

STRIVE TO BUILD
A SOCIALIST
UNIVERSITY OF
SCIENCE
AND ENGINEERING

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**Strive to Build a Socialist
University of Science
and Engineering**

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PUBLISHER'S NOTE

In the Great Proletarian Cultural Revolution a most important task is to transform the old educational system and the old principles and methods of teaching.

The proletarian revolution in education now powerfully unfolded throughout China under the guidance of Chairman Mao's revolutionary line is a great, deep-going socialist revolution, a revolution which touches every aspect of the society and everyone of different classes.

We have collected two articles in this pamphlet: "Strive to Build a Socialist University of Science and Engineering" by the Workers' and People's Liberation Army Men's Mao Tsetung Thought Propaganda Team at Tsinghua University and "Summary of the Forum on the Revolution in Education in Shanghai Colleges of Science and Engineering". The important article of Tsinghua University, with class struggle as the key link, sums up in an all-round way their experience in practising Chairman Mao's thinking on proletarian revolution in education. It will help the readers to see that a socialist university of science and engineering, completely new and vigorous, is taking shape in the Great Proletarian Cultural Revolution.

Quotation from Chairman Mao Tsetung

It is still necessary to have universities; here I refer mainly to colleges of science and engineering. However, it is essential to shorten the length of schooling, revolutionize education, put proletarian politics in command and take the road of the Shanghai Machine Tools Plant in training technicians from among the workers. Students should be selected from among workers and peasants with practical experience, and they should return to production after a few years' study.

Quotations from
Chairman Mao Tsetung

Education must serve proletarian politics and be combined with productive labour.

Our educational policy must enable everyone who receives an education to develop morally, intellectually and physically and become a worker with both socialist consciousness and culture.

Quotations from
Chairman Mao Tsetung

The same holds good for the students too. While their main task is to study, they should also learn other things, that is to say, they should not only learn book knowledge, they should also learn industrial production, agricultural production and military affairs. They also should criticize and repudiate the bourgeoisie.

Besides meeting the needs of teaching and scientific research, all laboratories and affiliated workshops of engineering colleges which can undertake production tasks should do so to the best of their capability.

Quotation from
Chairman Mao Tsetung

To accomplish the proletarian revolution in education, it is essential to have working class leadership; the masses of workers must take part in this revolution and, in co-operation with Liberation Army fighters, form a revolutionary three-in-one combination with the activists among the students, teachers and workers in schools and colleges, who are determined to carry the proletarian revolution in education through to the end. The workers' propaganda teams should stay permanently in the schools and colleges, take part in all the tasks of struggle-criticism-transformation there and will always lead these institutions. In the countryside, schools and colleges should be managed by the poor and lower-middle peasants — the most reliable ally of the working class.

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STRIVE TO BUILD A SOCIALIST UNIVERSITY OF SCIENCE AND ENGINEERING

by the Workers' and People's Liberation Army Men's
Mao Tsetung Thought Propaganda Team
at Tsinghua University

Thanks to the solicitous concern of our great leader Chairman Mao and the Party Central Committee, the proletarian revolution in education is vigorously surging forward in Tsinghua University. Over the past year and more, the working class has led the university's revolutionary teachers, students, staff members and workers in holding high the banner of unity and victory of the Ninth Party Congress, following Chairman Mao's brilliant thinking on the revolution in education and, with his *May 7 Directive* as the key link, **“taking the road of the Shanghai Machine Tools Plant in training technicians from among the workers”** and striving to build a socialist university of science and engineering.

The Working Class Must Exercise Firm Leadership
over the Revolution in Education in
the Course of Struggle

Chairman Mao teaches us: **“To accomplish the proletarian revolution in education, it is essential to have**

working class leadership; the masses of workers must take part in this revolution and, in co-operation with Liberation Army fighters, form a revolutionary three-in-one combination with the activists among the students, teachers and workers in schools and colleges, who are determined to carry the proletarian revolution in education through to the end. **The workers' propaganda teams should stay permanently in the schools and colleges, take part in all the tasks of struggle-criticism-transformation there and will always lead these institutions.**" Working class leadership is the fundamental guarantee for completely smashing the bourgeois educational system and establishing the proletarian educational system. The proletarian revolution in education is a deep-going political revolution to realize the dictatorship of the proletariat over the bourgeoisie in the spheres of culture and education. Since July 27, 1968 when the working class mounted the political stage of struggle-criticism-transformation in the superstructure, a fierce struggle has been going on between the proletariat and the bourgeoisie around the question of who will transform and triumph over whom. It is precisely in the struggle between the two classes, the two roads and the two lines that working class leadership has constantly been strengthened and consolidated.

Working class leadership means leadership by Mao Tsetung Thought. Under the leadership of its vanguard the Communist Party, the working class has entered the field of education in order to carry out Chairman Mao's great directive **"The length of schooling should be shortened, education should be revolutionized, and the domination of our schools and colleges by bourgeois in-**

tellectuals should not be tolerated any longer", and to occupy the positions of schools and colleges and transform them with Mao Tsetung Thought.

In order to occupy these positions and maintain firm leadership over the revolution in education, the working class must **criticize and repudiate the bourgeoisie**, vigorously grasp the class struggle in the ideological field and exercise leadership over the intellectuals politically and ideologically. Otherwise, it is impossible to consolidate working class leadership and there is even the danger of losing it again. In accordance with Chairman Mao's great teaching **"There is no construction without destruction"**, we have launched deep-going and sustained revolutionary mass criticism of the counter-revolutionary clique of the renegade, hidden traitor and scab Liu Shao-chi and his counter-revolutionary revisionist line, as well as criticism of the reactionary bourgeois Right and ultra "Left" trends of thought, criticism of the feudal, capitalist and revisionist systems of education and the revisionist ideas in various spheres of academic learning, and criticism of the slavish comprador philosophy and the doctrine of trailing behind at a snail's pace. The overthrown bourgeoisie will never be reconciled to its defeat; it will invariably make use of its influence in the ideological field and take advantage of the weak points in the world outlook of intellectuals to spread poison, in a vain attempt to seize back its lost "hereditary domains" and contend with the proletariat to win over the intellectuals. Some bourgeois elements openly clamour: "The working class is not capable of exercising leadership in the most advanced sciences." Others put on an ultra "Left" appearance and distort the Party's policy towards intellectuals by spreading such

absurdities as "Working class leadership in everything means brushing the intellectuals aside" in a vain attempt to push the intellectuals to the side in opposition to the working class and effect a counter-seizure of power. By fully arousing the masses and relying on invincible Mao Tsetung Thought, we have resolutely exposed and criticized the handful of class enemies for their criminal attempt to undermine and shake working class leadership, and thus smashed their plot for restoration.

The struggle for leadership waged by the proletariat against the bourgeoisie often and in numerous cases takes the form of a struggle against the bourgeois force of habit. As the revolution in education develops in depth, the bourgeois thinking of some intellectuals constantly manifests itself in new forms. Some of them declare: "You take charge politically while I take leadership in vocational work." Others think that they have done well enough in receiving re-education and so the working class is "handing over power" to them when they are asked to play their role in vocational work. They think that they are "proficient" in transforming education and in vocational work, and so the working class should "give way" to them. Still others think that to bring the initiative of the original teaching staff into play means restoring the old system. All these erroneous ideas, whether Right or "Left" in appearance but Right in essence, are obstinate expressions of the bourgeois world outlook and are highly destructive. Unless they are thoroughly criticized, old things will come back and be consolidated in a new form, working class leadership will be taken away by others, and the revolution in education will be led on to the wrong path of reformism. Practice shows that it is far more difficult to smash

the old force of habit than to smash sabotage by a handful of class enemies.

An ideological stronghold of reaction can only be destroyed with a revolutionary ideological weapon. Only when the handful of class enemies and the old force of habit are thoroughly criticized and discredited and their poisonous influence eliminated can they be really overthrown and working class leadership be fundamentally consolidated. Therefore, revolutionary mass criticism is a task of strategic importance in building a socialist university, a main subject in carrying out the revolution in education, and a powerful weapon of the proletariat in its protracted struggle against the bourgeoisie and for consolidating the dictatorship of the proletariat.

In order to keep a firm hold of the leadership in the revolution in education, the working class must fully mobilize the masses and carry out the mass line to the letter. It must resolutely implement Chairman Mao's policy of "**letting a hundred flowers blossom and a hundred schools of thought contend**", and give full play to proletarian democracy so as to create an atmosphere in which people dare to criticize and argue. It must rely on the activists determined to carry the proletarian revolution in education through to the end, boldly put trust in the great majority of the intellectuals and unite with all the forces that can be united. Only in this way can we establish all-round dictatorship by the proletariat over the bourgeoisie. Failing to do this, the working class will isolate itself and working class leadership will be rendered impotent. Like all other revolutionary work, the revolution in education "**will turn out to be a mere formality and will fail**" unless the masses "**are conscious**

and willing". (*The United Front in Cultural Work.*) Working class leadership in everything does not mean monopolizing everything or overwhelming everything by crude methods, placing the intellectuals in a "one-push-one-step-forward" passive position. Relying on the broad masses of revolutionary intellectuals and bringing their subjective initiative into play will strengthen working class leadership instead of weakening it.

In order to keep a firm hold of the leadership in the revolution in education, the working class **"should always raise its political consciousness in the course of struggle"**, energetically study Mao Tsetung Thought and take the lead in ideological revolutionization. This means that we should conscientiously meet the following requirements: We must resolutely carry out Chairman Mao's instructions and his proletarian policies; we **"should be modest and prudent, guard against arrogance and rashness"** and, as members of the propaganda team, we should learn from those who are receiving re-education and be the modest pupils of the masses so as to learn what we do not know and grasp the laws governing the struggle between the two classes and the two lines in the realms of culture and education; we should work hard, take part in physical labour regularly and keep in touch with the masses so that we shall always be able to resist corruption; we should go deep into reality, make a good job of investigation and study, grasp typical cases well and, as regards the work as a whole, first grasp one-third of it well and sum up the experience conscientiously; we should have the spirit of self-criticism, and correct whatever mistakes we might make, because this is an expression of our loyalty to Chairman Mao and of continuing the revolution. Only by so doing

can the working class shoulder the great historic mission of assuming leadership in the struggle-criticism-transformation in the superstructure and ensure that the proletarian revolution in education will advance victoriously along the brilliant road of Chairman Mao's *May 7 Directive*.

Persist in Remoulding the Original Teaching Staff While Using Them, Form a "Three-in-One" Contingent of Teachers

"In the problem of transforming education it is the teachers who are the main problem." The formation of a contingent of proletarian teachers by combining the three forces — the workers, peasants and soldiers; the revolutionary technicians; and members of the original teaching staff — is a vital question in completely putting an end to the domination of our schools by bourgeois intellectuals and in building socialist universities.

The worker, peasant and soldier teachers constitute the most vigorous revolutionary force in the contingent of teachers. They are daring in blazing new trails and doing away with fetishes, and they are fully able to make criticism. At the same time, they bring into the university the advanced experiences of social production and the working people's inventions and innovations, thereby helping to strengthen the ties between the university and factories. Students say their lectures are easy to understand and can be put to use right away. In the past year, we have selected a number of full-time or part-time teachers from among workers, peasants and soldiers in the forefront of the three great revolutionary

movements of class struggle, the struggle for production and scientific experiment, and let them mature in the course of struggle and improve themselves through practice. Their participation in teaching has further strengthened working class leadership in the university, effectively ensured the correct political orientation of teaching, and promoted the remoulding of intellectuals and the transformation of education. That the workers, peasants and soldiers have mounted the university platform is a new thing which has emerged in the course of the fierce struggle between the two classes and the two lines on the educational front. A few bourgeois intellectuals adopted the attitude of "wait and see" or "expecting something wrong"; some tried to palm off the feudal, capitalist and revisionist stuff on the worker, peasant and soldier teachers, saying: "I load the gun and you do the shooting." We waged a resolute struggle against this. Actually, the workers, peasants and soldiers know proletarian education best. The fact that they were barred from the old colleges in the past was a reversal of history. Their mounting the platform of socialist colleges today is historically inevitable.

The original teaching staff is an indispensable component of the "three-in-one" contingent of teachers. Chairman Mao has pointed out: **"China needs the services of as many intellectuals as possible for the colossal task of socialist construction."** (*On the Correct Handling of Contradictions Among the People.*) Chairman Mao has also pointed out that the vast numbers of intellectuals in our country **"want to . . . remould themselves, and they are quite capable of remoulding themselves"**. (*Speech at the Chinese Communist Party's Na-*

tional Conference on Propaganda Work.) This also holds good for the ranks of teachers. The bad elements and counter-revolutionaries who have wormed their way into the teachers' ranks and those who would keep their reactionary thinking ossified are very small in number. Therefore, while noting that the remoulding of world outlook is a long-term and arduous task for the masses of teachers, we must also recognize that they cherish a deep love for the Party and Chairman Mao. Tempered in the Great Proletarian Cultural Revolution and, particularly, re-educated under working class leadership by the workers, peasants and soldiers since July 27, 1968, the vast number of teachers have heightened their consciousness of class struggle and the struggle between the two lines. We must take their revolutionary enthusiasm into full account. We should also apply the principle of **"One divides into two"** to their professional knowledge. We should see that while the old system must be destroyed, some of their professional knowledge of the natural sciences and some of the experience they accumulated in the past still have a role to play once such knowledge and experience are placed under the leadership of the correct line and are integrated with practice in production. China's Great Proletarian Cultural Revolution has opened the broadest horizon for bringing into full play the talent of all the intellectuals willing to serve the workers, peasants and soldiers. We should have faith in the tremendous power of Mao Tsetung Thought. So long as we pay close attention to their political re-education and enable them to re-orient their professional knowledge, the majority of the original teaching staff can continue teaching and make contributions to the proletarian education and socialist culture

and science. As for the very small number of teachers who are really impossible, we should also give them a way out, educate them, allocate appropriate work to them and continue to test them.

In order to help the teachers adapt themselves to the needs of the socialist university as quickly as possible, we should persist in uniting with, educating and remoulding them while using them. Those who allege that "we should not use them until they are completely remoulded" in fact fail to see the revolutionary enthusiasm of the intellectuals and the protracted nature of their remoulding. In his brilliant *Talks at the Yenan Forum on Literature and Art*, Chairman Mao teaches: **"This question of 'for whom?' is fundamental; it is a question of principle."** Following this teaching, we have paid special attention to solving the question of "whom to serve and how to serve?" among the teachers. In view of their weak points of divorcing over a long time from proletarian politics, from the worker and peasant masses and from practice, we have organized large numbers of teachers to temper themselves in the three great revolutionary movements, participate in the setting up of an experimental farm, go and work in different factories according to their specialities, take part in physical labour in turn, engage in the transformation of education, and remould their ideology in a rather hard environment. Intellectuals often reveal their world outlook in their attitude towards professional knowledge. We must thoroughly transform each and every professional field. Participation in the struggle of the three great revolutionary movements inevitably clashes with the old ideas which have taken root in the innermost being of some of the teachers, such as "knowledge is private property",

"theory is above everything else", "the slavish com-prador ideology of trailing behind at a snail's pace" and "seeking personal fame and fortune". Struggle in the three movements helps to accelerate their ideological remoulding.

The thoroughgoing change in the world outlook of intellectuals cannot be accomplished spontaneously. The change in environment only provides conditions for their remoulding. Proceeding from the principle of being firm, strict and meticulous, we should re-educate them according to the ideological problems current in their minds, use the advanced typical cases in their own ranks to educate them and encourage them to revolutionize their thinking of their own accord. As regards their ideological vacillation and reversals, we should guide them forward, do patient and earnest ideological-political work and firmly grasp the remoulding of their world outlook. We should make appropriate and reasoned criticism of their wrong ideas so as to correct them.

"A correct policy towards the intellectuals is an important prerequisite for victory in the revolution." (*Recruit Large Numbers of Intellectuals.*) In order to effectively bring into play the revolutionary initiative of the vast number of teachers under working class leadership, encourage them to display their revolutionary spirit of daring to think, speak, act and break through in the interest of the proletarian revolution in education, and be bold in carrying on the educational revolution, we have paid attention to correctly handling the following questions in our work:

(1) Draw a distinction between those who take an active part in the educational revolution but are still fettered ideologically by old conventions and still show

that they are somewhat divorced from proletarian politics, from the worker and peasant masses and from practice on the one hand and those who stubbornly cling to the old paths on the other.

(2) Draw a distinction between those who earnestly want to integrate with the workers, peasants and soldiers but hold differing views from worker comrades on certain specific problems in the transformation of education on the one hand and those who refuse to be re-educated and resist working class leadership on the other.

(3) Draw a distinction between those who, with problems in the educational revolution or in technical innovations, actively delve into professional work and consult relevant Chinese and foreign books and reference material on the one hand and those who are divorced from proletarian politics, put theory above everything else, worship things foreign and attempt to restore the old on the other.

(4) Draw a distinction between those who, in order to change the backward state of things and fill certain blanks, analytically and discriminatingly learn what we do not know or do not have from other parts of the country or abroad on the one hand and those who cling to the slavish comprador ideology of trailing behind at a snail's pace on the other.

We need not worry even if there are a small number of people who refuse to be re-educated and cling to the old paths. Class struggle is protracted and such people invariably exist. All we need is to carry on further deep-going criticism of their old ideas in the course of the educational revolution, and firmly grasp the task of educating and remoulding them.

(5) As regards those whose political questions in the past have been examined and verified, we should enlist them in the educational revolution on the merit of each case and their present-day political attitude, and educate and remould them while using them.

(6) As regards those whose cases are handled in the manner of handling contradictions among the people, we should strictly adhere to the methods for resolving such contradictions and treat them correctly. As for those bourgeois reactionary academic authorities who have shown some changes after being criticized by the masses, we should keep on helping them to join the revolutionary masses in criticizing the revisionist educational line and the feudal, capitalist and revisionist academic thinking and urge them to revolutionize their thinking of their own accord. At the same time, attention should be paid to bringing into play their special skills in serving socialist construction.

(7) In the transformation of education, it is **"necessary to be careful"** about the right and wrong of certain specific questions in natural sciences, **"to encourage free discussion and avoid hasty conclusions"** (*On the Correct Handling of Contradictions Among the People*), and to abide by the objective laws. These questions should be settled through practice.

The mental outlook of the vast number of teachers has further changed in the course of their taking part in the educational revolution. To receive re-education by the workers, peasants and soldiers has become the conscious demand of many people. They warmheartedly serve the workers, peasants and soldiers, and some even have made inventions and innovations. The workers, peasants and soldiers share the view: "In the past these

intellectuals did not think in the same way as we did and we could not talk the same language. But now they are close to us in heart and we can chat like bosom friends." The teachers profoundly feel that re-education embodies Chairman Mao's greatest care for them. They are resolved to remain the pupils of the workers, peasants and soldiers all their lives and always be loyal to the Party's educational cause.

Old teachers who lived through the old society have also made big progress. Many of them are playing an active role in the educational revolution. A certain professor thought that there was no need to make any revision in a textbook he had compiled, which had been widely used in the country, saying that the book "can be used right away once taken from the shelf and given a dusting". We let him join an educational revolution detachment. Taking into account the problems that had cropped up while he was teaching worker-students, we promptly guided him to join the masses in criticizing the feudal, capitalist and revisionist systems of education, and carried out careful ideological-political work for his benefit. All this has made him gradually come to understand: "My old textbook which values theory above everything else and makes simple things complicated does not meet the needs of the workers, peasants and soldiers. It won't do just to give it a dusting or even a rehashing. It must be thoroughly revised." Later, together with some other revolutionary teachers and students, he integrated with the workers and learnt from them in the course of solving a major technical problem for a factory, raised his own political consciousness and made his contribution, for which he was praised by the workers.

The revolutionary intellectuals, who are armed with Mao Tsetung Thought and who integrate with the workers, peasants and soldiers, are an important revolutionary force. A "three-in-one" contingent of teachers formed in the image of the proletariat is now growing up.

Establish a New, "Three-in-One" System Combining
Teaching, Scientific Research and Production by
Running the University in an Open-Door Way,
Linking It with Factories, Having It Run Its
Own Factories and Making Factories
Guide Its Specialities

The establishment of a new, proletarian educational system is not merely a change in organization but a revolution aimed at implementing in an all-round way the principle "**Education must serve proletarian politics and be combined with productive labour**".

Whether the university closely links itself with social practice and is run in an open-door way is a question of principle, a question of what banner it upholds, what road it follows and what orientation it adheres to. Capitalist-roaders under the revisionist educational line openly opposed the students' taking part in the class struggle and struggle for production in society, clamouring that "Tsinghua University is a cradle for engineers" and "fighters in the three great revolutionary movements can be trained in laboratories". This prevented many teachers and students from seeing how the workers work and how the peasants farm and also did much harm to their health. As a result, the university was sliding farther and farther down the revisionist road and the

more the students studied the more stupid they became. The propaganda team has led the teachers and students in penetratingly criticizing this revisionist line for running schools and colleges and led them to resolutely take the road indicated by Chairman Mao's *May 7 Directive*. They have run an experimental farm and gone to factories, construction sites, the countryside and army units to participate in class struggle, the struggle for production and scientific experiment, thus making extensive contacts with social practice. They have engaged in educational revolution in various ways, such as participating in industrial and agricultural productive labour, running full-time, part-time or spare-time college courses for workers and short-term training courses and undertaking technical innovations, scientific research and social investigation. The proletarian revolution in education is a deep-going socialist revolution of a mass character. It cannot be carried out successfully without the participation of the masses and the support of the leadership of various departments at all levels. Running the university in an open-door way, linking it with factories and running it in the midst of society as a whole, and making the popularization and raising of standards of culture give a strong impetus to the development of industrial and agricultural production — this fundamentally ends the university's alienation from proletarian politics, from the worker and peasant masses and from practice, and being cut off from the outside world and very poorly informed. It brings the university in close touch with society and enables intellectuals to make wider contacts with the worker, peasant and soldier masses, take part personally in social practice and receive re-education, thus speeding up the remoulding of their

own world outlook. The teachers and students say with deep feeling: "In the past we read books behind closed doors and the engineers' cradle rocked us dizzy and made us lose our bearings. Now that the university is run in an open-door way, the crucible of the three great revolutionary movements has made us see our road clearly and steeled our loyalty to the revolution." New techniques and inventions in social production have kept enriching and renewing the contents of teaching and given university education great vitality, while teaching and the fruits of scientific research in the university directly serve socialist construction and promote the progress of social production. Linking the university with factories has opened up broad, new vistas for the educational revolution and we must persist in doing so.

"Schools and colleges should run factories." This is a great and wise policy of Chairman Mao's. It will not do if the students only have book knowledge and do not take part in labour. **"Besides meeting the needs of teaching and scientific research, all laboratories and affiliated workshops of engineering colleges which can undertake production tasks should do so to the best of their capability."** This is the guiding thinking for schools and colleges to run factories. Throughout the course of running factories there have been fierce struggles between the two lines and two ideologies. We criticized the bourgeois profligate style of seeking ostentation and things foreign and relying solely on the state and criticized the wrong idea of divorcing teaching from production and believing in "production is everything". We resolutely carried out Chairman Mao's instruction, **"Be self-reliant, work hard, do away with all fetishes and superstitions and emancipate the mind"**, persistently put proletarian politics in

command, implemented the principle that “**their** [the students’] **main task is to study**”, and put the training of people first. For socialist construction and teaching and the mutual promotion and development of the different university courses, we fully used the available equipment and other facilities, used simple and indigenous methods to set up a number of small factories where the study of various specialities is promoted. These factories also accept some state assignments of scientific research and production. The experimental multi-purpose electronics factory, for instance, was built on the basis of a laboratory by making use of the old equipment and making some new pieces. It has assisted the study of automatic control, radio technology, electronic computer and other subjects and turned out a wide range of electronic products. A college-run factory should, in general, be small in size and, in working out its production plans, take into consideration the needs of teaching and see to it that there is enough leeway. The products it chooses to manufacture should be typical, varied and of advanced standards. They should be products which industry and national defence urgently need and should at the same time meet the needs of teaching of specialities; there should be a certain degree of serial production, and in the meantime energetic efforts should be made to conduct research and trial-production and constantly introduce new techniques.

In the light of the development of industrial and agricultural production and science and technology as well as the need for catching up with and surpassing advanced world levels, we set out to transform the old university system by running factories and establishing ties with outside factories. We broke the barriers of faculties set in the past, merging some faculties and adding

new ones. On the basis of their relations with scientific research and production, the specialities are placed under the related systems of university-run factories, scientific research institutions or university-factory links, so that the specialities are guided by factories. At the same time, we formed a new-type contingent in basic theory. University-run factories exercise unified leadership and make overall plans for teaching, scientific research and production. In this way what was purely a teaching unit divorced from proletarian politics, from the worker and peasant masses and from practice, and dominated by bourgeois intellectuals, has become a base for teaching and learning where the workers, peasants and soldiers are the main force and where teaching, scientific research and production are combined. For example, the teachers and students of the speciality of pressure metal work took part in labour in the forging and pressing workshop of the motor vehicle plant. They combined their study of “forging technology” and other courses with the processing of various forged pieces for motor vehicles, mastering production skills as well as scientific theory. The advantages of such practice are: the workers take a direct part in every aspect of the teaching, thereby strengthening working class leadership in the university; the teachers not only give lectures but also participate in production, thereby facilitating the ideological remoulding of intellectuals; the students do their studies while taking part in production, thereby ensuring that education is combined with productive labour.

Scientific experiment is an important task that a university of science and engineering must shoulder. While running factories, we have accelerated the reform and construction of the laboratories. Closely linking the

university-run factories and laboratories with society, we have turned the university into an important base for training the students' ability in scientific experiment, energetically conducting scientific researches, scaling pin-nacles of technology, creating new technological processes and manufacturing new products, probing new theories and catching up with and surpassing advanced world standards.

University-run factories and laboratories cannot take the place of the link-up between the university and outside factories. All specialities must closely combine these three forms and, in particular, they must face the society and link themselves with factories outside.

Over the past year and more, through running the university in an open-door way, linking it with factories, having it run its own factories and making factories guide its specialities, we have trained a group of technicians of the working class, completed many items of technical innovations and scientific research and trial-manufactured and made certain products urgently needed in China's industry and national defence.

**To Train Worker, Peasant and Soldier Students, It
Is Imperative to Persist in Taking Class Struggle
as the Main Course and Adhere to the Unity
of Theory and Practice**

The question of training and bringing up new proletarian intellectuals is a question of long-term significance to the consolidation of the dictatorship of the proletariat and the fundamental task of a socialist university. In line with Chairman Mao's teaching, "**Students should be**

selected from among workers and peasants with practical experience, and they should return to production after a few years' study", we have, since March last year, enrolled nearly 600 worker, peasant and soldier students with practical experience, run various experimental classes of different specialities and begun work in selecting and training such students. According to our plan, the university will have 2,500 new students this year. At present, more than 800 have already been enrolled.

As soon as they were admitted, the worker, peasant and soldier students put forward a resounding slogan: "We study in the university, administer it and transform it with Mao Tsetung Thought." Actively plunging into the battle of revolution in education, they, together with the teachers, staff members and workers of the university, established bases of the "three-in-one" combination of teaching, scientific research and production. At the same time, together with the teachers, they worked out teaching plans and edited new teaching material. All this has greatly promoted the revolution in education. How to train such a new revolutionary force, to train every student into a **worker with both socialist consciousness and culture** (*On the Correct Handling of Contradictions Among the People*) is a new subject for us.

Whether or not we persist in taking political education as the key link in the whole education for worker, peasant and soldier students is a question of whether or not we implement the proletarian educational line. When the experimental classes started, some people thought: "Since worker, peasant and soldier students have high political consciousness, it is no longer necessary for the school to transform their ideology." Some teachers thought that they themselves "are persons that need re-

education and therefore are not qualified to transform the students' ideology". Thus a few individuals considered that their task was solely to teach mathematics, physics and chemistry, and not to care about ideological revolutionization. On the other hand, some students thought that they were "born red", and that they came mainly for vocational training and would make up for the loss in political education after returning to the original places. We organized them to study in a deep-going way Chairman Mao's great teachings, **Politics is the commander, the soul in everything and In all its work the school should aim at transforming the student's ideology**, and, combining the study with the education on the struggles between the two classes and the two lines on the cultural and educational fronts, we vigorously grasped the remoulding of their world outlook. All this made the comrades see that class struggle in the political-ideological fields will never stop and class struggle in society will inevitably be reflected in the ranks of workers, peasants and soldiers. The surviving poisonous influence of "going to school in order to climb up", "theory above everything", purely vocational viewpoint and other bourgeois ideology always tries to contaminate the worker, peasant and soldier students, the young students in particular. If we lose sight of this and relax political-ideological education, there is a danger that the worker, peasant and soldier students too may be corrupted by the bourgeoisie. In all its work and lessons, if a school is not educating students with proletarian ideology, it is poisoning them with bourgeois ideology. There has never been the case in which "one is imparting book knowledge only and not educating the persons". By teaching only vocational knowledge and ignoring politics, a teacher will inevitably lead students to

the bourgeois road. The original teachers must not only make efforts to remould their own ideology and change their own stand and feelings, but must at the same time do their utmost to put Mao Tsetung Thought in command of their teaching and boldly undertake the task of propagating Mao Tsetung Thought. They said: "Our participation in the work of transforming the students' ideology is a responsibility entrusted to us by the proletarian revolutionary cause, and it is also a higher and more strict demand we set ourselves in being re-educated by workers, peasants and soldiers."

Persisting in taking class struggle as the main course, and enjoining the students to measure up to the five requirements for successors to the revolutionary cause of the proletariat put forward by Chairman Mao, we have instilled Mao Tsetung Thought into them and taken the constant raising of the students' consciousness of continuing the revolution under the dictatorship of the proletariat as the primary task of the school. We have resolutely carried out Chairman Mao's instruction, **"The same holds good for the students too. While their main task is to study, they should also learn other things, that is to say, they should not only learn book knowledge, they should also learn industrial production, agricultural production and military affairs. They also should criticize and repudiate the bourgeoisie"**. Thus we have persisted in learning from the People's Liberation Army, constantly participated in industrial and agricultural productive labour, and continuously fought self, criticized revisionism and criticized the bourgeoisie with class struggle as the key link. In this way, although the worker, peasant and soldier students spent most of their time in activities of vocational teaching and studying, they

persistently put proletarian politics in command, steadily raised their consciousness of continuing the revolution and were able to **“develop morally, intellectually and physically”**. (*On the Correct Handling of Contradictions Among the People*.) The goal is: The environments may change, the fine qualities as ordinary labouring people do not change; the level of theoretical knowledge is raised, the style of integrating theory with practice does not change; working ability is improved, the modest and prudent attitude does not change.

In order to train workers serving the socialist cause who are armed with both scientific theory and practical experience, the colleges of science and engineering must in the vocational field enable the worker, peasant and soldier students to solve current problems arising in practical production and to undertake the tasks of designing and scientific research to meet the needs of our country's scientific and technical development. To achieve this aim, it is imperative to oppose the tendencies towards dogmatism and empiricism, persist in integrating theory with practice and train the students' ability to analyse and solve problems. The worker, peasant and soldier students must give emphasis to the study of theory. This is because **“Perception only solves the problem of phenomena; theory alone can solve the problem of essence”**. (*On Practice*.) Negation of theoretical study is wrong. **“But Marxism emphasizes the importance of theory precisely and only because it can guide action.”** (*On Practice*.) All theories originate from practice and in turn serve practice. Therefore, teaching in school can in no way be separated from practice. The practical experience of worker, peasant and soldier students cannot entirely take the place of the practical basis of teaching.

It must be constantly enriched and developed in the course of teaching. In some experimental classes, we have corrected the mistaken idea that since the worker, peasant and soldier students have practical experience they only need study theory. We see to it that the teaching contents and the process of teaching are at all times closely combined with practice, applying theory in the course of practice, that the effect of teaching is being directly tested by practice, and that the students not only can understand the world but are able to **“apply the knowledge of these laws [the laws of the objective world] actively to change the world”**. (*On Practice*.) For example, in a short-term training class on a special subject, the students studied courses in electronic technique and telecommunications technique in combination with the research and manufacture of a certain advanced telecommunications apparatus. In barely six months, the students who had had only junior middle school education learnt the rudiments of basic theory and, together with the original teachers and students, manufactured telecommunications equipment of advanced international level by applying the knowledge they have grasped. This throws into the shade those students in the past who directly entered the universities after leaving the middle schools. Practice proves that in carrying out the proletarian teaching policy, it is only by opposing the “Left” and Right tendencies that the unity of theory and practice can be really achieved.

Students to be enrolled by colleges of science and engineering should chiefly be workers, peasants (attention should be paid to enrolling those educated young people who have settled in the countryside or who have returned to their home villages to take part in farm pro-

duction), the Liberation Army men and young cadres — activists who have come forward in the course of the three great revolutionary movements of class struggle, the struggle for production and scientific experiment, who in general have 2-3 years or more of practical experience, are about 20 years old and whose educational level corresponds to that of junior or senior middle school training. Veteran workers and poor and lower-middle peasants who have abundant practical experience will be enrolled without strict limitations on age and educational level, according to the merits of each case. Shouldering the tasks of training engineers and technicians and scientific researchers from among the workers and doing some popularization work, the colleges of science and engineering, apart from running 2- or 3-year ordinary classes and special courses of around one year within or outside the colleges, must also run scientific research classes, spare-time university classes and short-term training classes on special subjects within or outside the colleges in various forms. In this way, higher education is emancipated from the original universities.

**Smash Slavish Comprador Philosophy and Doctrine
of Trailing Behind at a Snail's Pace, Compile
New Proletarian Teaching Material**

The transformation of teaching material is a serious political struggle. It is a question of vital importance to the bringing up of a generation of new people. The slavish comprador philosophy and the doctrine of trailing behind at a snail's pace constitute the very core of the old system of the teaching material for colleges of science and engi-

neering. They pervade every line of the teaching material. Today, they are still the yoke shackling the minds of a small number of intellectuals. Thus, to eradicate the slavish comprador philosophy and the doctrine of trailing behind at a snail's pace is the key to thoroughly transforming the teaching material.

“A given culture is the ideological reflection of the politics and economics of a given society.” (*On New Democracy.*) Though in content they deal with natural sciences, the textbooks in science and engineering in the imperialist and social-imperialist countries are stamped with the brand of exploiting classes, because they are summings-up of the development of science and technology made according to the bourgeois world outlook to meet their political, economic and military needs. Liu Shao-chi and company frantically trumpeted the slavish comprador philosophy and the doctrine of trailing behind at a snail's pace, introduced this stuff into China lock, stock and barrel, and allowed the foreign bourgeoisie to continue their dictatorship over the Chinese people through the old teaching material. Take a series of old textbooks on electronics for example. The much advertised “compact” system for subjects in this scientific branch is nothing but an epitome of the development of electronics technology in the capitalist society. However, the textbooks claim that this system is an eternal and absolute truth and if one is to develop the electronics industry and master electronics technology one can only trail along this old road at a snail's pace. This fully reveals the slavish and backward character of the old teaching material. The old teaching material reverses history, plagiarizes inventions and creations by the labouring people and advertises “experts above everybody else” in

order to serve the interests of the bourgeoisie in monopolizing science and technology; it advertises "theory above everything", commercializes education and artificially raises its prestige by turning simple matters into mysteries to serve the interests of the bourgeois intellectuals in ruling schools; it advertises that "material and technical conditions decide everything", denies that man is the decisive factor and stifles the infinite creativeness of the masses. Such old teaching material seriously poisoned many intellectuals and young students and came into sharp contradiction with China's socialist politics and economy. It must be thoroughly transformed. Patchwork changes in a reformist way absolutely won't do.

The transformation of the teaching material is a deep-going ideological revolution. It is imperative to attach great importance to changing the political stand and feelings of the teachers so as to help them move their feet over to the side of the proletariat and solve the question of for whom to write and how to write textbooks. The propaganda team led the teachers and students in the practice of the three great revolutionary movements of class struggle, the struggle for production and scientific experiment, organized teaching material compiling groups composed of workers, poor and lower-middle peasants, Red Guards and teachers, launched revolutionary mass criticism and took the compiling of teaching material as part of the study and practice of Mao Tsetung Thought and of deep-going re-education of the intellectuals. All have come to realize that it is a manifestation of slavish ideology to preserve intact the old system of the teaching material for science and engineering. One who divorces himself from the labouring people is bound to

worship and be servile to things foreign; one who refuses to remould his idealist and metaphysical world outlook is bound to trail behind foreigners at a snail's pace. Chairman Mao long ago pointed out: **"In its spiritual aspect, this culture of the Chinese people already stands higher than any in the capitalist world."** (*The Bankruptcy of the Idealist Conception of History*.) In science and technology, China has also performed many wonders. By consciously realizing and bringing into full play these advantages we will be able to swiftly and successfully break new ground in transforming the teaching material.

We deeply recognize that invincible Mao Tsetung Thought is our most fundamental ideological weapon in compiling new teaching material. The needs of the workers, peasants and soldiers are our point of departure and the practice in the three great revolutionary movements is the source of our compilation work.

"The teaching material should be thoroughly transformed, in some cases beginning with simplifying complicated material." This complicated and difficult task requires revolutionary enthusiasm and scientific approach. We must strive to put politics in command of professional work, scientifically analyse and penetratingly expound the laws of natural sciences with the dialectical materialist viewpoint and adhere to the principles of integrating theory with practice and of condensing and concentrating teaching material, thus making it revolutionary, practical and advanced.

As for the existing old teaching material and the scientific and technical achievements of foreign countries, we have kept to the principle of critical take-over and to the policies of **"making the past serve the present and foreign things serve China"** and **"weeding through the old**

to bring forth the new". In criticizing the system of the old teaching material as a whole, we laid stress on which line it was guided by, which class it served and which world outlook ran through it, instead of simply negating the specific content of natural sciences. As for the useful part, we did not just take it over and apply it, but examined it with a critical eye and took over what was scientific, discarding the dross and selecting the essential, eliminating the false and retaining the true. We divided "higher mathematics" which bourgeois experts lauded as being "tested and flawless" into the essential and the dross, criticizing its idealistic and metaphysical "axiomatized" system while assimilating those useful theorems and formulae. For instance, proceeding from productive activities and taking as clue the struggle, development and transformation of the differential and integral, the two aspects of a contradiction, we created a new system and compiled new teaching material on calculus. In the past, the concepts of differential and integral calculus were derived from piles of axioms and theorems and were very mysterious and unfathomable. Now the concepts are illustrated by familiar instances in production. For instance, when a bench worker processes a metal piece into a round shape with a file, every single movement forms a short straight line and finally the lines combined result in curves. This process of turning a whole into parts and parts into a whole vividly presents the concepts of differential and integral calculus. Worker students commented after studying: "After all, there's nothing mysterious about calculus. A mere file pierces the myth. Higher mathematics comes back into the hands of us labouring people."

In transforming the teaching material, we must also proceed from China's realities, warmly and conscientiously sum up the inventions and creations by the workers, peasants and soldiers, put forward new topics and make new generalizations. Textbooks on farmland water conservancy, Chinese or foreign, used to describe mountain torrents as being utterly harmful and without any benefit. The poor and lower-middle peasants in the Changchiakou area, bringing into full play the superiority of the people's communes, fought against nature, approached mountain torrents in the principle of one dividing into two and created valuable experience of diverting silt-laden mountain torrents to enrich farmland, thus turning harm into benefit. The revolutionary teachers and students of an educational revolution detachment who took part in the fight compiled a new textbook, "Diverting Silt-Laden Mountain Torrents to Improve Farmland", together with the local poor and lower-middle peasants. The peasants said: "From this book we have learnt the ways to conquer floods. What is more, we have learnt Chairman Mao's revolutionary dialectics. It boosts the morale of the labouring people and deflates the arrogance of the bourgeoisie."

The transformation of the teaching material is a long-term task and cannot be accomplished once and for all. We should revise the teaching material in the course of teaching — constantly making summings-up, enriching, improving and renewing it — so that it can keep pace with and actively promote the rapid progress of the cause of socialism.

Practise New Teaching Methods in Combination with
the Tasks of Production and Scientific Research
and by Keeping to the Mass Line

Chairman Mao teaches us: **“In the Great Proletarian Cultural Revolution a most important task is to transform the old educational system and the old principles and methods of teaching.”** Teaching methods are definitely not only a question of specific methods, but, what is more important, are a question of principle, a question of organizing teaching according to which class’ theory of knowledge and methodology. The bourgeois teaching methods centre on books and teachers and divorce theory from practice. “The teacher crams the students with his lecture throughout the class while the students follow him mechanically.” These methods completely violate the law of knowing the truth and they can only bring up bookworms who divorce themselves from proletarian politics, from the worker and peasant masses and from practice. When we began to carry out transformation in education at selected spots, because the old teaching methods had not been completely done away with, some teachers “never parted with their books and mouthed formulae and whole sets of theories which had nothing to do with practice”. Although they prepared lessons assiduously, gave lectures enthusiastically and coached the students patiently, the worker-students were still not satisfied. Practice made us realize that without thoroughly transforming the old teaching methods, it would remain empty talk for a university to accomplish the task of training intellectuals of the proletariat.

In line with Chairman Mao’s teachings **“Uniting theory and practice”, “The standpoint of practice is the**

primary and basic standpoint in the dialectical-materialist theory of knowledge” and **“Practice, knowledge, again practice, and again knowledge”**, and in conformity with the characteristics of the worker, peasant and soldier students, we applied the teaching method of going from the shallower to the deeper step by step, in combination with typical projects, products, technological processes and technical innovations in the tasks of production and scientific research. We correctly handled the relations between giving prominence to the key points, learning while doing on the one hand and systematic teaching on the other, between the specific and the general and between the basic courses and specialized courses.

The integration of learning while doing with systematic teaching broke down the former teaching system which was scholastic and multifarious, going from theory to theory. At the same time, it conforms with systematization and consistency, characteristics of the natural sciences. While carrying on teaching in connection with typical projects, we arranged theoretical courses in a planned way to fit in with the different stages for systematic study, in accordance with the principle of going from the shallower to the deeper and from the easier to the more difficult. We applied the flexible methods such as the “interlaced study” and “concentrated study” to conform with different circumstances. In one period, we engaged ourselves mainly in fulfilling our tasks in production and scientific research, and we applied the method of doing while learning in a planned way and made a penetrating study of the typical objects so as to infer from these. In another period, we mainly conducted theoretical teaching to raise, on the basis of the students’ rich perceptual knowl-

edge, their theoretical level, closely linking theory with practice and making study serve practical purposes. In the process of teaching, necessary check-ups should be made on the students' progress. Attention should be paid to promoting self-study and raising the ability to do scientific research, and importance should be attached to repeating practice under the guidance of theory.

The aim of integrating teaching with typical tasks is to grasp general laws through "dissecting a sparrow". In fact, every typical task has both its universality and particularity, universality residing in particularity. Therefore, we should on the one hand see to it that the typical tasks are properly selected, and on the other hand, pay attention to generalization and elevation on the basis of "dissecting a sparrow", advancing from the particular to the general and from practice to theory. According to our practical experience in transforming education, we hold that in selecting typical tasks we should strive to observe the following principles: persistently putting proletarian politics in command, serving the practice in the three great revolutionary movements and embodying the key links in our country's present scientific research and production and the orientation of technical development; helping develop the main contents of specialized courses and illustrate general laws; and conforming with the process of cognition of going from the shallower to the deeper. The requirements for the professional training will be met through completing several typical tasks, from the simpler to the more complicated.

The integration of teaching with typical tasks did away with the clear-cut dividing line between the basic courses and the specialized courses. The basic courses should be closely integrated with practice and made to

serve definite purposes. Some can be given together with specialized courses and form with them new courses according to need. As for those basic courses which are of greater use for the study of advanced courses and the lack of which makes advanced learning impossible, they should remain as separate courses.

The method of integrating teaching with typical tasks step by step is a fairly good method for solving the contradictions between the comprehensiveness of production and specialization in teaching, between the limitation of the typical tasks and the all-round requirements set for teaching. It integrates studying with applying, practice with creation, the selected spots with the area as a whole, the learning of book knowledge with the learning of industrial production. Thus the principle of condensed and concentrated teaching is realized, with the courses greatly reduced and simplified and the period of schooling shortened.

In practising this new teaching method, it is essential to adhere to the mass line of **"from the masses, to the masses"** in teaching. The teacher should serve the students. His role is to help raise the ability of the students to think for themselves, to study problems and to practise. Therefore, he should learn from the students and make investigations among them. With their high consciousness of class struggle and the struggle between the two lines, the worker, peasant and soldier students have the ability to make sharp criticism and possess rich practical experience. Coming into contact with teaching, they immediately discern the influence of feudalism, capitalism and revisionism and the force of habit of Right conservatism and of keeping to the old track. They made a sharp contrast between the school and society. By com-

parison and discernment, they strongly criticized the slavish comprador ideology of trailing behind at a snail's pace, which had dominated the cultural and educational fronts for a long time. In view of this, we started vigorous activities in line with the principle "**Officers teach soldiers, soldiers teach officers and soldiers teach each other**". Those who knew more acted as teachers and all taught and learnt from one another. The teaching method of elicitation and discussion was introduced and it brought into full play the initiative and creativeness of the worker, peasant and soldier students and helped establish new relations between teachers and students. In an experimental class, after the teacher lectured on the basic principles regarding tolerance on fit in relation to the design of certain equipment, the worker-students eagerly voiced their opinions and the class became lively. The students who had been turners analysed the influence of materials and processing conditions on tolerance; the former bench workers explained the tolerance allowed by fitting conditions. The heated discussion not only made the principles clear to all, but also brought about many suggestions to improve the design. This fully demonstrated the superiority of the new teaching method.

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Our great leader Chairman Mao teaches us: "**China ought to make a greater contribution to humanity.**" The great task of thoroughly transforming the old educational system and creating an educational system of the proletariat, brand-new in the history of mankind, gloriously

falls on the Chinese working class, poor and lower-middle peasants and revolutionary intellectuals. The revolution in education is a hard struggle. "**We are confronted with arduous tasks and our experience is far from adequate. So we must be good at learning.**" We are determined to hold aloft the great red banner of Mao Tsetung Thought, strengthen Party leadership, resolutely accomplish all the fighting tasks set forth by the Ninth Party Congress, study and practise still better Chairman Mao's thinking on the revolution in education, carry this revolution through to the end and strive to build a socialist university of science and engineering.

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SUMMARY OF THE FORUM ON THE REVOLUTION IN EDUCATION IN SHANGHAI COLLEGES OF SCIENCE AND ENGINEERING

The forum was convened by Comrades Chang Chun-chiao and Yao Wen-yuan in Shanghai, June 2, 1970.

Nineteen comrades took part in the forum. They were leading members, teachers and students from the Tungchi University "May 7" Commune, Fudan University, Chiaotung University, the Shanghai University of Science and Technology, the Shanghai Institute of Mechanical Engineering, the Shanghai Engineering Institute, the Shanghai Part-time Work Part-time Study Teachers College, the East China Chemical Engineering Institute and the "July 21" Workers College affiliated to the Shanghai Machine Tools Plant. Comrades Hsu Ching-hsien and Ma Tien-shui, Shanghai Municipal Revolutionary Committee vice-chairmen, and Comrade Chu Yung-chia, Municipal Revolutionary Committee Standing Committee member, also participated in the forum.

Yao Wen-yuan: Today we call a forum on the revolution in education in colleges of science and engineering to discuss two questions.

The first question. The Workers' and People's Liberation Army Men's Mao Tsetung Thought Propa-

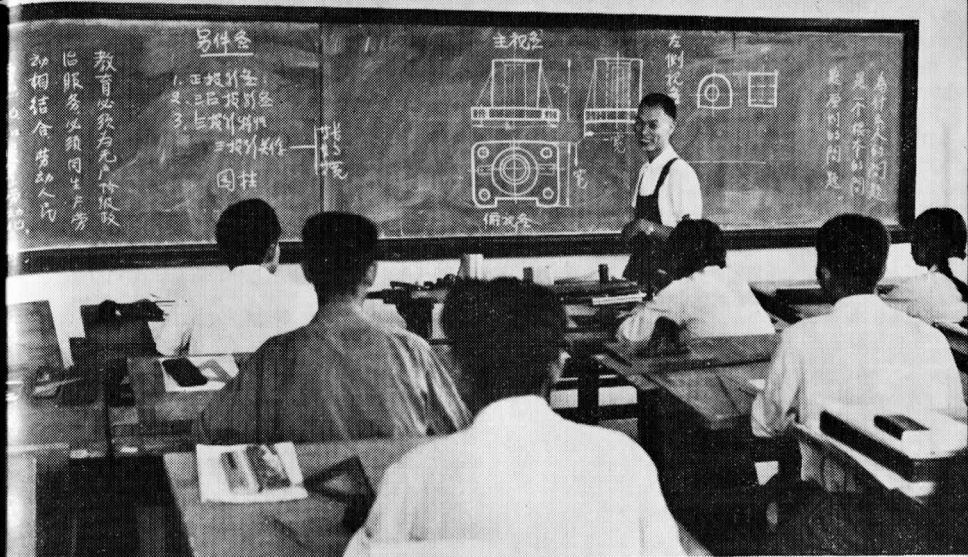
These photographs show some aspects of the vigorous development of the proletarian revolution in education at Tsinghua University.

Following Chairman Mao's instruction: "Students should be selected from among workers and peasants with practical experience, and they should return to production after a few years' study", Tsinghua University has enrolled a group of worker, peasant and soldier students with practical experience. New students waving the red treasured book *Quotations from Chairman Mao Tsetung* enter the university.





In accordance with Chairman Mao's significant teaching: "In all its work the school should aim at transforming the student's ideology", Tsinghua University takes political education as the key to all educational work and firmly grasps the remoulding of the students' world outlook. A veteran worker of the workers' propaganda team has a heart-to-heart talk with the new students.



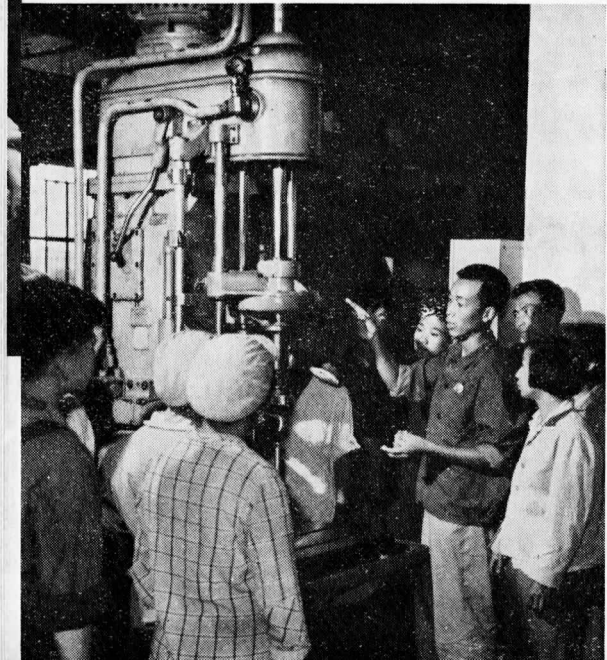
A number of workers, peasants and soldiers working in the forefront of the three great revolutionary movements—class struggle, struggle for production and scientific experiment—have been selected to be full-time or part-time teachers. A veteran worker gives a lecture on diagramming to the students of the machine-building department.

Tsinghua persists in uniting with, educating and remoulding the original teachers while using them. They are asked to join the "three-in-one" contingent of teachers to bring their revolutionary enthusiasm into full play. Here an old-time teacher studies teaching material with students and a member of the workers' propaganda team.





Students taking part in labour in the university-run motor vehicle plant.



On the first day they went to the workshop, new worker-students successfully repaired an imported machine which had been lying idle for 12 years. They hold an on-the-spot meeting to criticize the revisionist line in education, the slavish comprador philosophy and the doctrine of trailing behind at a snail's pace.

ganda Team at Tsinghua University has written a summary on the revolution in education. It sums up in a fairly comprehensive manner some of the team's experience in carrying out Chairman Mao's ideas on the proletarian revolution in education, and raises a number of policy questions. It centres on how to **"take the road of the Shanghai Machine Tools Plant in training technicians from among the workers"**, how to run socialist colleges of science and engineering well. This material has not yet been finalized; please read it and give your views, tell us what you think about it. Have you any suggestions? Are there places that need changing? This is mainly what we want to discuss today.

Another question. Comrades present who are engaging in the educational revolution in colleges of science and engineering and comrades from the Shanghai Machine Tools Plant, will you please tell us how you have carried out Chairman Mao's proletarian line, principles and policies on the revolution in education. Especially after Chairman Mao called on us to take the road of the Shanghai Machine Tools Plant, what experience have you gained and what have you learned in participating in the educational revolution, what problems do you want to bring up for discussion and study?

Everyone can see clearly that a tremendous upsurge has occurred in the socialist revolution and socialist construction as a result of the Great Proletarian Cultural Revolution, the struggle-criticism-transformation movement (this work is not yet completed and has to be continued) and the unfolding of deep-going and sustained revolutionary mass criticism. The revolution in the superstructure has consolidated the dictatorship of the proletariat, strengthened the socialist economic base,

aroused the initiative of the worker, peasant and other working masses, and promoted the socialist productive forces. On the other hand, the consolidation of the socialist economic base and the expansion of the productive forces are bound to spur the revolution in the superstructure, especially the revolution in culture, including the revolution in education. In this respect, the revolution in colleges of science and engineering is of vital importance. Signs of such a trend can be seen now. In 1968, Chairman Mao specially summed up the road of the Shanghai Machine Tools Plant and issued a specific instruction on how to run colleges of science and engineering. That was nearly two years ago. How has this been carried out? We hope you will give your views in connection with this material.

Present here are comrades from the "May 7" Commune of Tungchi University and comrades from Futan, Chiaotung and other universities and colleges, as well as comrades from the Shanghai Machine Tools Plant. Comrade Wang Tseng-jung, a 1964 graduate from the machine-building department of Tsinghua University, came to the Machine Tools Plant in 1968. Now, who'll speak first?

Cheng Shih-yi (general Party branch secretary of the Tungchi University "May 7" Commune): I've read the Tsinghua University material and think it's an all-round summing-up, teaches us a great deal and provides us with much food for thought. Now let me talk about the problems we've met and the work we've done.

As regards the changing of teachers' thinking, the Tsinghua University material proposes to remould and use them at the same time. We have some experience in this respect too. We think it's better to remould the

teachers while using them, as this makes it easy to find out their problems and to help raise their understanding. For example, we started a worker-peasant class in building-construction the latter half of last year and assigned an associate professor to teach there. At first we thought we had done a pretty good job of criticizing him ideologically. We let him go with us to the building site and he acted fairly well. But as soon as he took a class it was the same old thing again. When lecturing on designing, he again started with how to sharpen pencils and how to use erasers. We criticized these old ways of his. He said he had already cut his teaching content a lot. We criticized him for not saying what he should and dwelling on what should be omitted. He lectured too much on details and wasted time. We helped him several times to see his mistakes and he improved considerably. Once, when there was a shortage of building bricks at the work-site, he and the workers devised many ways of using materials they picked up, of using stones to make blocks as substitutes for bricks. At the same time the blocks they made replaced wooden forms for pouring concrete beams and columns.

Chang Chun-chiao: How many teachers do you have now? Isn't it true that at the very beginning you weren't much inclined to use old teachers?

Kuo Pei-chang (teacher, Tungchi University "May 7" Commune general Party branch member): A group of teachers have come to our place; now, including political teachers, we have forty-five. Recently we ran a teachers study class to discuss how to draw up a teaching plan. In the course of the discussion, the teachers' old ideology revealed itself.

Cheng Shih-yi: When we discussed specific questions, teaching material and teaching plans, their ideological problems showed up. Comrades in the worker-peasant class were of the opinion that only by doing was it possible to grasp what they learned. Some of the old teachers tried to link theory with practice, but when they drew up a teaching plan they wanted the students to study basic knowledge in the first year and do designing in the second. They argued that only after learning theory could a student learn to design. We consulted the students and they all held that theory must be linked with practice right from the first year, for them to really learn something. Some students were already working on designing but an old teacher didn't believe it. He gave individual tests to students in the worker-peasant class and asked one of them to draw a certain diagram on momentum, quite sure he couldn't do it. The student did it all right, but the old teacher said it was drawn backwards. However, after discussion by several teachers the diagram was found to be correct. This instance was a good lesson for the old teacher. It also made us realize that the teachers cannot be remoulded simply by participating in productive labour but must also take part in teaching. They must be used and remoulded in practice at the same time.

We undertook a project, a big workshop, teaching designing and theoretical knowledge side by side. In this way the students were willing to learn and they found it easy to grasp what they learned. They said this method accorded with the principle of "fewer but better". As the teachers lectured at the work-site, they were able to concentrate on key points. The experience proved

that old conventions can be broken down only by linking theory with practice.

At first some teachers thought the workers had only practical experience but no theoretical knowledge, and said workers couldn't match them in classroom lecturing. But in fact, when we got to the work-site many theoretical questions which the teachers couldn't answer became clear as soon as the workers explained them. For example, when some students asked a teacher why one steel bar was laid in this way and another in that way, he couldn't explain. Then a worker explained it and all showed great admiration for him. The teacher said that in linking teaching with practice, he could not match the workers. Therefore, at the work-site the students liked to consult the workers, while in the classroom they consulted the teachers. This again made us realize that only when teachers are remoulded in teaching practice can we discover their problems in thinking and in teaching.

There is another problem I want to mention here. We are teaching industrial enterprise building. Some of the worker-students we enrolled were not from the building trade and had no experience in construction. It was all right for them to study basic theories to start out, but they found it difficult to study higher mathematics and mechanics. Later we gave them a chance to practise so as to increase their perceptual knowledge. The teachers were afraid that this method was only to train apprentices, and the students might fail to attain the standards even of technical schools. After some practice, however, the teachers were reassured. They said the requirements set for the students could be met in a year and a half. In fact the requirements

were overfulfilled in ten months. Therefore, we hold that the students should study theory, and that they must get practice, which raises their initiative in study and helps them to learn quickly and apply what they learn.

As to teaching practice, we think the best way is to select a typical factory. It's fine to contract to design and build a factory all by ourselves, which provides us with an advanced, typical example for teaching and learning. But such an ideal project is not always available.

Yao Wen-yuan: You mean what's to be done if no such project can be selected?

Cheng Shih-yi: Yes, because of limitation in construction we sometimes fail to find one.

As for the system of schooling, the experience contained in the Tsinghua University material gives us great enlightenment. Apart from running classes for workers and peasants, we intend soon to run short-term training classes for workers.

Yao Wen-yuan: Is there still class struggle after workers and peasants are enrolled in colleges? Is it still necessary to put proletarian politics in command? Have you met this problem?

Cheng Shih-yi: We had not solved this question well as late as seven months after the classes began. We then realized the importance of grasping political education. When the classes started, the worker-students said they had come to seize power in the cultural field and to fill the gaps in science as a credit for Chairman Mao and the proletariat. But they neglected their own ideological remoulding after entering the college, thinking that they were "born red" and it was not necessary

for them to remould their ideology since they belonged to the working class, came from productive labour and had practical experience, and that it was for them to re-educate the teachers. A student said: "Your (the teachers') ideological problems are different from ours." Later when we concentrated on ideological-political work, the students were doubtful, saying that they would be getting less professional knowledge. The situation took a turn for the better only after we criticized the theory of "the dying out of class struggle". The mental outlook of the students is now splendid.

Chang Chun-chiao: When were you first aware of this problem?

Cheng Shih-yi: The classes for workers and peasants had gone on for four months before we began to realize that we would not be fulfilling the task entrusted to us by the proletarian headquarters if we did not grasp ideological-political work well. After that we grasped it.

Chang Chun-chiao: After all, what is the better way of enrolling students? What's the difference between the future enrolling of students by the universities and that under the old educational system? Who are to be enrolled, and how? What viewpoint should guide enrolment? The revolution in education does not concern schools alone. It is a social revolution. In enrolling students, what problems are likely to arise between the schools, factories and people's communes, and the worker and peasant masses? What should be done after the students have been admitted to the colleges?

Hsu Ching-hsien: Enrolment is a very important question. When the worker-peasant classes run by the

Tungchi University "May 7" Commune started enrolling, two different situations arose. In the first, the quotas for enrolling students were given to the factories and communes without mobilizing the masses to discuss the purpose of running such classes. The result was that some were unwilling to go to school. When a leading member of a certain unit refused to go, a younger comrade who was his friend volunteered, saying, "I'll go in your place." In the second situation, the enrolment work was done in a better way. The matter was first made known to the broad masses and they were asked to discuss it in order to form public opinion. Then the masses gave their comments, talked the matter over and recommended outstanding comrades to enrol. Before these comrades left, they were repeatedly encouraged to study well as true representatives of their class and not to forget their class origin. The comrades who entered the colleges in this way have higher revolutionary enthusiasm. Thus the question of what line to follow is also involved in enrolling students. The masses must be mobilized for it.

Cheng Shih-yi: We've summed up our work in this respect and been to some other places where we found they had the same problem. Students from urban areas have relatively more problems in their thinking.

Chang Chun-chiao: We have had lessons of failure. The Shanghai University of Science and Technology ran workers' classes in 1958, a two-year course. Some who had been outstanding workers had degenerated ideologically after the course. This experience must be summed up seriously for the benefit of running our present colleges.

Yao Wen-yuan: After workers and peasants are admitted, the question of with what world outlook to educate them tends to be neglected.

Cheng Shih-yi: I raise a last point. As regards the system, we think it's better for the departments in charge of construction work and educational institutions specializing in building to run schools jointly.

Yao Wen-yuan: At a meeting about a year ago comrades of the building bureau refused to do this, saying that the bureau was too busy to run a school. Actually, they can.

Cheng Shih-yi: But when we consulted the No. 2 Building Company they were very happy, and it's now being done.

Hsu Ching-hsien: The Tungchi University "May 7" Commune is now linked with a building company. It's easier this way to solve the question of selecting a typical project for teaching purposes, and also solve the question of getting worker-teachers.

Tai Miao-hsien (Tungchi University "May 7" Commune teacher specializing in underground construction): The experience of Tsinghua University which I read today is very instructive. Teaching material must be compiled in connection with the needs of industrial production. And it cannot be compiled once and for all. Its content has constantly to be enriched. Take the construction of tunnels. Formerly we had a little data; it was foreign and did not serve our purpose. The foreigners said building tunnels south of the Yangtse River would be like planting an iron rod into bean-curd. But facts have proved that tunnels can definitely be built south of the Yangtse.

Yao Wen-yuan: How about compiling teaching material now? Is it revised each time?

Tai Miao-hsien: After more than two years of practice, we're taking this tunnel project as typical, like "dissecting a sparrow", and linking it with the branch of underground construction. We've made the first draft. We're planning to assign some comrades to build an underground power station, a thing the bourgeois academic "authorities" never dared to attempt. But we've written teaching material on all this. From practice, we're convinced that in writing new teaching material we must keep up with the situation in industrial production; otherwise we'll lag behind.

Both teachers and students must learn from the workers. First of all, get first-hand data, and with that we will have freedom; otherwise we'll be stuck in the old rut.

Yao Wen-yuan: This point is very important.

Tai Miao-hsien: After ten months of tempering in physical labour from April 1968 to early 1969, we started to write teaching material, but couldn't do it. We again went for more practice, working alongside the workers. It was only in the latter half of 1969 that we finished writing the bulk of it.

According to our summing-up of experience, the process of compiling new teaching material should be: with Mao Tsetung Thought as guide, we must first learn from practice, accept re-education by the working class, remould our world outlook and acquire first-hand data. Then we must learn from books critically, making the past serve the present and foreign things serve China and weeding through the old to bring forth the new. We must also learn from society by summing up new

inventions and creations in current industrial production. Only such teaching material can be fresh and original.

Chang Chun-chiao: It should be tested again in practice to see whether it can stand.

Cheng Shih-yi: In the past we had a group of about a dozen people to compile teaching material, but what they put out was absolutely useless.

Chang Yen-ming (student majoring in underground construction at the "May 7" Commune of Tungchi University): I'll cite an example. Earth pressure was originally set at eight tons per square metre. Now, it far exceeds that figure. This was learned from practice; our figure differed very much from what the old books said. It's therefore necessary for teaching material to be compiled in the course of practice.

Tai Miao-hsien: The struggle accompanying the compiling of teaching material is very complicated. There's no avoiding the fact that in the minds of both students and teachers the struggle between the two ideologies is very acute. The key problem is whether to combine theory with practice or to separate theory from practice. The process of this struggle is also a process of remoulding world outlook.

Now, on the question of ideological-political work. The world outlook of intellectuals often finds expression in their professional work, most conspicuously in separating politics from professional work. How are we to put proletarian politics in command of professional work and ensure that Mao Tsetung Thought occupies the professional position? Here's an instance: the Shanghai No. 3 Steel Plant wanted to rebuild its No. 2 converter. We did the work together with the East China Construction Designing Institute. A young designer who craved showy

and foreign things suggested pulling down the roof structure. He went up to make an examination and came down with a layer of brick dust from the chimney wall to support his suggestion. Some teachers and students agreed. At that time, we were all very credulous. Later, worker comrades came and said that this must not be done but that we should follow the policy of **“building our country through diligence and frugality”**. Further examination showed that the dust was from a layer of the outer wall. The upper part and the inside of the wall were all right, and the roof structure was good for another fifteen years. Such lessons as this are not learned in the classroom.

Wang Szu-ti (student and member of practice team of fluidics workshop, Shanghai Engineering Institute): We too have experience in this respect. We once called a forum on revolution in education. At the meeting, a workshop revolutionary committee member at the Shanghai No. 1 Steel Plant declared that when a worker did a good job in production that meant he was good politically and that the same was true of the peasant who tilled the land well. A platoon leader of a workers' Mao Tsetung Thought propaganda team promptly criticized this idea, but this committee member was not quite convinced. Later, investigation showed this person to be fully devoted to professional work and little interested in politics. Another time we chose a number of students in the school to manufacture some products of advanced world level. Certain of these students spread such absurdities as “we're all carefully selected from among the students; we can bury ourselves completely in professional work”. We firmly grasped the class struggle, launched a political movement, and ferreted out a

counter-revolutionary from among those students. Facts have taught us that class struggle exists in the entire process of the revolution in education. It won't do not to grasp it. Lately we helped a machine-building department set up a technical training class.

Chang Chun-chiao: How many students?

Wang Szu-ti: Forty-five. They trained for twelve days, keeping at it day and night.

Yao Wen-yuan: What did they study in the twelve days?

Wang Szu-ti: It was a short-term training class.

Chang Chun-chiao: Were twelve days enough?

Wang Szu-ti: Yes. They worked very hard to acquire professional knowledge.

Chang Chun-chiao: Why didn't you run the class for a month?

Wang Szu-ti: Recently we selected some sixty people for a two-month training class. They studied in the daytime and went back to their factories to work in the evening.

Chang Chun-chiao: Sum up your experience and see which is better: half a month, a month, or two months. For what kind of people is one month's training sufficient? What kind need two months, and what kind can learn quickly, from just a visit to the school.

Wang Szu-ti: Comrades also came to our school from other places, and left after they had observed and understood.

We have these views on the question of enrolment. The comrades enrolled in our technical training class have different levels of schooling, ranging from junior or senior middle school to college. The difference in the level of schooling makes it difficult for the teachers.

Some students were quite satisfied with the teaching while others who had been in college asked for more advanced knowledge.

Li Chun-yi (a 1969 graduate of Chiaotung University and member of the practice team at the Hutung Shipyard): Ideological-political work is very important, and to neglect it is very dangerous. When we helped the Hutung Shipyard set up a workers' university, we felt at first that it was worker-students that had been selected to attend the university, and they must be politically reliable. Among the students were some who thought that they were "born red" and that their main task in the university was to acquire professional knowledge. When they were told to study politics they said they might better learn it in the workshops. The teachers dared not criticize these things, thinking that they themselves had come merely to receive re-education; also, many of the worker-students were leading members and veteran workers. So some teachers would accept whatever the students said, right or wrong. Even the assistant head of the training class leading group dared not criticize, for he had an intellectual background and thought he was there solely for re-education. Some worker-students who had been in the factory for more than twenty years felt that their main task was to receive a general education. Some said: "You go ahead with the revolutionary mass criticism. I haven't even graduated from primary school. I've got to make up in two years all the courses in general knowledge I've missed in more than ten. How can I spare time for the revolutionary mass criticism?" Having discovered this problem, the leading comrades of the plant's Communist Party committee had a talk with us. They told the students the story of an orphan

who, emancipated after the liberation, was sent by the government to study in a university. But he later looked down upon workers, buried himself in professional study, and finally degenerated. They also told the students the story of a second generation worker who took a literature and art course. He became infatuated with decadent music records and was finally pulled into the mud by bad people. These talks made quite an impression on the worker-students. The instances showed that students from among workers and peasants must also constantly raise their political consciousness in struggle. They must persist in putting proletarian politics in command.

Chang Chun-chiao: Did you criticize the old system of Chiaotung University?

Li Chun-yi: Yes, we did.

Chang Chun-chiao: What was your conclusion after criticizing the way things were done in the old Chiaotung University?

Cheng Chen-chi (teacher, member of the Standing Committee of the Revolutionary Committee and leading member of the educational revolution group of Chiaotung University): There was an old saying in Chiaotung University that it had high walls, a hard base and stiff requirements. During the Great Leap Forward, it enrolled a number of worker and peasant students, but some of them were forced to leave after a few days. Last year, we concentrated on criticizing the feudal, capitalist and revisionist system of the old Chiaotung University, but some of its toxic influence has remained to this day. We think that mass criticism in this connection should be conducted in factories too. Colleges of science and engineering are closely linked with factories and the workers warmly support the revolution in education, but

the leadership in some factories does not. For example, a machine tools plant set up a workers' college, but the leadership at the plant didn't pay attention to it, so it was hard going. In another workers' college run by a shipyard, things went quite smoothly because the leadership there gave it close attention. This shows that the revolution in education has social character. Schools and colleges alone cannot accomplish it; participation by other social forces, particularly factories, is necessary, or the revolution in education cannot develop very well.

One more question. The implementation of the "three-thirds system" (a third taking part in productive labour, a third in investigation and a third teaching and conducting scientific research) would somewhat tax our teaching staff. The teachers are already busy with scientific research, production and teaching. The "three-thirds system" would give them more to do.

Chang Chun-chiao: How many teachers have you?

Cheng Chen-chi: 1,300.

Yao Wen-yuan: How about your movements for purifying the class ranks and consolidating the Party?

Cheng Chen-chi: The masses say they're like lukewarm water.

Chang Chun-chiao: I have the same impression.

Cheng Chen-chi: The comrades engaged in the revolution in education are very dissatisfied. The leadership is somewhat inclined to play safe and does not "play the piano" well [This expression, taken from Chairman Mao Tsetung's article "Methods of Work of Party Committees", briefly means in good co-ordination. — *Tr.*]. We hope the Municipal Revolutionary Committee leaders will go there to give a push and see how the situation can be changed.

Chang Chun-chiao: Can't you change it yourselves?

Cheng Chen-chi: Many big-character posters have been put up, but there hasn't been much change.

Chang Chun-chiao: Why not emancipate yourselves!

Cheng Chen-chi: Support from the leadership is also needed.

Yao Wen-yuan: Chiao Tung University's equipment for scientific research is the best of all Shanghai's colleges.

Cheng Chen-chi: The question of our university's relationship with affiliated factories has not been settled satisfactorily.

Wang Chia-lin (cadre of the East China Chemical Engineering Institute and member of the antibiotics practice team): We think that colleges of science and engineering should establish direct contact with rural communes as well as with factories. This is requisite to the development of agriculture. In 1958 we undertook to make the insecticide "920", but the bourgeois academic "authorities" said it was of no value. We have now criticized this kind of thinking. We have persisted in serving agriculture and the poor and lower-middle peasants, and built our bases in the rural areas. Through practice, we have come to understand that the poor and lower-middle peasants are a main force in scientific experiment. In the trial production of "920", for instance, we invited them to give lectures, and ran short-term training classes. To meet the demands of the poor and lower-middle peasants, we have begun producing "920", starting with indigenous methods and combining them with modern. This insecticide is in great demand throughout the country.

Yao Wen-yuan: Could a county produce it?

Wang Chia-lin: Yes, just like running small chemical fertilizer plants. Kiangsu, Kiangsi and Liaoning Provinces have sent people here to learn the technique and it's beginning to be popularized all over the country.

Chang Chun-chiao: There are still many difficulties. Its popularization is not easy even throughout Shanghai.

Wang Chia-lin: The poor and lower-middle peasants warmly welcome county- and commune-run "920" insecticide factories. With the poor and lower-middle peasants as the main force, a relatively long-term study class could be set up on the basis of popularization with the students enrolled from among poor and lower-middle peasants. This would provide a basis, and we could compile a set of new teaching material, and practise teaching in the course of designing the factory building, making and installing the equipment and putting out the product.

Yao Wen-yuan: Getting new teaching material and new specialities into shape through practice is a great creation in the proletarian revolution in education.

Wang Chia-lin: Doing this way, the poor and lower-middle peasants have given us a big ideological education. At one point some of our comrades were in low spirits. They thought they were unlucky to have had a few years of college education; otherwise they would be members of workers' Mao Tsetung Thought propaganda teams. After being re-educated by the poor and lower-middle peasants, they are no longer disheartened, because the poor and lower-middle peasants are so very eager to conduct scientific experiment.

Yao Wen-yuan: How many are there on your antibiotics practice team?

Wang Chia-lin: Forty-two.

Chang Chun-chiao: How about your contact with the Chemical Industry Bureau?

Wang Chia-lin: They aren't interested. They say we belong to a different department.

University-run factories integrated with social production constitute part of the state production set-up, but they need some leeway. At present we need help from the bureau. Our products are in demand. But as for raw material, very sorry, they won't give any.

Chang Chun-chiao: How about the pharmaceutical industry company under the Chemical Industry Bureau?

Wang Chia-lin: It won't help either. We hope the channel will be opened.

Yao Wen-yuan: To ensure success in the educational revolution, there must be a definite system governing the relations between the colleges and the departments concerned. Such a system is absolutely necessary.

Chen Hsun-liang (teacher of physics at Fudan University, responsible member of the "April 1" Electronics Factory): The production of our university-run factory is included in the state plan. We specialize in making electronic elements. We have 250 students and 150 teachers, staff members and workers, and produce mainly for several major projects.

Yao Wen-yuan: Have you fulfilled your task?

Chen Hsun-liang: We worked for a year without making much headway. Later we grasped class struggle and carried out mass criticism. Then even with less time for production we still fulfilled our task.

Yao Wen-yuan: That's right. We must grasp class struggle.

Chen Hsun-liang: At first some teachers were a bit gloomy. They didn't think there was much prospect in the university, so they were ready to pack up and leave when the tasks of struggle and criticism were over. Later the university set up factories and it was made clear to them whom to serve. That brought a tremendous change in the teachers' and students' mental outlook.

Yao Wen-yuan: It takes some revolutionary practice to get rid of passivity.

Chen Hsun-liang: Now the morale is quite good. Whenever we're assigned a project, we first prepare our people ideologically and politically, and hold political study classes. Then everyone's in high spirits.

Now the scientific research done by our university-run factory is also included in the state plan, and this has spurred several specialities under the department of physics. Before the Great Cultural Revolution we were not clear how to go about research in semi-conductors. We spent a lot of money to buy foreign equipment but failed to produce anything. Now that we have set up our own factory, new techniques and new technological processes in society are readily reflected in our university; we have established ties with many factories and are no longer so shut off from the outside world as we were. We meet workers every day. All this promotes our work of compiling new teaching material. We set up two teaching material compilation teams last December. They took the university-run factory as their base for investigation and study and also went to other factories. All of this has helped improve our teaching material, and our teaching, scientific research and production are combined with production outside the university.

Chu Hui-min (member of the workers' Mao Tsetung Thought propaganda team in the department of physics at Futan University): Comrade Chen Hsun-liang touched on the question of university-run factories. Back in 1958, the revolutionary teachers and students of Futan University set up a number of university-run factories. The department of physics ran an electronics factory where Shanghai's first diode and triode were made. However, at that time the problem of what line to follow was not yet solved. A gust of cold wind blew from Liu Shao-chi's bourgeois headquarters and a capitalist-roader at Futan at the time, clamouring that the university should be run "according to regulations", closed down all the university-run factories at one stroke. Before the Great Cultural Revolution, a fifth-year student in the semi-conductor course had never seen a diode. Even last year we still heard such a remark as: "The university-run factory is like a bull bursting into a temple, just that absurd." We resolutely refuted that view and set up the "April 1" factory.

Hsu Hsueh-yi (student of the worker-peasant-soldier experimental class in micro-electronics, Futan University): Colleges of arts must carry out revolutionary mass criticism, and so must colleges of science and engineering. The state of affairs in our university convinced us that without mass criticism the remnant vicious influence of the revisionist line in education cannot be wiped out. Not long ago when Sang Wei-chuan was being criticized in the press, the teachers and students of science and engineering in our university paid little attention to it. Therefore I feel that unless mass criticism is carried out, the revisionist way of doing things may return. A number of teachers who once

went to factories to make investigations said on their return that there wasn't much to learn from the old workers. We sternly criticized this mistaken idea. Intellectuals making investigations and study in factories cannot produce good teaching material if they don't solve the problem of political stand. We therefore realize the necessity for colleges of science and engineering to carry out revolutionary mass criticism.

Chen Hsun-liang: Some time ago we enrolled a number of students from among workers of handicraft factories.

Chu Yung-chia: The university invited workers of handicraft factories to study and they went back to production after finishing their course. Then the university sent students to help them renovate their factories and check the result of their study through practice.

Chen Hsun-liang: The 1969 and 1970 graduates who went with the worker-students to the factories showed great enthusiasm and worked day and night. They returned to the university after the renovated factories had gone into production. They became good friends with the workers, and now veteran workers often visit our university. When they run into difficulties we promptly send comrades to help.

Chu Yung-chia: These revolutionary teachers and students who are putting into practice Chairman Mao's thinking on the revolution in education have a fairly high political consciousness and are able to master technological processes in an all-round way.

Yao Wen-yuan: Imperialism and revisionism have made desperate efforts to spread rumours, saying that our colleges have not enrolled students for several years and that China's industrial-technical force is weak. In

reality, as we have shattered the bourgeois headquarters headed by the renegade, hidden traitor and scab Liu Shao-chi, criticized the revisionist line, carried out on a broad scale Chairman Mao's instructions such as **"integration of the intellectuals with the masses of workers and peasants"**, **"take the road of the Shanghai Machine Tools Plant in training technicians from among the workers"**, and **"maintaining independence and keeping the initiative in our own hands and relying on our own efforts"**, and launched the revolution in education, we have not only turned out products of advanced world standard, but also strengthened the entire technical force in the service of socialism. This is a revolution of far-reaching significance. They say our technical force is insufficient, but in fact we have plenty!

Comrades from the Shanghai Machine Tools Plant, you haven't spoken yet.

Chang Chun-chiao: People all want to take the road you've taken. How about your progress along the road?

Wang Shao-ting (Party branch secretary of the "July 21" Workers' College affiliated to the Shanghai Machine Tools Plant, member of the plant Party committee, a worker-technician): The experience of Tsinghua University enlightens us very much and broadens our view. It makes an all-round summing-up on many questions.

On the question of consistently taking class struggle as the main subject, we have gained some experience. We started our college in 1968. Our students had been workers for more than twelve years on the average. At the beginning, there were some problems among the students too. What should we do? Leading comrades from the Municipal Revolutionary Committee came to our plant and talked about it. They pointed out that

the class struggle in society would inevitably be reflected in the Machine Tools Plant as well as in the "July 21" Workers' College. We discussed the question for five days at a study class and made efforts to grasp class struggle.

The idea of "born red" was fairly common among the worker-students. They said that they were workers and had been chosen and sent to the college to study, and that their main task was to learn designing. They also had some old ideas and were influenced by the revisionist line in education. We criticized this revisionist line in education. Our practice in struggle made us realize that for a factory to run a school, it is imperative to place proletarian politics in command, grasp ideological-political work and the study and practice of Chairman Mao's works, and apply Chairman Mao's thinking on the revolution in education. After studying Chairman Mao's instructions on this revolution we realized that it was necessary to practise and teach and learn at the same time—to learn warfare through warfare. Some students first thought that if they were to learn through practice they would go back to the workshop rather than attend the college. With this idea in view, we organized discussion to make clear for whom they had come to study, and after a period of practice the students understood the matter better. Their enthusiasm grew and they finally worked out designs for machine tools.

Recently we organized the mass activity of recalling past sufferings under domestic reactionary rule and imperialist aggression, and checking on ideology, study and style of work. This helped to deepen the students' class feelings and promote the teachers' re-education. Some

members of the original teaching staff still have bourgeois ideas which, if not criticized, will influence the worker-students. The strengthening of ideological-political work helps to re-educate these teachers. In addition, we organized the worker-students to go to People's Liberation Army units and learn from the army men the revolutionary spirit of fearing neither hardship nor death. This has brought about a great change in the mental outlook of the students.

Yao Wen-yuan: How many students are there?

Wang Shao-ting: Fifty-two. Our experience shows that if political-ideological work is neglected, it will be very difficult to carry out Chairman Mao's instructions on the revolution in education. With regard to the original teaching staff, we should use them and remould them ideologically at the same time.

Chang Chun-chiao: Where did you get the teachers?

Wang Shao-ting: From the mechanical and electrical engineering institutes. Some of the teachers used to recite their teaching material quite fluently, but today they're at a loss when asked to apply Chairman Mao's dialectics to their teaching. The experience of Tsinghua University in remoulding the teachers' ideology while using them is good. Quite a number of teachers possess specialized skills. Let them join the worker-technicians in preparing lessons and their specialized skills will have full play.

Tsinghua University's experience in compiling teaching material is very instructive for us. Teaching material should be revolutionary, critical, pointed, and should have local colour. At first some teachers found it very difficult to compile teaching material; they felt

they couldn't do it. We did much to encourage them. After the teaching material was written, by means of study classes, we clarified the orientation, put forward the requirements and helped them to correct. We made it clear that if there were errors, we should be criticized if criticism was in order, but that it was up to them to make the improvements. They were heartened and a draft of the teaching material was made, though it still fell far short of a high mark.

Yao Wen-yuan: "High marks" are not reached at one stroke.

Chang Chun-chiao: But from "lower" to "higher".

Wang Shao-ting: Moreover, leadership is also very important in running a college of science and engineering well. Leadership must be formed in struggle. Only with a staunch leading group can Chairman Mao's ideas be carried out. Only if it dares to practise and is good at summing up experience will it be able to blaze a trail where there was none. Even if the line is correct and the direction clear, implementation will fall off without a staunch leading group. Practice proves that every step forward in carrying out Chairman Mao's thinking on the educational revolution involves struggle. The leadership of our plant's college was not strong enough at first. It has been strengthened since readjustments were made in struggle.

As to the period of schooling, it may range from one year for a specialized course on a single subject to at least two years for a regular science and engineering college course. Originally, we planned for two years but prepared for two and a half in consideration of possible twists and turns at the initial stage. As we see it now, it is desirable for the worker-students to have some

schooling, or their study will be difficult. If they have little schooling and are on in years, there will be contradictions between teaching and learning, and neither speeding up nor slowing down will do. If they are fairly young, even with little schooling, they can make up.

Chang Chun-chiao: Can you run a spare-time school at the same time?

Wang Shao-ting: Our spare-time school has already enrolled a group of 65 students.

Chang Chun-chiao: Even if every college enrolls workers as students, the great majority of the workers will still be in factories and the question of raising their educational level remains.

Wang Shao-ting: But, at present some workshops of our plant think only of their own department and will not send their best workers to the school.

Chang Chun-chiao: I consulted with Comrade Chang Mei-hua last month, asking him to take the lead because he is the principal responsible member of the Party committee and the revolutionary committee of the plant, as well as a worker-engineer. He also wants to study, but there is no place for him. If Chang Mei-hua enters the spare-time school, a number of the best workers might follow him to study politics, military affairs, agricultural production, general knowledge and technology. After the spare-time school, the most outstanding students might be sent to university. How to solve the problem of workers who want to study but have no place to go? As for workers with little schooling, they could be coached to a certain level, or specially study general knowledge and politics. There are too few students in your "July 21" College. You should put up big-character posters criticizing people who indulge

in departmentalism. For they don't understand the workers' genuine desire to study and are short-sighted, closing their eyes to long-term interests. Of course, there are also some workers who do not want to continue studying. We should encourage them to go on, and to continue the revolution.

Wang Tseng-jung (fitter in No. 2 Workshop of the Shanghai Machine Tools Plant, a 1964 graduate of the Tsinghua University machine-building department, assigned as post-graduate to work in the plant in 1968): I consider the experience of Tsinghua University very good, and am deeply moved by the comparison of the new Tsinghua with the old. I studied at Tsinghua for ten years, then came to the Machine Tools Plant in April 1968. I spent too much time studying, especially on basic courses. But I had to start all over again when I began work at the plant. In the old Tsinghua University, a capitalist-roader spouted the absurd view of "hunting guns vs. provisions", saying that the school gave the students "hunting guns" instead of "provisions". A "hunting gun" always provides the hunter with food while "provisions" soon run out.

Chang Chun-chiao: You will have nothing to eat even if you bring a "hunting gun" to Shanghai. What can you hunt in the streets where there's so much traffic?

Wang Tseng-jung: There are many problems that are very difficult to solve while studying at school, but once I got to the plant and started to work things became clear.

I've also got some idea how to serve the working class and integrate with the workers. Chairman Mao calls on us to plunge into the three great revolutionary movements — class struggle, the struggle for production

and scientific experiment. But the old Tsinghua said that fighters in these movements could also be nurtured in laboratories. How could students share the feelings of the working class? Since coming to the plant, I've discarded intellectual airs and taken workers as my teachers. At first I felt ill at ease and ashamed because I couldn't even assemble machine parts after ten years at university. Later, veteran workers taught me very patiently, explaining every motion, and I was deeply moved. In the work process, I discovered certain irrational rules and regulations. Why didn't the workers say anything about them? They told me they had made suggestions long before but that the technicians paid no attention, saying the workers knew nothing. Now, after labour, I know that if I don't learn from the working class and accept re-education by them, I won't accept their suggestions either.

After a period of labour, when I had made friends with the workers, I felt very happy. I have several veteran workers who are Party members as my teachers. One, who is now on a workers' Mao Tsetung Thought propaganda team, shows much concern for me and often comes to see me. Since I've made friends with the workers, a change has taken place in my thinking, and this has been a big help in remoulding my world outlook. I try hard to solve problems the workers need solved, and this pleases them. Now I feel that so long as I drop my intellectual airs and learn from the workers, what I learned in college can still be used.

Chang Chun-chiao: Tsinghua has written a summary of their experience. Shanghai universities and colleges should also sum up theirs. Then we shall meet to exchange experience.

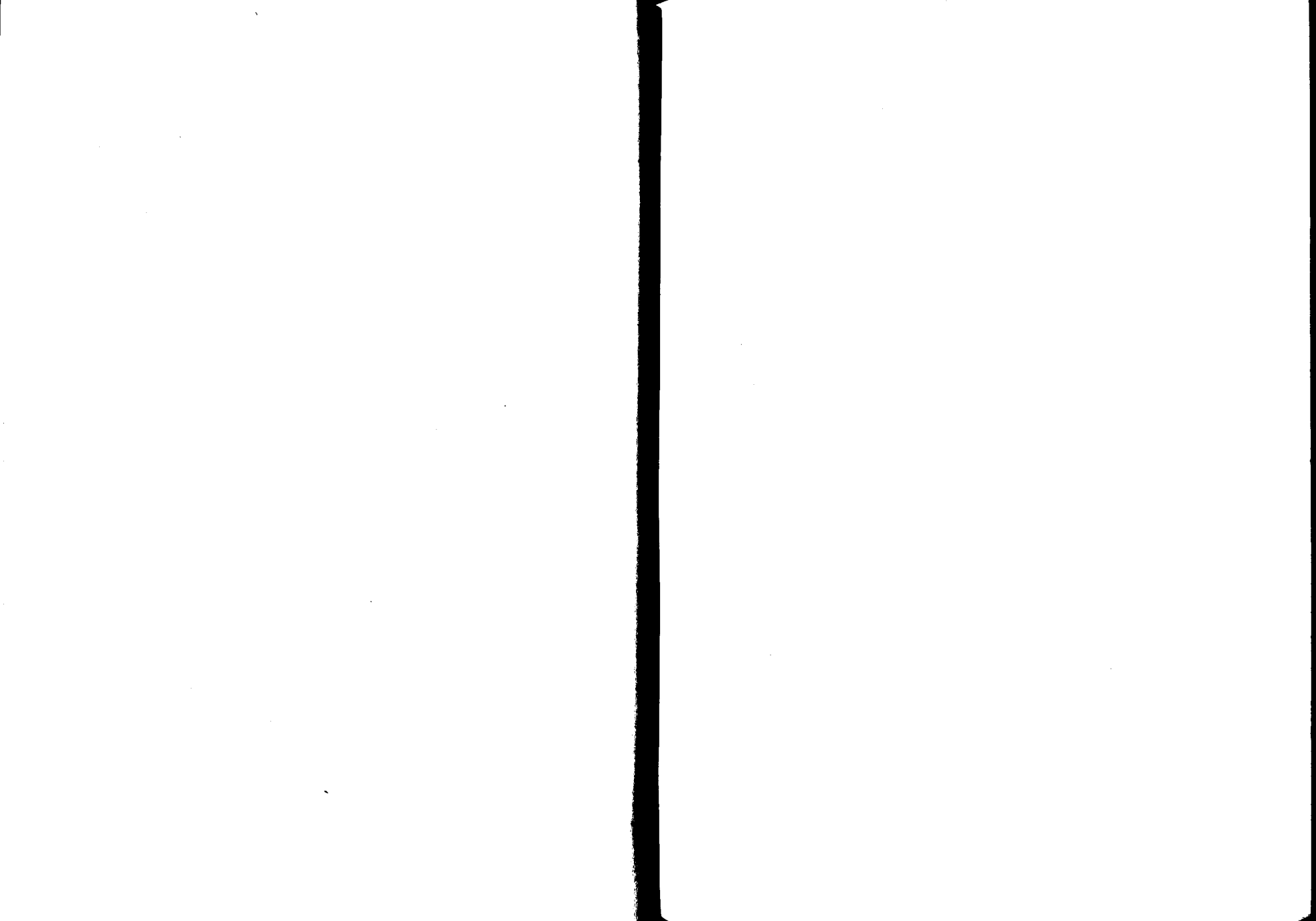
Publication of the Tsinghua summary should give great impetus to the educational revolution in universities and colleges throughout the country. We in Shanghai should strive to catch up.

Yao Wen-yuan: What impresses me most in your talks today is that in discussing the Tsinghua experience, all of you stress the necessity, in making educational revolution, of putting proletarian politics in command and grasping class struggle, revolutionary mass criticism, ideological-political work and the implementation of policies; the necessity of mobilizing the masses fully and relying on the working class, the poor and lower-middle peasants, revolutionary intellectuals and other revolutionary social forces. Beginning with purifying the class ranks, consolidating and building the Party organizations and strengthening the leading group, to enrolment, teaching, teaching material compilation and the remoulding of the teaching staff, we must always hold high the great red banner of Mao Tsetung Thought and use Chairman Mao's thinking on educational revolution to guide, sum up and improve our practice. We must never lose sight of this in running colleges of science and engineering. While studying at college, the worker, peasant and soldier students' education on Chairman Mao's line, principles and policies on the revolution in education should be strengthened, and attention be paid to remoulding their world outlook. Thus they will be able to grasp Chairman Mao's thinking on the revolution in education, understand the historical experience of the struggle between the two lines in education, know their own tasks and take an active part in educational revolution. Only in this way can Chairman Mao's teaching that **education must serve proletarian politics and be combined with**

productive labour be really implemented and only thus can we bring up **workers with both socialist consciousness and culture** and proletarian intellectuals who integrate theory with practice. The comrades of Tungchi University and the Shanghai Machine Tools Plant have spoken on these questions.

What we have heard here today indicates that, compared with the situation a year ago, our experience is richer. The educational revolution in colleges of science and engineering has made great advance as a result of the comrades' endeavour. I hope that all comrades will firmly grasp this revolution and conscientiously sum up experience. You can deal with major or minor subjects, such as enrolment, political-ideological education, schools running factories, compiling new teaching material, teachers, leadership, etc. You may sum up any subject on which you have experience. There are some questions with which we haven't much experience because we've just begun to deal with them, and there are some others which need further study. But that doesn't matter. Our experience will gradually increase with practice. It's the revolutionary people who blaze the path of revolution. As long as we advance persistently along Chairman Mao's line, we will surely run the socialist colleges of science and engineering well and win still greater victories in the proletarian revolution in education. Ours is a cause with a bright future.

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