaching stations in Peiping, Tientsin, T'ai-yuan, Tsinan and Hu-ho Hao-te. In the guidance of correspondence education, we must firmly follow the principle of relying on the local party committee and masses, while using the methods of "Two Threads" and "Three Combinings".

The "Two Threads" is: The school and the local party committee and the agency to which the correspondence student is attached are all twisted into one line; the helping station of its own accord regularly makes a consolidated report to the local party committee on the status of correspondence study, expressing views and desires; after being approved by the local party committee and the agency to which the students belong, the school and the correspondence students' class and group leaders form one line; after being enlisted for study, and the conditions examined, the problems of study are solved. The "Three Combinings" is, when meeting heavy or comprehensive problems, the school, local party committee (or agency to which the students belong), and the correspondence students, make a tripartite conjoint study of the problem, and solve it. Because the school makes the move to get the leadership over the local party committee, its special course arrangements, enrolling of students, conditions of teaching, ideological teaching of correspondence students, supervision, inspection and such duties are all much helped by the local party committee. For instance, the provincial district, and city, three grades of party committee in Shansi, in 1958-59 on behalf of the university discussed the matter of starting correspondence education with the various party committees, and 50 directives were issued. Local party committees strengthened their hold on leadership of correspondence education. They put good control on their list of projects, and in doing so helped correspondence education greatly. Meanwhile, combining supervision and reporting proved most useful in strengthening this type of teaching.

C. Persistence and Vitality being Conjoined, Capture the "Three Combining" Method, Persistently Keep on Teaching

All of the correspondence students are in-service cadres; a number of them are leaders of basic strata. Providing them the necessary spare time for study, is an important problem on which correspondence may or may not confirm.

Support from local party committees and from agencies whence the students come is an important guarantee that correspondence will study according to schedule. For instance, in Shansi each party committee has given definite orders about the hours when correspondence students in spare time and short term production (free periods) shall study; the agency from which correspondence students come also has laid down suitable arrangements for their work and study. On the other hand, will the correspondence students' consciousness and planning ability in study be able to preserve the needed time for study? This is a key question. Due to positive help from local party committees and agencies, correspondence students' enthusiasm for study is very high. For the past 7 years, People's University correspondence education has never ceased. In the big iron and steel drive it slowed down but did not halt, and kept its lecture work going on as usual.

Besides actively trying to get aid from the local party committees and the agencies employing the correspondence students, constantly awakening their self-conscious study, and helping them decide on their individual studies outside the curriculum, the People's University has followed the principle of conjoining persistence and vitality in adopting the "Three Combinings" to organize the correspondence students for study, guaranteeing both time for study and quality for study. The "Three Combinings" is: (1) Ordinarily combine planned study with necessary emergency labor. Ask the correspondence students to keep on studying as planned in the curriculum. When there is big emergency work or a political movement, let the guidance station and the group-leaders and the local Party committees and the agency whence the correspondence students come, get together and arrange their times of study; and teach them how to overcome difficulties, seize and squeeze out time for persistent study. After the movement, teachers will supplement and guide; and the agency with all its might take out definite work time to let these correspondence students attack and complete postponed progress and work. (2) Combine periods of scattered study with periods of collective study. Let correspondence students in the guidance center, except those studying alone in the agency, use the half day or whole day given by the agency for study in the guidance center. Let correspondence students scattered in the various hsien, on the basis of their individual study, at a definite date, go to the local committee headquarters for a few days of collective study. Before the final examinations, the agency will give correspondence students a definite time for review. Collective study at regular times both preserves the time for study and facilitates teachers' giving help, and it proves quite useful for raising the quality of teaching. (3) Discuss combining of individual and collective study. On the basis of each one's personal study, organize definite study and discussion. On the one hand this can preserve time for discussion; on the other, it allows for reading of the teaching material and discussion along with it. Hard questions that arise in the midst of self-study can be reciprocally discussed, and a common solution arrived at. Understanding and grasp of the subject-matter is deepened, and results of study are improved.

D. Maintain the Principle of Linking Theory with Reality; by Every Means Possible Reform the Content and Method of Teaching.

Correspondence students all have a definite actual experience of actual work, and an urgent desire to learn theory. This university, following the correspondence students' peculiar features of study, in international correspondence teaching, stresses both actual experience and the teaching of theory, helping in-service cadres to raise actual experience into theory, and thus guide actual work.

Before 1958, China People's University, following the party educational aim, made important revisions in the curriculum of

correspondence students, the placing of translation work, and its subject matter. In the revision of each text book, the thoughts of Chairman Mao were taken as a guide and the central aim was to study the actual problems of the Chinese revolution. For example the study of philosophy and research thereon centered about the philosophical works of Chairman Mao. Teaching of political economy stressed socialism as the main factor, and closely associated it with topics of economic conditions during the big leap forward. Each vocational course explained the party policies involved, and connected the same with each department's operational reform and experience.

In order to conjoin teaching with actual conditions and local circumstances, this university made connection with the correspondence department's provincial, district and city propaganda organs, and related operational bureaus and divisions, for mutual cooperation. Having cooperation from local party committees or operational bureaus, before teaching a lesson, the teachers would get a better understanding of local conditions by attending operational conferences, reading summaries, going into the plants to observe and study, and so on. Before giving a lesson, teachers would get materials from the party committee, and lecture on the sum total of these; and they would revise opinions they heard. Teachers of political economy formed a study-group with the theory propaganda cadres of the bureaus in Chin-chou, and Ch'in-huang-tao, and lectured in accord with that material. The result was that the students had a good impression of the results of teaching, saying that they had learned political economy systematically, and also fitted it into the present situation, the party central duty, and the needs of cadres' ideological education.

In order to conjoin theory with reality, the university also invited local party committees and heads of operational bureaus to make reports to correspondence students. For instance, the vice chairman of the central coal industry ministry, the head of the Communist provincial committee technical bureau, the T'ai-yuan committee head of industries, and the head of the Communist city committee head of industries have made reports to correspondence students everywhere. Leaders of the correspondence students, in their reports, deepened their comprehension of policy and of the general situation, and were much awakened in their work and study.

Because most of the correspondence students have a rich experience in struggle and in work, when applying the teaching method of conjoining theory with practice, the teachers have also used that of their being first students and later playing the part of teachers. They use the techniques of conference or conversation, seeking the correspondence students' views on the subject matter of teaching. Sometimes, after a teacher has finished a lecture, a correspondence student may supplement. For instance, when the history of Chinese Communism comes to the reform movement of 1942,

they ask correspondence students who took part in that movement to speak and give their personal impressions. When discussing the movement for big production in the liberated areas, they ask a correspondence student who took part in that movement to speak, to describe the circumstances and proportions. And in the management course, when control of funds is discussed, they ask a correspondence student who has experience there to speak. This method is very popular.

In teachers' lecturing and in correspondence teaching guide books, there is constant reference to leading the students to associate theory with practice; studying, thinking over, and analyzing actual problems. For this reason, many correspondence students study honestly, systematically mastering political theory and the knowledge of science and techniques. They can study by linking work with ideological realities. For example, a correspondence student in the second-year class of accountancy in the Peiping station industries conjoined his correspondence study and reforms in the agency operations, and opened a special vocational subject. A correspondence student in the commercial third-year class conjoined the trade-accountancy course with actual operations in investigation and analysis and raised the quality of the operations.

E. Continually Raise the Results of Correspondence Study: Many Persons Use their Acquired Knowledge in Practical Work, Still Better Applying Party Aim and Principle

China People's University has improved its leadership, the fruit of its active care, and the quality of its correspondence study, year by year. Recently the Peiping correspondence station had 639 persons taking final correspondence examinations, in which 77.5 percent earned a grade of "Excellent".

Many correspondence students make excellent grades not in examinations alone; they try hard to use the knowledge they have acquired in real work, thus applying the party aim and policy better. The secretary of the Huan-shan party committee, after studying philosophy, at once used it towards calculating the sum total of their work in getting wheat. Besides, many correspondence students, after such study, become stalwart cadres in political theory and in operational learning.

## V. WORKERS WITH ONLY THREE YEARS OF SCHOOLING

### BECOME ENGINEERS

Following is a translation of an unsigned article in the Chinese-language newspaper Pei-ching Jih-pao, Peiping, 26 March 1960, page 2.

Liu K'un, signal engineer in Peiping of the Peiping Railway Office, was a workman who had only 3 years of schooling in the old social order. Under party training and his own unwearied efforts, he had now become an engineer familiar with signal skills, who has solved many problems of production.

When only 14, Liu went to work in the electric works in Peiping. After liberation, under the warm sunshine of the party and his own earnest efforts, his whole body grew strong. Wherever there was something to be done, he was there struggling at it. When automatic telephones were being put in on the railway, by his humble study and patient investigating he greatly increased his skill. As the railway business grew, the railway long-distance telephones became daily more inadequate, affecting the administration of transport. Liu K'un used 49-model medium instruments to replace and make into a long-distance instrument, putting it on the long-distance equipment, adding at once to its powers. In 1953, he gloriously joined the Chinese Communist Party. At this time, he was a well-trained expert.

In 1959, the huge modern Peiping Station would finish building and begin to be used. Liu K'un was assigned to help install 47-model automatic telephone central instrument. When installed, the machine developed the fault of three to four persons speaking at once and of breaking off. He carefully tested each wire and at last solved the trouble. In the ticket office there, a table is provided where eight persons can sit to make a telephone connection in turn; when one pulls out a plug, the next person makes connection. When however most people are gone to lunch and only one or two are left to watch the board, there are still persons who go to the empty seats and plug in, before connection can be made. Liu K'un carefully studied this problem, altered the arrangement, and did away with plugging in; thus, when one wanted to lay down the ear-piece, the other voice would at once automatically connect. After the station began to be used, Liu K'un was promoted to signal engineer in the Peiping communications system, in charge of the station's telephones, main machine, and other telephone equipment.

Liu K'un not only humbly learns, he delights in helping others. He has helped the Cheng-chou and Nan-ch'ang railway offices solve technical problems at critical times in installing signal equipment.

## VI. PEIPING UNIVERSITY REFORMS TEACHING

### OF NATURAL SCIENCE

Following is a translation of an unsigned article in the Chinese-language newspaper Kuang-ming Jih-pao, Peiping, 29 March 1960, page 1.

All science departments at Peiping University, under party guidance, raising high the banner of Mao Tse-tung's Thoughts, are criticising the bourgeois idealist viewpoint, vigorously reforming the teaching of natural science, and obtaining weighty results.

After 2 years of educational revolution, the leading position of Peiping University in teaching, in science research, and in Marxism-Leninism has been greatly strengthened. Last year this school, also armed with Mao Tse-tung's Thoughts, carried out a program of arousing the masses and joining them with teachers and students, making a popular inspection of 201 courses both studying and revising, and writing outlines and material. This was done in all courses, not only in philosophy and social science, with further exposition and condemnation of modern revisionism and other bourgeois thinking, thus raising quality in teaching. In the natural sciences, they condemned the slander that we do not need the guidance of Mao Tse-tung's Thoughts, and the mistaken idea that conditions do not yet exist for using the Thoughts as a guide for reforms in teaching. In teaching they used still better dialectic materialism and historical materialism as a viewpoint for explaining natural phenomena, to illumine the history of science and the function of scientists in the development of science; thus improving the philosophical and scientific nature of the courses.

In its reform of teaching each department widely aroused the multitude; on the one hand taking the method of deep study of Chairman Mao's works, using his Thoughts as one's own brain-armor; on the other hand, following the method of inspecting, condemning, and changing teaching outlines and lectures. Many study groups, under guidance of the party central committee, formed cells of teaching reform, linking this with scientific research and other work. After popular exposition, analysis and condemnation, they showed that the teaching of natural science, despite constant reform over the years, is still the intellectual battleground of the conflict between bourgeois idealism and proletarian dialectic materialism. For example, the course on "strength of limits" in the atomic energy department, has for a long time been considered a subject hard to teach and hard to study. Its basic principles are not easy to learn, and after being learned, cannot be used in a practical way. The students fear this course, claiming it is not easy to learn; the teachers fear it too, saying it not easy to teach; but for a long time no one has sought the cause of the

difficulty. In October of last year a study group did some research on the problems involved in this course, and further applied under party guidance the mass line of conjoining teachers with students, arousing the masses to reveal the problems of the course by self-expression and bulletins. After discussion in big and small meetings, gradually going deeper, they at last found that the long standing trouble with this course was that its content violates Chairman Mao's "On Practice", and the principles of the epistemology of Marx-Leninism. It mistakenly settles the relation between practice and theory, of feeling knowledge and reason knowledge, a relation which is materialist dialectic. Teachers who lecture on "strength of limits" claim that the theory does not originate with practice, but arises out of the logical reason or is a conclusion of imaginative thought. They claim that theory does not reflect the actual laws of objective things themselves; it is a mathematical formula disguised, or a symbol. Consequently they make this course very mysterious, dry, and meaningless. The mathematics department's "Theoretical Dynamics" course is an important and basic one. Due to the violation of the principles of Marx-Leninist epistemology and to the control of bourgeois idealism, these teachers have removed the very lively content of practice, which is theoretical dynamics. While lecturing they are lost in the mire of mathematical puzzles; the students' brains are filled with piles of mathematical formulae, although they cannot solve a single sum. Still less can they talk about training the ability to solve practical problems.

After clearing up basic problems that exist in its course, each department has adopted the method of simultaneous inspecting, teaching, and revising; on the one hand, it broadens and deepens the inspection of popular instruction; on the other it begins at once to compile outlines and materials under the guidance of Mao Tse-tung's Thoughts. The atomic energy department has already compiled lectures for three courses in "strength of limits" etc. The mathematical dynamics teachers and students have together compiled a completely new teaching outline for "theoretical dynamics." On the basis of studying Chairman Mao's writings and condemning the bourgeois idealist viewpoint, the other departments have written teaching materials and outlines agreeing with the principles of Marxist epistemology. These materials are not merely clear and correct in viewpoint, but also have beaten down the old framework and built new connections. For example, teachers of a teaching cell in a basic course, in a study-group in analytical chemistry, studying Chairman Mao's works, have liberated their thinking. In the reform of teaching they have overthrown the century old tradition of "fixed nature analytical chemistry" centering around the sulphur-hydrogen system of analysis and have built a new teaching outline fitting the actual needs of production. Its central idea calls for quick partial analysis, opening a wide new road for the growth of analytical chemistry.

After condemning the bourgeois idealist viewpoint, under the guidance of Mao Tse-tung's Thoughts, important changes have come to the form of the courses, directly raising the quality of teaching. Thus the "strength of limits" course, guided by the principles of "On Practice," organized afresh the content of teaching, and the quality of teaching rose at once. The basic principles which formerly had not been clearly understood until late in the course, now are solved in a comparatively short time, and review periods have been much shortened. Some students who used to complain that "strength of limits" made no sense, and that they could not "think it through" now feel that "strength of limits after all fits the laws of knowledge and is understandable"; their confidence in study has been much raised. The course, in "analytical chemistry", after reform, last semester had 96 percent of its second-year students attain the grade of "Excellent". Formerly students who got away from the sulphur-hydrogen formula in experiments did not know where to go; now they have much better ability to solve practical problems.

In the process of reforming teaching under the guidance of Mao Tse-tung's Thoughts, each department has also experienced the conflict between the two paths, the two viewpoints, the two methods. In the process of reforming "Analytical Chemistry", some persons began with conservative thinking, they accepted superstitiously old traditions, old systems, had no faith in reform, were not resolute; others held strongly to bourgeois viewpoints and traditions in education, rigidly grasping the old ways, methods, and ideas, claiming that these had 100 years of history, were venerable, and systematic. Some even shouted: "The analysis course is spoiled; scorched in being reformed; guilty of subjectivism," and so on. Under party guidance, there was strong conflict between teacher and students over these mistaken ideas. During the conflict, reforms in teaching went deeper and deeper.

The process of reform in teaching was also for teachers and students a process in reconstruction of world-view. Atomic energy teachers stated: "Previous study of Chairman Mao's 'On Practice' and other philosophical works made a preliminary foundation for the present reform in teaching. Heretofore the defects in learning were lack of sufficient link with reality and failure to have well reconstructed one's own world-view; a world-view must be reconstructed through struggle". Some teachers said: "Without carrying through reform of teaching, getting away from Mao Tse-tung's Thoughts in the content of lessons, means that hereafter there will be no assurance of raising quality of teaching." Enthusiasm for study of Chairman Mao's writing has risen very much, and demands are even more urgent for further self-reconstruction and thorough reform of teaching.

At present all science departments at Peiping University under party leadership are honestly concluding a period of experiment in the reform of teaching. Continuing to study Chairman Mao's writings, they are determined to plant the banner of Chairman Mao's Thoughts firmly in all sections of natural science,

## VII. OPENING OF KIANGSI LABOR UNIVERSITY

Following is a translation of an unsigned article in the Chinese-language newspaper Kuang-ming Jih-pao, Peiping, 30 March 1960, page 1.

In the nation-wide technological revolution which envelops us all with its noise, Kiangsi Province, in order to train quickly industrial and agricultural personnel to meet the whole people's expanding economy, and the needs of speeding industrial building and agricultural technical reconstruction, followed by founding a Communist labor university after 1958; and then started 35 branch schools over the province, which had their opening ceremonies on 23 March. Over 30,000 strong young workers and peasants began in this school their new college life of half labor, half study.

The Kiangsi Industrial Labor University was founded after a short month of preparation. The Kiangsi Communist committee regarded with great interest the founding of this labor university, recognizing it as an efficient avenue for providing the much-needed constructive personnel for building industry, and an enterprise for the "much quick, good, cheap" universalizing of higher education. The party committee secretary and other important officials attended the opening ceremonies, and spoke on the institution's aim and other subjects, urging the students to devote their energies to culture and science, to attack the ramparts of scientific technology, to train themselves to be red-and-expert technical cadres, to meet the needs of socialist building of a new age.

The aim of founding the Industrial Labor University is: "Education serves proletarian politics, education is conjoined with productive labor." Its objective is to train a large number of red-and-expert skilled workers and engineers; that is, to train students to become filled with a high degree of political thinking and feeling, loyal to proletarian interests, whole-heartedly serving the building of socialism, and who are also professionally competent and well-versed in theory and knowledge of skills. To meet this demand, we must firmly implant the proletarian world-view, oppose the bourgeois one, firmly implant proletarian views on education, oppose bourgeois ones, and stress frugal work and study. Each student besides giving about half his study time to theoretical and professional knowledge, must also give about half his time to labor (including general labor, professional labor, and social service labor).

The Industrial Labor University, according to the urgent needs of building socialism in Kiangsi, will set up metal-working, coal, machines, electricity, light industry, textiles, geology, construction, railways, highways, water transportation, posts and telegraphs, chemistry, and other departments. Each branch school

will according to real need, first set up some departments, to be adjusted later according to need. The curriculum is divided into regular and preparatory; students insufficiently prepared in culture, may first take the preparatory, using "quickie" methods to arrive at a definite cultural level, then studying in a vocational or the standard course. This course covers 4 years, the vocational 2-3 years; it is asked that after graduation the student may arrive at the grade of red-and-expert skilled worker or engineer.

Since Kiangsi Industrial Labor University is a half-work half-study school, it has its own teaching unit, and also has a factory; it must both fulfill all sorts of teaching duties, and also succeed with production, becoming self-supporting, taking care of the school by work. Therefore in its objective of training it is the same as an all-day university, but in arrangement of courses, materials, methods and other aspects there are differences. In the arrangement of courses, this school adopts the plan: "Specializing deeper, coverage narrower", compressing necessary courses, saving time, focusing energy, improving study of foundation and specialized courses. So in selecting materials, there must be some take and reject; on the basis of fully absorbing current materials, honestly studying the advanced experience of the Soviet Union and other socialist nations and our country's newest scientific and technical achievements; one must take the attitude that "I am the boss", destroy superstition, liberate thinking, develop the spirit of collectivism, and so his own writing of teaching materials. In the matter of time given to teaching, let theory courses and labor courses each take about half the time; and in theory, let politics have the largest proportion, to reach the goal of being both red and expert. As to educational methods, prepare to give much attention to "quickies." Because the hours in class-room are less than in schools generally, we must use the quickest pace to fulfill the teaching task. Not only must we "make the class-room a battlefield;" we must also "make the factory a class-room."

Founding the Industrial Labor University has been widely approved by the worker and peasant youth, of whom thousands have come long distances for the examinations. The school has given these youth many conveniences and cordial care. Welcome stations have been set up in many places, with easy procedures, with prompt testing and reporting, and applying by mail for students at a distance, and organized welcomes at the stations. On acceptance, many students laid down their baggage to help in construction. The whole campus is alive with revolutionary joy and zeal. Practical problems now in committee will be solved in time, with help of those in charge.

## VIII. ACADEMIA SINICA PLANTS FURTHER SCIENTIFIC

### AND TECHNOLOGICAL REVOLUTION

[Following is a translation of an unsigned article in the Chinese-language newspaper Kuang-ming Jih-pao, Peiping, 31 March 1960, page 5.]

To meet the growing scientific research, the Academia Sinica is speeding the construction of subsidiary plants. Recently, the Academia held a "leap forward" meeting of subsidiary plants to accelerate technological reform and revolution and to lay the foundation for a strong technological system.

During the past 2 years, there has been much growth in the Academia Sinica subsidiary plants. All sorts of combination plants, intermediate test plants and repair plants have been springing up. In 1959, the number of plants under the main Academy and its branches more than doubled. There was expansion also in the size and type of these plants. Technical equipment, with much help from party and government, witnessed notable expansion. Employees of many plants, although lacking in technical skill in varying kinds of work, surmounted difficulties of insufficient equipment and material, etc. Independently they made lathes, motors and other experimental equipment, and thus raised the plant's productive power. All this proved definitely useful in fulfilling the 1959 task of study and experimental activity.

As the plants grew, the technical ranks of the Academy continually became stronger. In 1959, there were several times as many employees in the subsidiary plants as in 1957. A large number appeared among the employees who both worked and studied. Many plants have started spare time technical training classes, technical schools, and apprentice programs, sending workers elsewhere for study and other schemes, thus improving the workmen's technical level. Statistics tell us that in 1958, among workers in the Academy plants, 75 percent were apprentices and 14 percent were skilled workers; only 4 percent were experts. In 1959, over 85 percent of the apprentices had reached the level of 7th grade workman, and many of them could carry on independently, making products rather high in quality. In the calculating skill research plant, the apprentice Ma Shu-chen and the small group that she led were all newly-arrived apprentices in 1958; and after a year of actual discipline, they were able to undertake highly intricate electric calculations and to finish the task quickly and well.

By unceasing advance in close coordination and in promoting research, all the plants in the Academy technological system have made contributions during the past year. Each research laboratory, through its plant's study and successful activity, has had prompt supply of much important technical equipment and urgently needed

material for experiments. /Here are mentioned various types of equipment, which can not be approximated in translation./ The availability of such equipment has proved to be very useful in completing much science research. Because of building many intermediate and experimental production plants, the making of new products has been facilitated; this has caused the fruits of study to improve continually and to be promptly publicized. After the big expansion of the research section plant dealing with light and with precision instruments, almost the whole section undertook all kinds of work from making optical glass to processing instruments; this proved useful in making a whole series of optical instruments. The calculating techniques section at first could produce only a small proportion of parts for electronic calculators [?], since the majority of parts and materials need to be imported from abroad or at least processed there. After the plant was expanded, the parts and materials produced there were sufficient to keep its research going on, with the possibility of importing besides.

In its recent assembly of subsidiary plants, the Academy examined the results obtained in the past few years in production and in training skilled personnel, and exchanged experiences in technological reform and control and other aspects. After this discussion, the meeting defined the future nature and task of subsidiary plants. The first task is to work on experimental production, promising to finish promptly the research section's task of processing, and to make the new products in quantity, so as to satisfy the needs of research. The second is to work on the design of each new article and to develop new arts in processing, combining and using original materials and similar technical research. The third task is to work on training and strengthening technical talent. Following the spirit of the conference, each plant defined its leap forward objective and practical program. At present, each plant is initiating Communist cooperation to complete this year's task of advance and to arouse a high tide for technological reform and revolution.

## IX. CONSTRUCTION BEGINS ON SINKIANG UNIVERSITY

[Following is a translation of an unsigned article in the Chinese-language newspaper Kuang-ming Jih-pao, Peiping, 1 April 1960, page 1.]

The first comprehensive university of the Sinkiang Uighur Autonomous Region built on the foundation of the present Sinkiang College, the main building of the Sinkiang University has begun construction. Grand ceremonies were held in the second palace at Urunchi on 20 March.

The party committee first secretary of the autonomous region, Wang En-mao, led the comrades in attending and taking part.

The secretary of the autonomous area party committee, and the area chairman, Sai Fu-ting, spoke, paying high praise to the workmen and teachers and students. He pointed out that the duty of the Sinkiang University soon to be built was a heavy one, and that it would prove very useful in fulfilling the great task of the cultural revolution and in furthering science research. The vice-president of Sinkiang College, Chang Tung-yueh, described the main building of the university.

That afternoon, the ceremony of breaking ground was performed. Wang En-mao, Sai Fu-ting, and other party and government leaders dug up the first shovel of frozen earth for starting construction of the university main building. At that time, flags fluttered over the grounds, warm air ascended, and hand-clapping was heard.

Sinkiang University is devoted to science and industry; it stresses science, but also includes culture. Building began before September of this year. It is large in scope and by 1963 will have several thousand students. Its curriculum will be enlarged to include mechanics, electricity, chemical engineering, mathematics, chemistry, language and literature, and history, in all some ten or more courses. This breaking of ground for the main building is the beginning of a magnificent structure in native style; the central portion has 11 stories and is 50 meters high; the two wings are of 6 and 5 stories, covering 27,000 square meters as the entire building's floor space. It is a comprehensive big edifice for teaching, research, and administration, with 46 class-rooms of all types, 86 laboratories, 6 museums, 51 study-rooms, and 6 stock-rooms, besides offices and so on. In front of the building is a plaza with fountains, gardens and a beautiful building. Five months from now you will see where now is a wilderness, this grand sight before your very eyes.

## X. SHANTUNG EXCHANGES MODEL HIGHER

### EDUCATION EXPERIENCES

Following is a translation of an unsigned article in the Chinese-language newspaper Kuang-ming Jih-pao, Peiping, 2 April 1960, page 1.

In the first part of March the Shantung Office of Higher Education held an experience exchange meeting for the province's higher schools and some of the vocational middle schools on the combination of teaching, productive labor, and scientific research. The meeting expressed some good experiences of different types and sciences.

#### A. Exchanging Such Experiences Achieved the Objective of a Common Improvement Through Reciprocal Learning and Mutual Stimulation

In the meeting the experiences of each school fully proved that since applying the party educational aim, the character of thinking among teachers and students has changed greatly, the quality of teaching has been greatly improved, and scientific research has attained notable results. In pursuing the party educational aim, each course has poured forth many good examples. Among science departments, the Shantung University mathematics experimental program was very good. Its features are purposeful studies directed towards production, serving production, deciding the practical problems arising in production. The past small enclosure of teaching mathematics purely as theory was broken. They began with a program, helping Tsinan and other places solve the questions of travel and of transport of goods. Now they plan to transfer such a program to the national economy, and to develop the program aspects of programs and activities. Through production as practiced, theory gained new growth, and there followed new courses and vocations closely related to production, and new emphasis on being professional. At the same time, a large number of topics were furnished for science research, pushing this activity up towards the peaks. Among industrial schools, the Shantung Engineering College had a very good experimental program. It took Mao Tse-tung's thoughts as guide, with politics taking the lead, to strengthen party leadership, putting it in the basal strata and into the courses. It adopted the plan of having the students begin with a firm foundation in basic theory; and at the end study the graduation designs [or, theses] to finish the training as a whole. In agriculture, the program of the Tsinan agricultural school was very good. It began with politics, activity being at the front; and defined good harvests as the chief point in farming. In practice, for the three combinations, they found four effective methods:

- (1) Combine small holdings with big farms;
- (2) " school and community;
- (3) " school and research agency;
- (4) " productive labor with the central task in agriculture.

As to medical matters, the present experimental program of schools is to combine medical education with popular sanitation movements, to serve production, to go deep into factories, mines, and communes taking part in movements for riddance of disease, and for public health; and to fight against the chief diseases that menace the people's health. This is a good example of the medical schools' practicing the three combinations. In culture and history, art, and such subjects, present experience in practicing the three combinations is in close compliance with the party committee central task, to go to the country, and to the factories, taking part in actual physical work and labor and social surveys etc; leading students to have correct ideas on the aim and source of art, on the reconstruction of writers' philosophies on fundamental questions like who is master of history; and training the students' feelings about industry and agriculture, teaching them to reflect reality correctly, and to create what the people like to see and hear. Students of the Shantung School of Art, after going deep into the Kuan-ch'iao open-pit coal-mine and making a "mill-figure," were deeply imbued with the laboring people's feelings and rich atmosphere of life.

B. To Succeed With the Three Combinations, We Must Face Production, Glorify Communist Mores, and the Custom of Cooperation

Experience of the schools proves that in applying the Party educational aim to the whole process of combining teaching, productive labor, and scientific research, first and last we are showing the conflict between the two paths and the two ways of thinking. The basic question in the conflict is that of whether or not education wants to be conjoined with productive labor. Experiences prove that strengthening party leadership, holding fast to the leading role of politics, giving much attention to popular movements, starting conflicts between the two paths and the two ways of thinking and firmly carrying out the party's educational aim is the basic guarantee of successfully combining the three. Besides the above, the schools' common practical experience includes these points:

1. Understand the situation clearly; give heed to the needs of government and masses; start with the total picture; face production and serve it;
2. Oppose rightism and conservatism, implant courage, will-power, and great purpose; arouse fervor, strive for the upper reaches, commend the Communist mores of dare think dare do;
3. Under guidance of the party local committee, actively cooperate with local agencies concerned (production, operations, science research) until schools are opened;

4. In addition to finding bases within the school for productive labor, cooperate with factories, mines, and communes to establish bases for combinations outside the schools;

5. In the training and using of teachers, in scientific research, in compiling of materials, make much use of Communist cooperation.

C. Find the Basic Path of the Three Combinations. Further the Educational Revolution. Be Guided by Mao Tse-tung's Thoughts to Improve the Content of Teaching

The conference held that, judging by the schools' experiences, due to the huge changes following on the educational revolution, the work of the "Three Conjoinings" was beginning to enter a new stage. The chief conclusions are:

1. The search for the basic path for organic combination of teaching, productive labor, and scientific research has several important results. First, by means of productive labor, improvement of teaching, scientific research has been brought along too. The three help and stimulate one another. Next by means of complying with the central duty, by taking part in actual work and struggle, by organizing community practice, and by surveying and studying, they have solved questions of thought and viewpoint, implanting the proletarian world-view and bringing about the "three conjoinings".

2. Bringing about the three conjoinings has promoted the educational revolution. Shantung University mathematics department, in order to meet the needs of present industrial and agricultural production and the growth of science and culture, has proposed to modify the teaching of mathematics. The University foreign language department, applying the spirit of "much, quick, good, cheap", starting out from the students' actual level of attainment, has proposed a plan for conjoining a vocation and a system; for shortening the time and also raising the quality; improving the teaching, shortening the time for teaching basic expressions from 1.5 years to one half to 1 year with good results. The Shantung Engineering College course in drawing and geometry, going on the principle "Improve Theory, Relate it to Reality, Conjoin it With Vocation, and Face Production," has completely changed the content of teaching material, escaping the former enclosure of books, showing the Communist mores of dare think dare do, and have opened a "laboratory of drawing and geometry", opening a new avenue for linking drawing with geometric theory. The agriculture and irrigation colleges, following the agricultural production seasons, plan to alter the way of beginning in the fall and dividing the school year into two semesters, to combine more closely with production and to promote teaching on the spot.

3. Each school has stirred up a lively tide for study of Mao Tse-tung's Thoughts. In many of the courses these are the guiding thoughts which change the content of teaching. In the Shantung University drawing and geometry course, training the student's conception

of space effectively was for a long time an insoluble problem. Recently through study of Chairman Mao's works, they have come to see clearly that the key to training the student's concept of space lies in the teacher's proper use of Chairman Mao's "On Practice" in which he discusses the objective laws of knowing things. Thus teaching and lecturing have been improved.

After the reports from varying types of schools, especially those newly-built ones where conditions are not so good this meeting for the exchange of experiences gave big stimulus to all; the lessons were very deep, the false belief in conditions being everything was broken down, confidence in future work was quickened. All promised that they would bring teaching, productive labor, and scientific research to a new high peak, and that they would bring forth outstanding results as an offering to the scholars of the nation and province.

## XI. DRIVE TO REVOLUTIONIZE MIDDLE SCHOOL EDUCATION

Following is a translation of an unsigned article in the Chinese-language newspaper Kuang-ming Jih-pao, Peiping, 4 April 1960, page 2.

The Hau-nan Normal College, Shih-p'ai Middle School, in the spirit of ceaseless revolution, has deeply applied everywhere the party educational aim. It has greatly enhanced the quality of teaching, and has become a prize-winner among Kwangtung all day schools.

In 1956 this was a newly built all day complete middle school. Although compared with the whole province it did not have the best conditions, nevertheless, it has produced some excellent results. The chief reason is that in the school's education work they truly had politics take the lead, really understanding that education must serve proletarian politics. In their mind's eye there was but one idea: to train for the nation, in every way "much, quick, good, cheap" a large quantity of high-quality constructive talent. So they were able in thought and action to break down the old limitations of framework and restrictions, daring to think and do, ceaselessly to revolutionize, never to be satisfied with the results already attained.

Wipe out the thought of "Well enough". Analyze the chief causes of "little, slow, poor, wasteful" in teaching, which is that among the teachers there remains the idea of "education for education's sake". With this as key, start among the teachers a guiding thought for changing teaching, and deeply enter into the work of students in understanding conditions.

After the educational revolution in 1958, this school, like other all day middle schools, underwent drastic changes. Then some persons began to have thoughts of "Well enough", feeling that to go on this way would be all right. However, the party group in the school did not see it that way. The core of the school's leadership, headed by the branch secretary Wang P'ing-shan, were not like some who halt after making achievements. They visited classes and heard recitations, taught classes, and after study of actual conditions, research, and analysis, they discovered cases of "little, slow, poor, wasteful" both in teaching and in studying, a fact which hindered the fast raising of teaching quality.

Through observation and study, they discovered that the chief cause of "little, slow, poor, wasteful", was the frequent occurrence of this bourgeois educational viewpoint, "Education for the sake of education" among the teachers. Some teachers in a series of teaching activities, and in varying degrees, had the fault of getting away from the student's subjectivism and formalism; others used formal logic and the viewpoint of mechanical materialism in lecturing to explain their ideas, leaving the students muddled. Some taught in a

free manner, stopping where they pleased. Some teachers simplify, making an excuse of trying to take in deeply and express plainly, allowing hubbub in the class-room in order to gain favor, destroying the material's scientific and systematic quality. Some have the idea of a "bucket of water"; they say that teacher's and student's brains can be compared to that which, when full, spills over, the teacher can only teach thus, and if the quality is poor, he can only blame the student for being "stupid". Some teachers even say in astonishment: "I have been teaching several decades, spending much effort, and not too badly at that; I have given heed to the students' capacity to learn, everywhere observing basic teaching principles. Why cannot students' quality of learning be raised?" They still do not grasp that these outworn stale "principles" are still holding back both teachers and students, seriously affecting any rise in quality of teaching.

After the school party group brought this problem to light, and after several careful studies and discussions, it was raised to the point of receiving attention as a program of "putting politics first in teaching". "Conflict of two world-views in teaching", was recognized as one explanation essentially of the teacher's guiding idea in teaching, an educational viewpoint, and the chief secret for raising quality in teaching. So party and corps members took the lead among all the teachers in work to change the guiding idea in teaching, and to enter deeply among the students to understand their circumstances. After they began doing this, although the time has not yet been long, notable results were achieved; but hereafter they must still keep on educating. In past times many teachers in teaching gave little attention to factors like the student's age, his conditions of living, his level of knowledge, and his circumstances of thinking. Classroom teaching sank into being commonplace and generalized, with many repetitions of what the student already knew, with but little explanation of what he did not understand. The students had little enthusiasm for listening, but [the teachers/ blamed the students' attitude as being bad. After deep and wide study into student conditions, this state of affairs was changed. The teachers realized that they had not measured up to their duty. In times past, "the laws of Leng-tz'u" in senior middle physics, were not well understood by most students; but this time the teacher after deeply understanding the actual conditions of students, made his way of teaching better, and soon over 90 percent of them heard him intelligently.

Work hard on basic knowledge and essential training in the work of teaching. Teach the students to see clearly the important meaning of learning the basic studies; teach the teachers that they must, in line with the natures of varying materials, link politics, production, and students' actual conditions, to transmit a system of complete knowledge. We reach this conclusion: "Control teaching, and thus understanding; control understanding, and thus use".

Along with grasping the problem of the teacher's thoughts about teaching, the school party branch also took up the work of teaching basic knowledge. They concluded that middle school education is basic education and that the chief subjects such as language and mathematics must be taught well and learned well. Only thus can the quality of teaching in middle schools have a reliable foundation. The effect of the school's leadership core working on the teaching of basic knowledge shows a wide-spread tendency among students to neglect basic knowledge in culture and science. A student who belittles study of language says, "I do not expect to be a literary man; I cannot learn language and have no concern with it". A student who belittles biology says, "I am not planning to be a doctor, I cannot use biology". In the study of mathematics and physics, there remain many problems. Many students are not clear enough about basic concepts, and because they lack basic skills, they are too weak to apply basic knowledge to basic problems; in composition, they just imitate old teachers, writing for writing's sake, calculating for its own sake. When in study many students do not look at the material, but on being given a topic, scurry ahead to write. If mystified, they run to ask somebody. After this analysis of students' problems, they looked around to see what regular problems still lurked in the teaching. For instance, if the teachers' understanding of the purpose in teaching language is limited, if they do not list language as a political subject, if they neglect the education in language as basic knowledge, they may describe the language course as literature, overlooking its character as education in politics or in basic knowledge; and in methods of teaching they never consider the features of the course nor the characteristics of the student, but they drone over and over in the same old way, mathematics, physics, and chemistry. Basic knowledge and basic training no longer live together. Some teachers give attention to concepts alone, they care nothing about function; in arranging activities they merely ask to have the gourd drawn over again /clumsy form repeated/. Some teachers care only about function, not about concepts; before they have fully explained basic concepts, they get busy talking big about production and how to use these in it. The students get more and more confused. Confronted with these circumstances, the school party branch, while working hard on teaching basic knowledge, did the same about basic training, trying hard to relate the knowledge and the training.

For this reason, they enlisted teachers and students in discussing what is knowledge, and they lead them to have a correct understanding of book knowledge and of functional knowledge, saying that neither can be neglected; they also enlisted these persons in discussing what is basic knowledge, stating clearly that the chief studies set up in the middle schools belong to the category of basic knowledge. It is the key that unlocks the door to every branch of vocational knowledge, the weapon of attack against the ramparts of

science. Only as middle school students lay a good foundation in political thinking and in culture and science can they climb the peaks in these subjects and assume the task of building socialism.

Recognizing that to teach basic knowledge and basic discipline well is indeed a problem of linking theory with reality, in efforts solve the problem of teaching these two subjects, this school's party branch honestly applied the principle of these two being connected. They asked the teachers in transmitting systematized basic knowledge, to be sure to follow the special features of the subject-matter; teaching politics and production, in relation to the student's own circumstances, they explain that the purpose is to enable the student to understand better, to master science and culture, to get as much all-round knowledge as possible; and to oppose those who care nothing about the purpose of teaching, and those who ask nothing about the subject-matter, but by coerced connection and forced interpretation, link for the sake of linking. They adopted many plans to improve basic discipline. Some courses have organized groups for studying improvements in basic knowledge and basic discipline. The whole faculty is now busy studying student conditions, honestly working over the material, with stress on reviewing and on guidance and examination of the quality of teaching. Many teachers have cultivated an attitude of being loyal to the students to the very end, taking as their ideal: "Control teaching, and thus understanding; control understanding, and thus control use; improve teaching by controlling understanding, and deepen understanding by control of use". Thus will the students be outstanding in firm grasp and use of basic knowledge.

They began Reforms in Teaching Materials and Experimental Reforms in the Curriculum, causing Deepening and Expansion of the Educational Revolution.

In the process of thoroughly carrying on the educational revolution, the school's leadership core and many teachers discovered that the stale and old subject matter in middle schools was one chief cause of teaching being "little, slow, poor, wasteful". Much of the material in natural science courses was far behind the needs of modern advance in science and the realities of building socialism. For instance, mathematics has basically no content of modern mathematical knowledge. Mathematics and physics should have close connection; but being cut apart by man, they lose their connection, which is very disadvantageous for a student's mastery of systematized knowledge. Therefore they have begun experiments in reforming the curriculum. For example, they themselves have written senior middle school materials in the dynamics of physics [2] in which theory and production are very closely connected; and they are thinking about compiling another which starts out from the system of production and raises to the rank of theory, the materials that analyze and explain productive labor. In order to prepare materials for reform in teaching, they are suggesting that mathematics teachers

learn physics. In a previous period, because they put their thinking on changing the teacher's ideas in teaching and on working to teach basic knowledge and discipline, they had no leisure for reforming curriculum and materials. Now, they have ample strength to devote to solving this key problem, so that the educational revolution may advance yet more and may solve completely the problem of middle school education being "little, slow, poor, wasteful" and unable to meet the demands of the times.

## XII. DRIVE TO COORDINATE TEACHING TO SUPPORT

### TECHNOLOGICAL REFORM OF AGRICULTURE

Following is a translation of an unsigned article in the Chinese-language newspaper Kuang-ming Jih-pao, Peiping, 5 April 1960, page 2.

Teachers, students and employees at the Shen-yang Agricultural College, since popularizing in February the Communist mores of "dare think dare do", have completed 47 important projects of aiding the agricultural technological revolution and of science research.

The department of agricultural engineering of this college, which at first planned graduation projects for May, set forward the beginning date into February, in order to aid in technological reconstruction. Already it has exhibited 30 projects in this field and that of research. The study group in farm mechanization has remodeled a "corn-planting machine." It can plant at points, or in rows; it can plant corn or beans; it can do one row at a time, or two rows together, thus solving an ever-present problem in the Northeast of planting corn and beans in alternate rows. At the same time, using the lever principle [?] they have attached a crane on a tractor, which will raise an object weighing 200 kg. two meters high, and automatically swing it over a cart or truck, thus much reducing clumsy physical labor and increasing efficiency. A study-group on tractors has made an "electric jar tractor." Its good features are quick lifting, easy operation, smooth noiseless travel, easy maintenance and repair, and economy in fuel and construction. The soil chemistry department study of "caution against ammonia accumulating, and exploding in travel and corroding" has lessened the exploding of ammonia and raised the effectiveness of fertilizer. The irrigation study-group, in conjunction with teaching, in 50 days completed what was at first estimated to need half a year, a design for a network of canals on the Kuang-hui collective farm.

The Shen-yang Agricultural College, following the principle of "One chief, two secondary, three conjoined," in order to link more closely teaching with production, and to go further in science research by the masses, and strongly aid in the reconstruction of farming skills, besides actively carrying on the school's original farms, forests, factories and spots where high and low cooperate, has founded a new "Three Conjoining" base at the Ta-fan River commune in T'ieh-ling Hsien, for doing on-the-spot teaching, conducting high-yield experiments, and labor discipline; and has popularized good seed, spread skills, and solved key problems in production. Thus it has speeded the important task of modernizing agriculture

and its technological reconstruction. This college early in February and since then has been sending out over 500 teachers and students of agriculture, gardening, veterinary science, soil-preparation, plant-protection, farm engineering, farm economy, and the like, to work in the villages, and aid their technological reconstruction.

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