

Advice for Teachers

Part I

1. What is a teacher's vocation, and how is it formed?

Like any qualified, purposeful, planned and systematic work, the education of human beings is a profession, an area of specialisation. But it is a special profession, unlike any other. It is distinguished by a number of specific characteristics and qualities:

a) We are dealing with the most complex, priceless and dear thing in life—with human beings. Their lives, their health, intellects, characters and wills, their civic and intellectual identities, their positions and roles in life, and their happiness, depend on our ability, skill, artistry and wisdom.

b) The final result of educational work will not be visible today or tomorrow, but only after a very significant passage of time. What you have done and said, the influence you have had on a child, sometimes only becomes evident after five years or ten years.

c) A child is subject to the influences of many people and life phenomena, including their mother and father, their school friends, the so-called 'street environment', books read and films viewed unbeknown to you, a completely unforeseen encounter with someone who exerts a powerful influence on a young soul, and so on. These influences on children can be positive and negative. There are difficult and oppressive family situations that leave an indelible mark on a person for the rest of their lives. A school's mission, our joint task dear colleague, is to fight for every human being, to overcome the negative influences and to encourage the positive influences. For this to happen, it is essential that the teacher's personality should have the brightest, most effective and beneficial influence on a student's personality. Dmitry Pisarev wrote: 'Human nature is so rich, powerful, and elastic, that it can preserve its freshness and its beauty, even in the midst of the most oppressive and ugly environment.' But human nature can only fully reveal itself when a child has an intelligent, skilful and wise educator.

d) Our work addresses subtle aspects of the spiritual life of the developing personality—intelligence, feeling, will, conviction, self-consciousness. One may influence these spheres only through like action, through intelligence, feeling, will, conviction, self-consciousness. The most important means for influencing the spiritual world of the pupil are the teacher's word, the beauty of the surrounding world and of art, the creation of circumstances in which feelings find their most striking expression—human relationships covering the whole emotional gamut.

e) One of the most important features of our creative work as teachers is that what we are working with—children—are forever changing, forever new, different today from what they were yesterday. We are responsible for the formative years of a human being, and that is a special incomparable responsibility.

Such are the characteristics of educational work. What then constitutes a vocation for it? What objective criteria are necessary for it, and how can we prepare for, establish, develop and refine that vocation?

It is a fundamental spiritual requirement of any human being to communicate with other people. In this we find joy and fulfilment. But in some people, as a result of various circumstances, this requirement is little developed, while in others it is a personality trait that dominates all the others. There are some people who 'by nature' are unsociable, withdrawn, uncommunicative, who prefer solitude or the companionship of a narrow circle of friends. ('Nature' of course has nothing to do with it. The decisive factor is upbringing, especially in early childhood.) If socialising with a large group of people gives you a headache, if you would rather work alone, or with two or three other people, than with a large group of colleagues, then do not choose teaching as a profession.

The teaching profession equates to a study of human nature, a constant, never-ending effort to enter into the complex inner worlds of other people. A remarkable trait—the ability to constantly discover new attributes in another human being, to experience the wonder of discovering those new attributes, to see a human being in the making—is one of the roots from which a vocation for teaching grows. Its foundation is laid through the efforts of elders—fathers, mothers, teachers—who educate a child in the spirit of love for others and human respect.

You begin to dream of becoming a teacher. Run a check and test yourself. If you are in the final two years at school, ask the Communist Youth League committee to appoint you as leader of a Pioneer troop or a group of Little Octobrists. In front of you are forty youngsters—at first glance they seem very similar to each other even in their external features, but by the third, fourth or fifth day, after several walks to forest and field, you become convinced that each child is a world in themselves, unique and never to be repeated. If this world reveals itself to you, if you sense the individuality within each child, if the joys and sorrows of each child find a response in your heart, in your thoughts, cares and concerns—then you may confidently choose as your profession the noble work of a teacher and you will find in it the joy of creativity. For creativity in our work (I will return to this later) is first and foremost the process of coming to know, of discovering a human being, of experiencing wonder at the many facets and inexhaustibility of human nature.

If, on the other hand, those forty children seem depressingly the same to you, if you have trouble remembering their faces and names, if each pair of children's eyes does not tell you something deeply personal and unique, if you cannot recognise a child's voice ringing out in the depths of the yard, and what they are expressing in that shout, cannot recognise it after a week or a month, then think seven times, as they say, and then decide if you are suited to teaching. Because there is not a single educational rule, not a single truth, that is absolutely equally applicable to all children. Because in practice education is knowledge and skills, developed to a point of mastery, and then raised to the level of an art. Because to educate a human being is first and foremost to know their soul, to see and feel their individual world.

'If I had the power, I would cut out the tongue of anyone who says that people are incorrigible.' These words by the great thinker Abai Qunanbaiuli sunk deep into my soul. They burn before me in fiery letters every time I think about the vocation of a teacher, when I have to talk with young teachers about their joys and sorrows, their successes and failures. Limitless faith in human beings, in their fundamental goodness, that is what should live in your soul if you are thinking of devoting

your life to the noble work of teaching. Not faith in some abstract human being that does not exist in nature, but in our soviet children, developing in a socialist society.

The cornerstone of the teaching profession is a deep faith that every child can be successfully educated. I do not believe that there are incorrigible children, adolescents or young men and women. We have before us a young person who is just discovering the world, and it is in our power to make sure that nothing crushes, cripples or kills the goodness, kindness and humaneness in that little person. For this reason any person who dedicates their lives to educating human beings must be patient with children's weaknesses, which, if we examine them very carefully and reflect on them, turn out to be insignificant, and not worthy of rage, indignation or punishment. Do not think that I am advocating tolerance of any behaviour, an abstract tolerance that requires a teacher to put up with anything, and 'bear their cross'. I am talking about something completely different, of the wisdom that allows an older person—a mother, father or teacher—to understand with mind and heart the subtle motives and causes that give rise to children's misbehaviour; to understand with mind and heart the childish nature of this misbehaviour. Not to place children on the same level as ourselves, and not to have the same expectations of them that we have of adults, but at the same time, not to be childish ourselves, not to descend to the level of the child, but to understand the complexity of children's behaviour and their relations with each other.

If every childish prank arouses irritation and an accelerated heart rate, if it seems to you that those children have reached the limit, and you need to do something extreme and take emergency measures, weigh seven times to see if you should be a teacher. You cannot educate properly if you are in constant conflict with children. The ability to calm conflict first and foremost through an understanding of the fact that you are dealing with children—this ability grows from a deep root that supports a teaching vocation—from understanding with mind and heart that a child is a constantly changing creature.

There is another trait without which, in my opinion, a teaching vocation is impossible. I would call this trait a harmony of heart and mind. There is probably no other profession other than education and medicine that demands such heartfelt involvement. You may have more than forty pupils. If you are teaching in senior classes you may have a hundred or a hundred and fifty students. And you have to give each one a little of your heart. You have to find room in your heart for each one's joys and sorrows. Empathy, heartfelt concern for others—this is the flesh and blood of the teaching profession. A teacher cannot be a cold indifferent person. Cold calculation, meticulous consideration of everything that has happened, and a fear of not fully observing all the relevant regulations, arouse mistrust in children. Children dislike teachers who are too calculating and will never bare their hearts to them.

In all circumstances act on the first impulse of your heart—it is always the noblest. But at the same time teachers need to regulate their heartfelt impulses with reason, and not let their emotions get out of control. This is especially true when you have to make decisions concerning mistaken, impulsive and just plain wrong behaviour by your students.

A teacher's art and skill is in their ability to combine heartfelt empathy and wisdom.

Sometimes you need to delay taking a decision, and allow your feelings to subside. Each time I have to talk with a student about behaviour that expresses complex, conflicting motives, I put off the

discussion for several days. I assure you, my respected colleagues, that the emotional impact of your words, when you address the mind and heart of your student, will be greater for the wait, because in these cases your feeling will be ennobled by the wisdom of your reflections. And your reflections, your words, will reach the depths of your student's heart, because they will be enlivened and saturated with the emotion of your heart. This ability, the ability to attune yourself for a heartfelt conversation with a student, especially with an adolescent, is an exceptionally important part of your educational toolkit, which every teacher has to put together. We have to educate this ability within ourselves, to create it, perfect it and refine it, making it more subtle and effective.

Developing this ability, it is essential to enter into a child's soul, to understand what they live for, how they view the world, what the people surrounding them mean to them.

My dear colleague, to become a real educator, you have to pass through a school of empathy, over a lengthy period to apprehend with your heart everything that your pupil lives for, thinks about, finds joy in and is concerned about. This is one of the subtlest aspects in our educational work. If you persistently work at it, you will be a genuine master.

2. About Health and the Richness of a Teacher's Spiritual Life. A few words about the Joy of Work

I remember a farewell party for a teacher who was retiring. The teacher who invited me to the party was relatively young. She began work at the age of twenty, and on the day she retired she was only forty-five years old. We all wondered why Anastasia Grigorievna was retiring. We thought it strange that she did not want to work a single extra day. She retired on the day she completed twenty-five years of service at the school. All our questions were answered by Anastasia Grigorievna herself in her farewell speech to the gathering of young teachers. 'Dear friends,' she said, 'I am retiring because I do not love my work at school. I did not find satisfaction in my work. It gave me no joy. This has been a great misfortune, the tragedy of my life. Each day I have looked forward to the end of lessons, so I could escape from the noise and be by myself. You are surprised that a woman of forty-five would retire, while still enjoying excellent health. But I do not enjoy good health. It has been overtaxed by work that gave me no joy. I have serious heart problems. I advise you young teachers to search your hearts. If your work gives you no joy, give up teaching, and find your true place in life. Find work that you love. Otherwise your years of work will become a hell on earth.'

Dear friend, let us reflect on this sad story. Our health, our mood, the richness of our spiritual lives, the joy of creative work, satisfaction from work that we love—all these things are interconnected and interdependent. Most important of all is our health and our strength of spirit. How necessary health is for a teacher, and what a tragedy it is if illness imperceptibly takes over our lives and catches us unawares. It is not uncommon for a teacher to reach forty-five or forty-seven and find that they are completely spent. They have reached the peak of pedagogical wisdom, uncovered the mysteries of the art and science of education, and developed educational convictions, but they have no energy left to keep going. A teacher with twenty-five years' experience, who had begun work at the age of sixteen wrote to me: 'I do not want to reach forty-five as an honoured committee member, as a spent force. How can we work in a way that does not overtax our health? We need our health in order to work and be creative. I cannot imagine happiness without work.'

I have had conversations with about four hundred teachers aged forty-five to fifty. When we talked about health many complained that their hearts were playing up. Disturbances of the circulatory and nervous systems, heart problems, these can creep up on a teacher, and not only limit, but often put an end to their creative work, forcing them into an early retirement. We need to work in such a way that at sixty we are still healthy and enjoying life. It is hard to imagine something more tragic for a teacher than to feel at the height of their intellectual powers and full of ideas, but physically powerless.

But how can we look after our heart and nerves? We cannot turn away from anything that demands emotional involvement, and cultivate indifference. Here we need to consider the special conditions under which we work. Our work involves heart and nerves. Every day and every hour we are required to expend an enormous amount of psychological energy. Our work places us in constantly changing circumstances that lead to both heightened arousal and inhibition. For this reason the ability to manage our own responses, to exercise self-control, is one of the most essential skills on which both our success as teachers and our health depend. An inability to manage our own daily and hourly emotional reactions, to manage the situations that confront us, is the main factor that leads to overtaxing of our hearts and wear and tear on our nervous systems.

But how can we develop this ability? First of all, we need to understand our own health, to understand the peculiarities of our own nervous system and heart. The nervous system of any human being is by its very nature very flexible, and a teacher needs to develop this flexibility to the level of mastery over their emotions. I have developed this ability in myself by not allowing the seeds of negative thinking to grow, whether it be gloominess, exaggerating others' faults, or imagining that children are intentionally trying to undermine our work. This is difficult to express in words, but one common weakness of educational practice is expecting from children what can only reasonably be expected of an adult, and turning children into either cold logicians, or indifferent repositories of truths and teachings. I always try not fuel agitation, not to suppress it, but to release it. What is necessary for this to happen, how do we avoid the constant need to restrain oneself? The most sweeping measure is to direct the energy of the whole class, including the teacher, into an activity that requires psychological unity, collective creativity, the full concentration of each and every member, and an exchange of ideas. Experience has convinced me that such collective activity weakens the 'springs' that a teacher often has to compress in order to inhibit arousal and not allow irritation to be openly expressed. If we do not weaken these springs, if we clutch our heart in a fist as they say, it will be overtaxed, irritated, and unsettled, unable to monitor the emotional hazards that arise in our work if our feelings run wild or if we have to repress them.

I went into the forest with my class. We have a little boy named Yurko, lively, mischievous, mercurial, snub-nosed with blue eyes and freckles. While the other children were gathered in a clearing, listening to my instructions—where we were going next, and how not to get lost in the forest—Yurko ran off into some trees, hid in a gully, and started calling out so we could all hear him... At first it may seem that the child is doing this with the evil intention of disrupting our walk through the forest. But, I tell myself, we should not exaggerate a child's intentions. Yurko is just a little boy, in grade two, and his intention is not so far-reaching. I will not get upset, angry or irritable, but will turn this into an interesting game. Children, let us be very quiet and hide from Yurko. Instead of us looking for him, he will have to look for us. Quietly, so the grass does not rustle beneath our feet, we make our way to a cave I know and hide in it. The children are in raptures as they look around their

hide-away. Yurko calls out a few more times, and then falls silent. Then we hear him in another spot, imitating the call of an oriole. He is approaching the spot where we were sitting. He calls out again, and now I can hear concern in his voice. He has reached the clearing. Now his is no longer imitating bird calls, but calling to us: 'Where are you? Answer me!'

Instead of forcing yourself to suppress your irritation, find an activity that will throw a totally different light on the thing that is irritating you and leading you to suppress your feelings. Find a funny side to what is irritating you and you will become the master of your class's thoughts and feelings.

The second way to release feelings of agitation and irritation is to exercise a sense of humour. The most tense situation, which can sometimes lead to a lengthy period of irritation, can be diffused if you have a sense of humour. Children love and respect a teacher who is cheerful, and does not get down or despair, if for no other reason than that they are a cheerful bunch, with a sense of humour. They have a way of seeing something funny in every act and everything that happens in life. The ability to make fun of the negative in a good-humoured way, without malice, and to support and encourage the positive with a joke, is an important quality in a good teacher and a in good class of students.

The lack of a sense of humour in a teacher creates a wall of mutual misunderstanding: the teacher does not understand the students and the students do not understand the teacher. An awareness that children do not understand you is irritating, and that irritation is a state from which a teacher often cannot find a way out. Believe me, my dear colleague, at least half of the conflicts that eat away at a school and poison the life of the students arise from such mutual misunderstanding.

A teacher's work is consists of alternating periods of great intellectual effort and of relative calm. Many years of experience has convinced me that a teacher's heart and nerves require prolonged periods of rest from giving, from the expenditure of nervous and spiritual energy. This energy needs to be replenished. A necessary condition for this replenishment is the sensible use of rest time. Appropriate rest, especially during the summer and winter, develops and strengthens the compensatory capacity of the nervous system, assists the development of stamina, composure, and the ability to mentally control emotional impulses. Many experienced teachers, who have worked in schools for thirty or forty years, tell me that they have been assisted in the development of stamina and self-control by prolonged communion with nature, during which physical effort is combined with thought and observation.

At the same time it is necessary to economise the expenditure of nervous energy during our daily work. That is an important way of ensuring we have a healthy heart and healthy spirit.

3. How to avoid nervous exhaustion in the process of our daily work

Our work takes place in the world of childhood, something that we should not forget for a moment. And this is a special, an incomparable world. We should get to know that world, but that is not enough. We should live in that world. You could say that in every teacher a spark of childhood should shine and never grow dim.

What is the world of childhood? Here I am merely giving practical advice to teachers and do not claim to be providing an academic, psychological definition of all the characteristics of childhood. I would say that childhood is first and foremost an emotional discovery of the surrounding world. The world of childhood is above all the heartfelt apprehension of everything that children see around them and do: a bright, full-blooded, expressive life of the heart, a play of feelings and emotions. That is what the world of childhood presents to us as the object of our labours and the environment in which we work.

Hour by hour the life of children's hearts brings us satisfaction and dissatisfaction, joy and sorrow, sadness and delight, bewilderment and amazement, affection and anger. In this extremely broad range of feelings presented to us by the world of childhood there are pleasant and unpleasant, joyful and disappointing melodies. Being able to make sense of this harmony is an important precondition for finding spiritual fulfilment, joy and success in educational work. If associating with children brings a teacher only disappointment, anger and indignation, this not only leaves unpleasant impressions on his soul; it disturbs the function of his internal organs. Teachers who are not able to appreciate the world of childhood and its complex emotional harmony, often develop psychosomatic conditions, the most unpleasant and serious of which is nervous exhaustion.

'I only teach three lessons a day,' writes Lydia N. from the Tambovsk Region, 'But I come home completely exhausted. I don't have the energy to even think, let alone prepare for lessons or read. Why is this? During my hours of work at the school I am stretched to breaking point. The children's pranks give me no rest. It seems as if each little boy thinks of nothing else but how to cause me some unpleasantness. During the lesson I see Fedya dig Vanya in the ribs, and Vanya returns in kind, hitting Fedya over the head with his ruler... The other teachers say these things are trivial, but I cannot observe these things calmly: a hot wave of feeling surges through my body and my heart nearly jumps out of my chest. My arms and legs feel numb. I lecture the student, trying to speak calmly, but my voice shakes. The children notice this and seem to be making fun of me, thinking up new tricks. What should I do?'

This has already reached the stage of a nervous disorder, caused by a failure to understand the world of childhood. On the whole this is a wonderful world, dear colleague, and if you know it and feel at home in it, like a fish in water, it will bring you far more positive experiences and emotions than negative. You must learn to listen to that music that we call childhood with your heart, and to discern the brighter, more joyful melodies. And do not content yourself merely to listen to the music of childhood; help to create it by becoming a composer. In the music of childhood, create those bright, joyful melodies upon which depend your health, your strength of spirit, and the condition of your heart. Your piano and your manuscript paper, upon which you write the music of childhood, your conductor's baton, with which you direct the melodies, come from a very simple and at the same time very complex thing, from your optimism. Remember that amongst children, adolescents and young men and women there are none with criminal intent, and if such do sometimes appear—one in a thousand or one in ten thousand—they are created by evil, and healed by goodness and humanity, and by that same magic violin and magic baton—optimism.

There is nothing in a child that would demand cruelty from a teacher. And if vices do arise in a child's soul, then that evil is overcome mainly through kindness. This is not preaching non-resistance to evil, but a realistic view of the world of childhood. I hate grating suspicion towards children, and the

formal regulation of demands and prohibitions. I am not preaching sloppiness and ‘free education’, but I firmly believe that kindness, affection and love towards a child—not some abstract kindness, affection and love, but real, human feelings embodying faith in young people—constitute a mighty force, capable of affirming all that is beautiful in people and leading them towards an ideal. I do not believe that a child who has been correctly educated can become a hooligan, a parasite, a cynic, or a false and depraved creature.

Optimism and faith in people provide an inexhaustible source of creative and nervous energy, and of health for both teacher and student. Do not allow the seeds of suspicion or a lack of faith in people to grow in your soul. A lack of faith in people, however small and insignificant it may seem at first, can grow into what I might call—since we are talking about physical and mental health—a cancerous tumour of ill will. Ill will is a dangerous condition of the soul, which affects the heart and nerves. This condition covers the eyes of a teacher with scales, so that he cannot see the goodness in a person. Ill will is like a pair of magic glasses, whose lenses diminish anything good to microscopic proportions, making it invisible, and magnify anything bad to monstrous dimensions, so that it hides more subtle human characteristics. The deterioration in a teacher’s health begins, my young friend, by allowing ill will to grow, feeding it with intentions and actions that have nothing in common with an optimistic faith in people. Ill will is the mother of anger and bitterness, and bitterness, figuratively speaking, is a sharp thorn that constantly pricks the most sensitive corners of the heart, wearing out the soul and weakening the nerves.

Most of all avoid the malice that takes pleasure in another’s misfortune. Suppose you have managed—may this never happen—to really get under a student’s skin and hurt him. You have written in his diary about his misbehaviour, and somewhere in the depths of your consciousness a joyful thought has flashed: ‘Your father will read my note, and he is very demanding your father, he will give it to you...’ You glance at the child’s sad eyes and they do not bother you; you remain calm. Understand, dear friend, that such moments mark the beginning of your great misfortune. Malice is taking root in your heart. It seems at first a weak, harmless creature, but in actual fact it is a poisonous serpent. Malice in turn gives rise to intolerance. A malicious heart becomes deaf and blind, incapable of sensing the subtle movements of a child’s soul. A malicious person sees evil intentions in ordinary childish pranks. Intolerance of childish misbehaviour and pranks turns a teacher into a cold logician, a calculating overseer, hateful to children. And they pay him back for his petty fault-finding by baiting him and trying to unsettle him. Once this process starts, the teacher’s heart gradually burns out from having to continually suppress his anger. Avoid this great misfortune my friend. If you do not manage to avoid this, you will become a peevish, irritable, gloomy creature. Your work will become hard labour, and you will develop a hundred ailments and a hundred vices.

Goodwill and rational kindness—that is the atmosphere that should characterise the life of a class of children, and relations between a teacher and children. What a beautiful word that is, and at the same time what a deep, complex, many-faceted human quality—goodwill. If it is mutual, one human being opens up to another with all the depth of their soul.

I have said it a thousand times, and will repeat it till the day I die, that mutual goodwill between a teacher and children creates those subtle threads that connect hearts, and thanks to which—this is so important in our educational work—one person understands another without words, feeling the subtle movements of their soul. Many years working in schools has firmly convinced me that if I have

goodwill towards the children, and have educated goodwill in them, they will spare my heart and my nerves, and will understand when my soul is troubled, and when it is hard for me even to speak. Sensing my state of mind, feeling that my soul is troubled, the children even talk softly, avoid making a noise, and try to afford me as much peace and quiet as possible, during both lessons and breaks. In this mutual reading of hearts and souls is an inexhaustible source of health for you, my dear colleague. But here we are entering a very special aspect of school life, an area about which very little is said, but much needs to be said. We are speaking of the very essence of goodwill as one of the most important aspects of emotional education.

4. Goodwill

This piece of advice relates to the ABC of educational practice in general, and to the emotional side of educational practice in particular. To have goodwill means to relate to each child as if they were your own son or daughter. A child is struggling and falling behind in their studies; a child has difficulty studying at the same level as their classmates; a child or adolescent commits an act of vandalism—all of these things are misfortunes... How would you behave if your own child met with such misfortune? You would hardly be likely to suggest such measures as exclusion from school, or lowering their marks for behaviour... Of course an intelligent mother or father would see the sense in such measures, but their heart would prompt them to do whatever was necessary to save their child, and would realise that punishment alone will not save a person. Their heart would demand something that would morally cleanse their child's soul and create beauty there; that would make them a true human being. This heartfelt wish is what we mean by goodwill. A teacher's goodwill is expressed first and foremost in an ability to prevent a child from going down the wrong path, to protect them from evil. To wish goodness in a motherly or fatherly way means to protect a child's heart from evil, to bar its way. If your heart feels such a deep concern for each child, if each child is not just a line in your mark book, but a living human being, a personality, a unique human world, then you may be sure that your heart will tell you what needs to be done if a child is in trouble. Such heartfelt impulses are goodwill in action.

It is easy to say: have goodwill. But goodwill has to be educated, and this state of mind can only be educated when it is mutual; that is to say, when the teacher wishes the student well, and the student wishes the teacher well. This is a most subtle aspect of school harmony. Mutual goodwill is educated in an atmosphere of emotional refinement. I always considered it one of my most important educational objectives to teach children to apprehend the world with their hearts, to feel with their hearts the emotional states of other people—no only those who are near and dear, but any compatriot they encounter on their life's journey. To teach little children to sense when someone they meet is heavy of heart, when they have met with misfortune, is one of the most subtle educational skills. I want to share an experience of how a teacher can educate this ability in themselves, how to educate emotional refinement in children, and how this refinement can provide a foundation for mutual goodwill.

It is spring, and in a field neighbouring the school women from the collective farm are working on a crop of beet. Each morning, as soon as the sun's red disc peeps above the horizon, the women walk to the field one after another. At this time my grade one students also come to the school grounds. We meet the sunrise in our Nook of Beauty, in a green classroom under the open sky. This is a large

green shelter covered in grape vines that protect us from the heat of the sun. At a distance of only two or three metres from us the farm women pass by. We can see their eyes and every feature of their faces. If we sit very quietly, holding our breath, we can even hear their breathing. They do not see us. I teach the children: look into the women's eyes, learn to feel and understand what each of them is feeling—a serene peace of mind or the dark cloud of sadness. Each day we observe the same women, young and old. We are already accustomed to the way that one young woman, with blue eyes and thick plaits of red hair, a mother of two young children, always sings one song or another on the way to work. She often stops on a rise in the path, gazes at the blue sky, listens to the song of a lark, and smiles. "She is enjoying life, she is happy," I tell the children, and at the sight of human happiness we all experience joy as well. Another woman, as she turns onto the narrow path to the field, picks a few wildflowers each day, and we read in her eyes thoughts of something bright and joyful. Two young women approach a spring, flowing into the meadow, and look into it as into a mirror, rearranging their hair and admiring their beauty. Look children, in their eyes you can see a bright dream of the future. And that dark-eyed woman has not only picked some wildflowers, but has sat down on a stump and woven a garland from them. Of course such garlands are only made for little girls. Look into her eyes, children, and you will see the warmth of a mother's love. But look carefully, children, at that grey-haired lady. Look at her eyes, how sad they are. There is so much grief and longing in her eyes. Now she has stopped and looked at the sun, and at the village with its green orchards, and she sighs deeply. She is not following the path to the field, but is taking the road into the centre of the village. She picks wildflowers along the side of the road, and takes them to the war memorial, honouring those who died here in a battle with the fascists. She lays her flowers on a grave and weeps.

Children this is the greatest grief in the world: a mother's grief. Now she is coming back past our Nook of Beauty. Look carefully, once more, at her eyes.

The children sit, holding their breath. Not a leaf stirs, not a blade of grass. Everything around us is quiet. Now we can see the sad eyes of a mother. We hear her sigh deeply as she turns and looks once more towards the war memorial...

No words or explanations are necessary for the children to see that the mother has lost a son during the war. I tell the children about this mother's great misfortune: she has lost both sons and her husband...

One after another there are new lessons in coming to know people with our hearts. We set off towards the field and sit by the side of the road, and from time to time people pass us by.

Studying people's faces, looking into their eyes, the children feel their inner worlds. One experiences the joy of existence, another dreams of something exciting and dear to them, a third appears just tired and indifferent—no, that person is not feeling well...; a fourth person appears preoccupied—it may be just some insignificant, everyday concerns, or it may be anxiety about something important. Then we see an old man who is experiencing real grief. The children sit up with alarm. They have never seen such grief in human eyes. 'He is suffering... He is in real trouble... We need to ask him how we can help,' the children say.

They approach the old man and ask, 'How can we help?' The old man places a gentle hand on the blonde head of my little Zina, sighs deeply, and says, 'You cannot help me, my dear children... My

wife has just died in hospital... I'm going to get a car... We lived together for forty-seven years... You cannot help me, but I do feel a bit better, knowing that you are good people...'

This is how emotional refinement is educated. It is a very subtle, lengthy process, demanding great tact, attention, thought, and a deep knowledge of the inner world of each child.

Children who learn to apprehend another person with their heart develop goodwill. But it is very important also that they are receptive to the goodwill of the teacher, that they sense it, and repay kindness with kindness. It is difficult to exaggerate the importance of this in educational work. A child's soul must be prepared for an education that is transmitted via affection, kindness and heartfelt warmth. You have probably heard teachers' complaints (and perhaps you have had the same thought yourself): 'What can you do? The child does not understand a kind word... I come to him with affection and an open heart, but he heartlessly mocks my kindness.' Unfortunately this does happen, and the roots of such coarseness of heart lie in a lack of emotional education, in the fact that from the earliest years the child was not taught how to sense another person with their heart.

If you do teach your students how to feel another's feelings with their hearts, your goodwill is capable of performing miracles. To what is the teacher's goodwill directed? First and foremost, at a student's intellectual work. To have goodwill in intellectual work means to understand all of a child's strengths and weaknesses, to sense subtle aspects of their intellectual work. Your goodwill acts as a powerful educational force as long as your pupil wants to be good, as long as they continue to develop a sense of self-worth. In educational work many things are closely connected: children's success in study is reflected in the richness of their spiritual lives, and in a teacher's health. If a student strives to be good, and wants to study well, that already provides half the joy of your work.

Children's sense of self-worth depends on their success in study, and their success in study depends on the goodwill of the teacher, and of course, on how well the child's soul is prepared to be receptive to the teacher's goodwill. Remember that children's success in study, their feelings of self-worth, provide the spark of joy in your creative work, dear colleague. As long as that spark is alive, you will feel the richness of your spiritual life, and the joy of creativity.

But now the question arises, how do you ensure that your students constantly enjoy success in their study? How do you cultivate their feelings of self-worth? How do you inspire them with that enormous spiritual energy: the desire to be good? This leads us to the next piece of advice.

5. Remember that there is no such thing as an abstract student

Why is it that even in grade one there are students who fall behind, and in grade two and three you sometimes come across students who are hopelessly behind, who a teacher has 'given up' on. It is because there is no individual approach to students in the most important area of school life: intellectual work.

Imagine that all the seven-year-old children commencing grade one were required to complete exactly the same physical work, carrying water for example. One is already exhausted after carrying five buckets, while another can manage twenty. If you force the weaker child to carry twenty buckets it will overstrain them. The next day they will not be able to do anything, and may end up in

hospital. Children's capacity for intellectual work is just as varied. One understands, makes sense of things and remembers things easily, storing them in their long term memory. Another experiences intellectual work completely differently, taking in the material very slowly, and storing knowledge in their memory for only a short time; though it often happens that later on the slower student achieves more significant success in their studies and in their intellectual development than the one who found it easier to study at the beginning. There is no such thing as an abstract student to whom we can mechanically apply guidelines for instruction and education. There are no prerequisites for 'success in study' that are the same for all students. And the very concept of 'success in study' is relative: for one success in study means getting an 'A', while for another a 'C' is a major achievement.¹ The ability to determine what each student is capable of at a given point in time, and work out how to develop their intellectual capabilities further, is an exceptionally important component of educational wisdom.

The preservation and development of each student's feelings of self-worth depend on what the teacher considers to be personal success in study for them. We should not demand the impossible of a child. Any program in any subject represents a certain area and level of knowledge, but not a living child. Different children have different pathways to that knowledge. One child can independently read and solve a maths problem in grade one; another will not be able to do that until the end of grade two or even grade three. We need to determine by what route, with what delays and difficulties, each child can attain the required level, and how to concretely implement the program in the intellectual work of each student.

The art and craft of instruction and education consists in developing the strengths and capabilities of every student, and giving them the joy of success in intellectual work. And this means there must be individualised instruction, both in the content of intellectual work (in the nature of the tasks set) and in its timing. An experienced teacher gives one student two, three or even four tasks to complete during a lesson, while another has only one. One is given a more complex task, while another is given a simpler one. One is completing a creative writing task, such as an essay, while another is working on the text of a work of literature.

With such an approach all students move forward, some more quickly, some more slowly. In the grades that children receive for their work they see their own labour, their effort. Study brings them moral satisfaction and the joy of discovery. In this case the mutual goodwill between teacher and student is combined with mutual trust. The student does not see the teacher just as a strict controller and the grade as a stick to punish him with. He will openly say to the teacher, 'I could do this, but I couldn't do that.' His conscience is very sensitive, and he is incapable of copying another's work or using a cheat-sheet. He wants to affirm his own worth.

Success in study, figuratively speaking, is a path leading to that corner of a child's heart, in which the desire to be good burns brightly. We must maintain that path and that fire.

I have a friend, a wonderful teacher of mathematics, I.G. Tkachenko, at the Bogdanovka Secondary School in the Kirovograd region. This is what he says about how he prepares for lessons:

¹ In the original Sukhomlinsky uses a '5' rather than an 'A' and a '3' rather than a 'C', where '5' is an excellent grade, and '3' is satisfactory.

‘I think about what each student will do. For each one I choose work that they can succeed at. If a student has not taken at least a small step forward in mastering knowledge, the lesson is wasted. Work with no result—there could hardly be a more serious danger for student or teacher.’

Consider the maths lessons of Pavlysh Secondary school teachers A.G. Arishchenko and M.A. Lysak. During problem solving (and problem solving takes up 90% of the time) their classes divide into several groups. In the first group are those children who are most advanced in their studies, who can easily solve any problem independently, and one or two of whom can solve problems orally without recourse to any notes: the teacher has not even finished reading out the problem and the student already has their hand up with the answer. For this group, apart from problems normally included in the program, there are problems that are beyond the program. We need to give these students work that is within their capabilities, but not easy, so they have to make some effort. Sometimes we also need to give them a problem that they cannot solve independently, but where the teacher only needs to give minor assistance, possibly just a hint.

A second group is made up of hard-working, conscientious students, for whom an excellent solution to the problem involves a degree of mental effort and inquiry in order to overcome difficulties. These are students of whom the teacher says, ‘They get there through hard work and effort; they succeed because they are diligent and persistent.’

A third group consists of children who can solve problems of medium difficulty without assistance, but who sometimes cannot solve more difficult problems. Assisting these students while they are working requires great educational skill.

A fourth group includes students who are slow to make sense of a problem and slow to solve it. They can complete two or three times less in a lesson than students in the second and third groups, and should not be rushed under any circumstances.

A fifth group is made up of individual students who cannot cope with a problem of even medium difficulty. The teacher selects special problems for them, always providing an opportunity for success, however insignificant.

These groups are not fixed and set in stone. Intellectual work that brings the joy of success always results in a further development of capabilities.

Examine the intellectual work of students during the lessons of a teacher who has managed to ensure that every one of his pupils tastes success. There is an atmosphere of mutual goodwill, about which we wrote earlier, an atmosphere of intellectual inspiration. Each student strives to achieve goals through their own efforts. You see in the children’s eyes intense concentration of thought, a flash of joy (I’ve found the way!), or thoughtfulness (what is the best way to approach this problem?). It is a great pleasure for a teacher to work in such an atmosphere. Believe me, my dear colleague, however intense a teacher’s work is at such a lesson, he has enough breathing space to maintain his energy for four or five lessons in a row.

For several years I taught mathematics in grades five through to seven, and believe me, those lessons, alternating with lessons in literature and history, were really refreshing. Lessons during which each student experiences an individual, personal joy at success do not overstrain a teacher or wear them out. They do not have to be on tenterhooks. They not have to be constantly watching

those lively, restless children, who, with nothing better to do, from time to time 'treat' the teacher to their pranks. During such lessons the energy of these children is channelled in the right direction. How diligently and with what concentration those pranksters and clowns work, if the teacher manages to 'harness' their energies to intellectual work that matches their capabilities, that promises and delivers success! In intense work their active souls are revealed and they become unrecognisable. All their attention is focused on how to complete the work as well as possible.

I always experience annoyance and surprise when a teacher complains that a child is misbehaving during the lesson and getting up to mischief... That would not happen, dear friends, if you really thought about how to get each student to work!

Now we are touching on a critical issue in our work: how to we ensure that our work does not wear us out, through constant stress on our nerves and heart, due to the fact that we constantly have to deal with either some 'crisis' or some 'innocent prank', which may be small and seemingly insignificant, but if it happens all the time, prevents us from working or living normally.

6. How do I find the time? There are only 24 hours in a day.

I have taken the words in my heading straight from the letter of a teacher from Krasnoyarsk. It is true. There is not enough time. This is the scourge of educational work. It not only affects our school work, but even our family lives. Teachers are human beings like everyone else, and need time for their families, for the upbringing of their own children. I have precise data showing that many graduates from high school avoid teacher training courses because they believe educators do not have any free time, in spite of their long holidays.

I have some other interesting data: 500 teachers, whose children had embarked on tertiary education, were asked: 'In which tertiary institutions and in which faculties are your children studying?' Only fourteen answered 'at a pedagogical institute' or 'at a university, training to be a teacher'. Then they were asked: 'Why did your child not want to become a teacher?' 486 people responded: 'Because he/she sees how difficult our work is. We do not have a moment's free time.'

Is it possible for teachers to work in such a way that they have free time? Sometimes this burning question is even expressed like that. In fact the situation has developed where a language or mathematics teacher, in addition to having classes for three or four hours a day, has to prepare lessons and mark exercise books for five or six hours a day, and take on extracurricular work for another two hours or more.

How can we solve the problem of time? This is one of those all-encompassing problems of school life, which, like the problem of students' intellectual development, depends literally on everything that happens at school.

The most important thing is the very style and character of educational work. One history teacher, who had been working in the school for thirty-three years, conducted an open lesson on the topic: 'The moral ideal of a young soviet person'. Those present included participants in a district seminar, and the district inspector. The lesson was conducted brilliantly. The visiting teachers and the inspector, who had intended to take notes during the lesson, so as to offer a critique, completely

forgot about their notepads. They sat with bated breath and listened with great interest, as did the students.

After the lesson a teacher from a neighbouring school said, 'You certainly teach with heart and soul. Every word had a lot of thought behind it. How long did you spend preparing for that lesson? It must have taken some hours.'

'I have been preparing for that lesson all my life,' answered the teacher. 'And I could say that of every lesson. But the time I actually spent preparing for that particular topic, my actual 'planning time', was about fifteen minutes.'

This lesson throws light on one of the secrets of teaching proficiency. In our district I know about thirty teachers like that history teacher. They do not complain about the lack of free time. Each of them would say, about each of their lessons, that they had prepared for it all of their lives.

What form does this preparation take? It is reading: a constant, daily friendship with books; the unceasing flow of a murmuring stream that feeds a river of thought; reading not for tomorrow's lesson, but to satisfy an inner need, a thirst for knowledge. If you want more free time, and for your preparation time to be more than a boring session with the text book, read scholarly literature. For you the text book should be just the alphabet, a mere drop in the ocean of your knowledge about the subject you are teaching. Then you will not need several hours to prepare for lessons.

The high level of proficiency of the best teachers is a result of constant reading that feeds the ocean of their knowledge. If the knowledge of beginning teachers is ten times more than they are required to pass on to their students, then by the time they have been teaching for fifteen or twenty years that ratio has increased to 20:1, 30:1 or 50:1, thanks to the reading they do. With each year the knowledge in the text book represents a smaller and smaller drop in the ocean of their knowledge. We are speaking here not only of a quantitative growth in the teacher's theoretical knowledge. Quantity is transformed into quality. The broader the teacher's background knowledge, the more they are able to develop the foundation of teaching proficiency: the ability to divide their attention while giving an exposition of material at a lesson. The teacher may be explaining trigonometric functions, for example, but his attention is focused not on those functions, but on the students. He is observing each student's work, and the difficulties they may be experiencing in understanding or memorising the material. He is not only teaching, but encouraging intellectual development in the process of instructing.

The problem of time is closely connected with a number of other elements of educational work. All may be viewed as streams that feed the river of a teacher's time for work and creativity. I would like to give some words of advice about how to keep these streams alive and flowing.

7. A teacher's time and the interdependence of various stages of schooling

This piece of advice is addressed mainly to the teachers of primary school classes. It is upon your work in the primary school that the budget of time available to middle school and upper school teachers depends. If we carefully examine the process of instruction in the middle school and upper school, we find that the most merciless consumer of time is the constant and fruitless 'catching up of

the tail'. No sooner has the teacher given an exposition of new material, than it turns out that a portion of the class has not grasped it. Instead of thinking about how to take the next steps on the path of knowledge, the teacher has to deal with those students who have fallen behind. (Sometimes the proportion of students who have fallen behind is so large that the teacher has to conduct supplementary lessons with almost the whole class.) This consumes much of the teacher's time both at school and at home.

Why is it that so much of a teacher's time is taken up with this seemingly unavoidable work of catching up so many students who have fallen behind?

I feel like giving the following advice to all primary school teachers. Remember, dear colleagues, that the budget of time for all teachers in the middle and upper school depends on you. You can give them the opportunity to be creative. Among the many tasks facing the primary school, the most important is to teach children how to study. One of your main concerns should be to establish a balance between the volume of theoretical knowledge that children are required to master, and their practical skills and abilities.

Remember that falling behind in the middle and upper school is mainly due to an inability to study, to acquire knowledge. Of course you need to be concerned about the children's general level of development, but teach children first and foremost how to read and write well. Without the ability to read fluently, thoughtfully and expressively, understanding what is read, and to write fluently and without errors, there is no chance of successful study in the middle and upper classes, of study that does not call for the teacher to constantly 'catch up' those who have fallen behind. Teach all children in the primary school to read in such a way that they can think while reading, and read while thinking. The ability to read has to be brought to such a level of automaticity that perception and comprehension of the text significantly precede pronunciation aloud. The more significant this anticipation is, the more refined is the ability to think while reading, and this is an exceptionally important precondition for effective study and for intellectual development in general. I have been convinced a thousand times that successful study in the middle and upper school depends first and foremost on the ability to read thoughtfully: to think while reading and read while thinking. Therefore primary school teachers need to study how to develop this ability in every student. Thirty years of experience has convinced me that students' intellectual development depends on their ability to read well. A student who can think while reading will cope with any work more quickly and successfully than one who does not have the ability to read fluently (and this is not as simple as it appears at first glance). In the intellectual work of students who can read fluently there is no cramming. Their reading of the textbook or any other book is different to the reading of a student who cannot read and think simultaneously. When fluent readers have read something they can perceive the subject as a whole and its component parts, with their interdependencies and interrelationships.

A student who can read and think simultaneously does not fall behind, and if students do not fall behind it is easy for teachers to work. Experience confirms that if reading has become a student's window on the world of knowledge, there is no need to conduct the supplementary lessons that take so much time. The teacher now has the opportunity to conduct individual discussions with students, and these discussions are not lengthy; just brief coaching sessions, giving advice on how to acquire knowledge independently, and avoid falling behind.

Successful study in the middle and upper school also depends on how fluently and thoughtfully a student has learned to write in the primary school, and how they develop this ability further. Along with reading, writing is a tool for acquiring knowledge. Success and the economical use of time depend on the condition of this tool. I advise teachers of primary classes: set a goal for every student to be able to write fluently and semi-automatically by the time they complete primary school. Only then will they be able to study successfully, removing the constant need to catch up those who have fallen behind. We should aim for students to write while thinking, so that the writing of letters, syllables and words is not the focus of their attention. Set yourselves a more concrete goal. Tell the students about something, and have them write down their own thoughts while they are listening to you and thinking about what you are saying. Children should start practising this two years before they finish primary school. If you are able to achieve this goal I assure you: your students will never fall behind. Having the ability to acquire knowledge, they will spare the time and health of teachers in the middle and upper school.

8. Committing elementary knowledge to long-term memory

Thirty years of working in schools has led me to uncover an important secret, an educational principle. The students who fall behind in middle and senior school are those who in primary school did not commit to long term memory those elementary truths that form a basis for all knowledge. Imagine that the foundation for a tall building is laid on very unstable concrete. The mortar keeps crumbling and stones keep falling out. People continually have to repair what was not done properly in the first place, and live in constant fear of the building collapsing. This is the situation that many language and mathematics teachers find themselves in when teaching grades four to ten. They are trying to construct the building, but the foundation is crumbling.

Teachers in primary schools! Your most important task is to build a strong foundation for knowledge: so strong, that the teachers working after you do not need to think about that foundation. If you are commencing work with grade one, study the grade four program, mainly in language and mathematics, and have a look also at the grade five program in mathematics. In your class reader, compare the reading material on history, science and geography with the grade four programs in these subjects. Think about what a student needs to learn in grade three in order to study successfully in grades four and five.

Most importantly, think about elementary literacy. In our language there are roughly 2,000–2,500 spelling words that provide a framework for knowledge and literacy. Experience shows that if children firmly commit these words to long term memory, they will become literate adults. But that is not the whole story. If literacy is acquired in primary school, it becomes an instrument for acquiring knowledge in the middle and senior classes.

When teaching children in the primary school I always had this list of important spelling words in mind. That list in itself provides a program for elementary literacy. I distributed those two and a half thousand words in such a way that we studied three words on each school day. The children recorded them in their exercise books and memorised them. This work takes a few minutes each day. Young children's memories are very sharp and versatile, and if you manage those memories well and do not overload them, they will become your best helpers. What a student memorises during the early years is never forgotten. The 'technique for managing memory' in this case consists of the

following. At the beginning of the working day (before the first lesson) I write the three words for the day on the board, for example: *steppe, warmth, rustle*. As soon as they enter the classroom, the children write these three words in their spelling dictionaries, which they maintain for three years. They think about these words, and next to them write several words with the same root. This only takes three or four minutes, and the students gradually get used to this routine.

The work then takes on some of the characteristics of a game, incorporating elements of self-education and self-assessment. 'On the way home,' I say to the children, 'Remember the three words we wrote this morning, and how they are spelt. Recall the outline of these words. In the morning when you wake up, the first thing I want you to do is remember the spelling of these words and write them in your exercise book.' (The exercise book in question is a general exercise book that amounts to a second copy of their spelling dictionary.) There is no student who will not join in this game if you begin it in grade one, if teachers believe in its success, if they love children, and if they are always interested in everything the children do. During lessons at school a great variety of activities are conducted to ensure that the spelling words that have already been memorised are revised and put to use. One of the most important activities I conduct is to memorise 400 turns of phrase, which I am convinced provide a framework for oral language. During the primary years special attention is given to those turns of phrase that are commonly misused.

I would like to emphasise once more that it is very important to introduce an element of play into children's studies. I have a list of 600 'fairy-tale' words that are often used in children's fairy tales. During the four years of primary schooling the children and I *draw* several dozen fairy-tales. The children write captions to these illustrations, using the 600 words. This has proved to be a very successful way of reinforcing basic spelling words.

When studying mathematics in the primary school, children memorise those operations that, due to their frequent repetition, may be considered mathematical generalizations. They are so habitual that it is meaningless to waste effort thinking about them each time they are required. I am speaking not only of the multiplication tables, but also of the most common instances of addition, subtraction, division and multiplication involving numbers up to one thousand. Children also memorise the most common measurements and conversions of measurements. I work on the principle that in the middle and upper grades students' intellects should not be occupied with basic operations, but should be free to engage in creative work.

Of course all our work is based on conscious mastery of material, but at the same time we should recognise that it is not possible to explain everything. I aim for a combination of voluntary and involuntary attention and memorisation.

[Translator's note: By 'involuntary' attention and memorisation Sukhomlinsky is referring to that which arises through spontaneous interest and engagement. He has commented elsewhere that when working with children in the early years, it is essential to engage their interest spontaneously through engaging content, as young children are for the most part incapable of forcing themselves to pay attention.]

9. 'Two programs of instruction', developing students' thinking

A teacher does not have enough time mainly because students have difficulty studying. For many years I have reflected on how to make students' work easier. Developing practical skills as a foundation for knowledge development is only the first step. Memorisation and storage of knowledge in long term memory is the next step. I advise every teacher: *analyse the content to be taught and clearly demarcate those elements that must be stored securely in long term memory*. It is important that a teacher is able to identify those knowledge 'hubs' or 'nerve centres', the strength of which determine the development of thought, of intellectual ability and of a capacity to make use of knowledge. These 'hubs' include important conclusions and generalisations, formulae, rules and laws that characterise a particular subject. Experienced teachers have their students keep special exercise books for recording material that must be memorised and committed to long term memory.

The more complex the material that needs to be memorised, the more generalisations, conclusions and rules that need to be stored in long term memory, the more significant the 'intellectual background' to the process of study becomes. In other words, in order to commit formulae, rules, conclusions and other generalisations to long term memory, students need to read a lot of material that they are not required to memorise. Reading must be closely connected with study. If it involves going more deeply into the facts, phenomena and objects that provide a basis for making generalisations, it facilitates memorisation. We might call such reading the creation of the *intellectual background* necessary for study, and for memorising material. The more students read out of pure interest in the material, from a desire to find out, to think through, to make sense of something, the easier it is for them to memorise the material that they are required to learn and to commit to memory.

Keeping this important principle in mind, in my practical work I always had *two programs* of study in mind: the first made up of the material that it was essential to memorise, and the second made up of extracurricular reading and other sources of information.

Physics is one of the most demanding subjects in its requirement to memorise material, especially in grades six through to eight. The program at these levels contains many new concepts. I taught this subject for six years, and always tried to provide extracurricular reading to correspond to each new concept. The more complex the concept that is being studied at any given time, the more attractive and interesting the books that students read need to be. When studying the laws governing electrical currents, I compiled a special library for individual extracurricular reading. It contained fifty-five books about natural phenomena that demonstrated the diverse electrical properties of matter.

I was able to stimulate a wave of intense interest among the students. They literally showered me with questions. What? How? Why? About 80% of their questions began with the word 'why'. There were many things that the students could not understand; and the more things in the surrounding world that they could not understand, the greater their desire to learn grew, and the more *receptive to knowledge* they became. The children literally 'caught in mid-air' everything I told them. When it was time to explain the concept of an electric current as a flow of free electrons it turned out that my adolescent students had many questions specifically about this complex physical phenomenon. The answers to their questions provided the missing bricks in the picture of the world that had

formed in the students' minds as a result of their reading and the other information they had received earlier.

I taught senior biology for three years. This course contains a host of difficult theoretical concepts, which are all the more difficult to commit to memory. When the students were first acquiring scientific concepts such as 'life', 'living matter', 'heredity', 'metabolism' and 'organism', I selected material for them from scientific and popular scientific journals, books and pamphlets. Their 'second program of study' included pamphlets, books and articles calculated to arouse a wave of interest in a number of complex scientific issues, and consequently in further reading. The young biology students began to take an interest in the natural phenomena that surrounded them, including the exceptional diversity of forms that metabolism could take. The more questions they had, the deeper their knowledge became. When I assessed their knowledge, there was not a single response that was evaluated lower than '4'. [In the Soviet system of assessment, '3' meant 'satisfactory', '4' meant 'good' and '5' meant 'excellent'.]

I advise all teachers: create an intellectual background for the memorisation and storage in long term memory of the required curriculum. Students only achieve lasting mastery when they think about what they are learning. Think about how to stimulate thought, analysis and observation relating to the material that is being studied or is soon to be studied at your lessons.

10. Working with 'difficult' students

Hardly any teacher will disagree that one of the hardest 'nuts to crack' in educational work is working with 'difficult' students. These students need three to five times more time to understand and memorise material than the majority of the class does. These students forget what they have studied a day later, and instead of needing to complete revision exercises in three or four months, need to do so in two or three weeks.

Thirty years of educational work has convinced me that for these students, the 'second program', discussed above [see previous newsletter], plays an exceptionally important role. For these children limiting instruction to the bare essentials is especially harmful. It dulls their wits and accustoms them to rote learning. I have tried many means of lightening the intellectual work of these students, and have come to the conclusion that the most effective means is to widen the scope of their reading. Yes, these students need to read as much as possible. Working with grades three and four [senior primary classes], and grades five to eight [junior secondary classes], I always took great care to select reading material for each 'difficult' student: books and articles in an attractive format that developed an understanding of concepts, generalisations and scientific terms. With these children it is important to stimulate as many questions as possible about the objects and phenomena of the surrounding world, so that they will come to me with their questions. That is a very important precondition for their intellectual development.

In what 'difficult' children read, in what they encounter in the surrounding world, from time to time they must discover things that amaze them and awaken a sense of wonder. This is a practice I have always observed in my work with 'difficult' children, and I advise all teachers to do likewise. The apathy, inertia and weakness of the neurons of the brain's cortex may be treated by a sense of wonder and amazement, just as weak muscles may be treated with physical exercise. It is difficult to

say what happens in children's heads when they discover something that amazes or astonishes them, but hundreds of observations have led me to the conclusion that the moment of amazement or astonishment triggers a mighty stimulus that awakens the brain and intensifies its operations.

I will never forget little Fedya. I taught him for five years, from grade three to grade eight. His great stumbling block was arithmetic and the multiplication tables. I became convinced that he simply could not remember the elements of a problem. He could not form a conception of the objects and phenomena at the basis of the problem. As soon as his thought moved from one element of the problem to the next, he forgot what the first element was. There were children similar to Fedya in other classes, though overall there were not very many of them. I compiled a special collection of problems for these children. It contained about 200 problems, mostly taken from folk pedagogy. Each problem consisted on an engaging story. The overwhelming majority of them did not require arithmetical operations for their solution, but rather reflection and thought. Here are two of the problems from my 'Book of problems for distracted and inattentive students':

1. Three shepherds, tired out by the summer heat, lay down under a tree to rest, and fell asleep. A mischievous shepherd boy blackened the foreheads of the sleeping shepherds with the 'ink balls' from an oak tree. When they woke up all three began to laugh, but each one thought the other two shepherds were laughing at each other. Then one of the shepherds stopped laughing. He realised that his forehead was also blackened. How did he realise this?

2. In the wide Ukrainian steppes in ancient times there were two villages not far from each other, the village of Truth Sayers and the village of Liars. People in the village of Truth Sayers always spoke the truth, and people in the village of Liars always lied. If you managed to travel to ancient times and landed in one of those two villages you could find out which village you had landed in just by asking a single question of the first villager you met. What question should you ask?

At first we just read the problems, as interesting little stories about birds and animals, insects and plants. It took quite a while for Fedya to realise that the stories were problems. The boy began to think about one of the simplest problems, and with my help was able to solve it. He was amazed by the simplicity of the solution. 'Does that mean every one of these problems has a solution?' asked Fedya. For days you could not separate him from that book of problems. He experienced every solution as a major victory. He copied the problem he had solved into a special exercise book set up for that purpose, and next to the text he *drew* the problem—birds, animals and plants.

I compiled a special library for Fedya. It contained about a hundred books and pamphlets that the boy read from grades three through to seven. Then we created another library, containing about two hundred little books, which was used by three other students, as well as by Fedya, over a period of two years. Some of the books and pamphlets were directly related to what was being studied in lessons, while others had no direct connection, but I considered that they provided a sort of gymnastics for the mind.

By grade five Fedya had caught up to the other students: he began to solve the same arithmetical problems as them. In grade six the boy developed a sudden interest in physics. He became an active member of a club for young designers. The more interested he became in this creative work, the more he read. He did experience other difficulties in study, especially in history and literature, but each new difficulty was overcome through reading.

After completing grade seven, Fedya entered a technical college, and became a highly qualified tradesman, expert in setting up machine tools.

Not once did I conduct with this student, or with any other student, supplementary lessons with the aim of memorising material that had not been mastered during lessons. I taught children to read and to think. The reading seemed to induce or awaken thought.

Remember, the more difficult the child, the more apparently insurmountable obstacles they encounter in their studies, the more they need to read. Reading teaches them to think, and thought is the stimulus that awakens the powers of the mind. Books, and the living thought stimulated by books, are the most powerful means of avoiding rote learning, a great evil that blunts the mind. The more students think, the more they are puzzled by what they see in the surrounding world, the more receptive they become to knowledge, and the easier it is for you, as a teacher, to work with them.

11. Knowledge is both an aim and a means

I have been convinced a thousand times that one of the causes of the difficulties that children encounter in study is the fact that their knowledge is often a dead weight that is accumulated for future use, but is in fact not put to use, not applied (most importantly in order to acquire new knowledge). In the educational practice of many teachers the concept of 'knowing' means being able to answer the questions that are put to the student. Such an approach encourages a one-sided approach to assessing the intellectual work and the abilities of students. It is considered that those who are capable and knowledgeable are those who are able to store knowledge in their memories and retrieve it when the teacher demands it. What does this lead to in practice? It leads to the fact that knowledge is divorced from a student's spiritual life, from their intellectual interests. For students the acquisition of knowledge becomes a burdensome, wearisome activity, from which they want to free themselves as soon as possible.

We need first of all to change our view of what it means to have 'knowledge', to 'know'. To know is to be able to apply knowledge. We can only truly speak of knowledge when it has become a part of a person's spiritual life, when it engages thought and arouses interest. The energy and vitality of knowledge are decisive factors supporting the constant development and deepening of that knowledge, and knowledge is only alive when it is being developed and deepened. Only when knowledge is being developed is it true to say that the more knowledge students acquire, the easier it is for them to study. In practice, unfortunately, the opposite is often true: with each year students find it more and more difficult to study.

What practical advice flows from these observations?

Try to ensure that students' knowledge is not an end in itself, but a means to an end, so that knowledge does not become a dead weight, but comes alive in students' intellectual work, in the spiritual life of each class, in the relationships between students, in that vital and ongoing exchange of spiritual values without which it is impossible to imagine worthwhile intellectual, moral, emotional and aesthetic development.

How can we do this in practice?

In the primary school, from the very first steps that are taken in study, the most important element of knowledge is language, or more precisely, the real world surrounding the child, as expressed in language, which now reveals itself in a completely new light, compared to the way children have experienced language before entering school. The first, and, in my view, the biggest steps that students take to climb the staircase of knowledge, are those that they take when they come to know the world through language. How important it is that this language should be vibrant and alive in a child's consciousness, so that it may become a means of acquiring knowledge. If you do not want knowledge to become a dead weight, make language one of your most important creative tools.

In the practical work of experienced teachers this educational and pedagogical focus is expressed in the fact that the most important ingredient in students' intellectual work is not swatting, not the memorisation of others' thoughts, but students' own reflection as a creative process: the discovery of the objects and phenomena of the surrounding world mediated by language, and the associated discovery of the subtlest shades of language itself.

I take the children into an orchard in autumn. It is a bright, sunny day during an 'Indian summer'. The warm rays of the sun caress the earth and the motionless trees. The branches of the apple, pear and cherry trees are decked out in autumn splendour. I tell the children about the golden autumn, and of how everything in nature is preparing for the long, cold winter: the trees, the seeds which have fallen to earth, the birds and insects that winter in our region. When I am convinced that the children are experiencing and feeling the rich meaning and emotional colouring of words and phrases, I invite the little ones to describe what they are seeing and feeling. Before my eyes I witness the birth of amazingly subtle and clear thoughts about the surrounding natural environment: 'A flock of white swans has melted into the blue sky...', 'A woodpecker is hammering on the bark of a tree, and the tree is ringing...', 'A lonely camomile flowers by the road...', 'A stork is standing in its nest and gazing far, far away...', 'A butterfly has settled on a chrysanthemum, and is warming itself in the sun...'. The children do not repeat my words, but express themselves in their own words. Their thoughts are rich and alive, and the children develop an ability to think. They experience the incomparable joy of thought, the delight that comes with discovery. They experience themselves as thinkers.

Have you ever observed, or heard from other teachers, that a child is indifferent to a teacher's words? You are describing something interesting, but he is staring vacantly, your words not reaching his heart. You have every reason to be concerned. This indifference, this non-responsiveness to language, is a major problem in study. If this problem becomes deeply rooted, it leads to alienation from study.

Where does this problem come from? Where are its roots?

Children become indifferent and unresponsive to language if language does not live in their souls as a creative medium, if they only memorise others' thoughts, and do not create their own thoughts and express them in words. Beware that indifference and those vacant stares! Teach children to use language energetically and passionately!

12. On the acquisition of knowledge

People often speak of the need to make students' intellectual work an active process. But this activity can take many forms. A student responds brightly to a teacher's question, having memorised something they have read or that was told to them by the teacher. This is also a form of activity, but it is not likely to develop a student's intellectual ability. A teacher should strive to develop students' own active thought processes, and encourage them to develop their knowledge by applying it.

To teach in such a way that new knowledge is acquired with the help of prior knowledge: in my view this represents the highest level of mastery a teacher can aspire to. When I visit and analyse lessons, this aspect of students' intellectual work is the measure I use when assessing a teacher's pedagogical skill.

How do you reach a point where study is a thought process, the active acquisition of knowledge? What is the most important thing?

To acquire knowledge is to discover truth, to find an answer to a question. First you must lead your students to confront something incomprehensible, so that a question arises. If you have managed to achieve that, you are half way to success.

But to achieve that is not so simple. When preparing for a lesson, you must approach the material from that point of view. You must seek out those at first imperceptible focus points where cause and effect relationships intersect, giving rise to questions. The questions in turn give rise to a desire to learn.

I am looking at the material for a lesson on photosynthesis. I have to explain to the students what occurs in the green leaf of a plant. I could give a scientifically correct exposition, which makes sense theoretically and didactically, but does not achieve the aim of stimulating the intellectual activity of the students. I immerse myself in the material. What is the main focus point, where all the cause and effect relationships intersect? There it is: the conversion of inorganic material into organic material. We are presented with an astonishing picture: a plant takes inorganic substances from the soil and the air, and within its complex organism it converts them into organic substances. What is this process of building organic material? What takes place in the plant organism, this incomprehensibly complex laboratory? How is it able, in the presence of sunlight, to convert lifeless material fertilizers into the juicy flesh of a tomato or the sweet-smelling flower of a rose?

My exposition *leads* students to an awareness of this intriguing question, so that each is struck by it: how could it be that this has been going on under my eyes, and I have not thought deeply about it?

How do we lead students to such a question?

We need to know what to say, and what to leave unsaid. It is as if what is left unsaid 'primes' the students thinking. There are no recipes here that will suit every situation. Everything depends on the content of the material to be studied, and on the students' prior knowledge. In one class you need to leave one thing unsaid, and in another class something else, even when dealing with the same material.

So now a question has arisen in the students' minds. My next step is to extract, from all the knowledge acquired by students in previous biology lessons, in work activities, and in their reading, those elements that are essential for finding an answer to the question. This application of prior knowledge to address a question is what I mean by the acquisition of knowledge. Here it is not essential to question each student one after another, and listen to what they say, so as to arrive at a common answer by combining their individual responses. Such an approach provided the appearance of engagement, but it is not always the case that every student is actively engaged in the thought process. Some students are recalling and answering, others are only listening. I need every student to harness their intellectual resources and to think. Consequently, more often than not, once I have led the students to a question I explain the material myself, without summoning individual students to answer separate, isolated ('small') questions.

In order for students to acquire knowledge through their own thought processes, the teacher needs to have a thorough understanding of their current level of knowledge. Some will remember very well what has been studied previously, while others will have forgotten some of it. Here I need to conduct the intellectual work in such a way that each student listening to my explanation follows their own path, extracting from their memories what is stored there. If the storehouses of those memories are vacant in places, if someone's train of thought is broken, I have to fill those vacant places with supplementary explanations, and restore the train of thought. This is a skilful art in itself. I try to conduct these repeat explanations of material already covered in such a way that even the strongest student will find something new in what I say. If there are no such gaps in the students' knowledge, I content myself with an abbreviated explanation. Here there is no mere appearance of engagement. The students are silent, not responding to questions, not supplementing each other's answers, but they are acquiring knowledge. I call this form of knowledge acquisition an excursion into the student's own thoughts, a form of 'research' into their own store of knowledge.

13. How to lead students from facts to abstract truths

You have come across this before: a student has memorised a rule, law, formula or conclusion, but is not able to apply that knowledge, and sometimes does not even understand the essence of what they have memorised. This is especially evident when studying grammar, arithmetic, algebra, geometry, physics, chemistry, and any subject whose content is made up of a system of generalisations. Knowledge in these subjects is expressed first and foremost in an ability to apply these generalisations in practical work.

Usually in such cases teachers say that the student has crammed the material without understanding it. But why have they crammed? What do we have to do to prevent the major evil of cramming?

Memorisation must be based on understanding. Lead a student to memorisation through the urge to make sense of a host of facts and phenomena. Do not condone the memorisation of material that is not yet comprehended and made sense of. The path that leads from the search for meaning in facts and phenomena to a deep understanding of abstract truths (rules, formulae, laws, conclusions) is via practical work that demonstrates a mastery of knowledge.

Experienced teachers are able to instruct students in such a way that memorisation takes place through a process of seeking meaning, through a thoughtful investigation of facts and phenomena.

The students are presented, for example, with a rule regarding the correct use of the hard sign in Russian spelling. The teacher leads them to memorise the rule and to apply it with understanding via an analysis of numerous facts, examining words that contain the hard sign and explaining the spelling of these words. In essence the rule is arrived at multiple times by making sense of more and more new facts. The students are gradually convinced that they are dealing with a true generalisation. The application of this truth to multiple words is understood as a rule. It is memorised due to the fact that an understanding of it is arrived at many times.

In the lessons of experienced teachers a rule or conclusion is memorised without any special effort to memorise. The effort to make sense of facts simultaneously leads to gradual memorisation of a generalisation. The more the search for meaning and memorisation constitute a single process, and the more knowledge involves awareness, the more a student is able to apply that knowledge in practice. The ability to apply knowledge in practical work depends on how the student arrived at memorisation of that knowledge. If the knowledge was memorised without understanding, without analysing facts and phenomena, the student is unable to apply it.

This is a very important principle in the teaching process. Many years of experience has led me to the conclusion that if in primary school students have already acquired the ability to identify abstract concepts in the process of analysing facts and phenomena, they will have acquired a very important attribute in intellectual work: the ability to apprehend a number of interdependent objects, facts, circumstances, phenomena or events. In other words, they are able to think about cause and effect relationships, whether they be functional, temporal, or of some other nature. Many instances have convinced me that the ability to think about the elements of an arithmetical problem (especially in grades four and five) depends on this very ability to master abstract generalisations. Students who memorise abstract generalisations without analysing a sufficient quantity of data are unable to think about problems, or to mentally grasp the relationships between quantities. And conversely, if the memorisation of abstract truths is based on the thoughtful investigation of facts, if students remember without learning by heart, they see in an arithmetical problem not a mere combination of numbers, but interdependent quantities. Reading the elements of a problem, making sense of them, they first abstract the problem from the numbers, solving it in general terms, without performing concrete arithmetical operations.

Many instances, many children's lives, have convinced me that when children fall behind in arithmetic (and then in algebra), it is the result of hard to detect shortcomings in intellectual work, such as I have been discussing. People often talk about the links between subjects. Every teacher knows very well that they should look for points of contact with the material of other subjects. But links between subjects go beyond this. I am firmly convinced that the deepest links are not to be found so much in the factual content as in the character of the intellectual work. Intellectual work that is based on scientific principles can mean that mathematics helps children to understand history, and history can facilitate the development of mathematical abilities.

It is common knowledge that for many primary school teachers and teachers of language and literature, the battle to consciously master grammatical rules is a stumbling block. The poor literacy of a significant number of students is a great misfortune for schools. I can cite an example. One student studying Russian language failed to master the spelling of the prefixes *raz-/ras-* and *bez-/bes-*. He made many mistakes as a result of not mastering the rule governing the spelling of these

prefixes. [These pairs of prefixes are identical in meaning, but the ones ending in voiced consonants are added to stems beginning with a voiced consonant, and those ending in an unvoiced consonant are added to stems beginning with an unvoiced consonant.] In an attempt to overcome this deficiency, the teacher from time to time gave the student exercises in the application of the appropriate rule. He told the student first to learn the rule by heart and then to complete the exercise. This work might have been expected to yield a positive result, but it did not. In Grade Ten [the final year of high school] the student still made mistakes in an essay written during an exam, writing 'raztsvetaet' and 'rasbezhalsya' [instead of 'rastsvetaet' and 'razbezhalsya'].

What is going on here? What is the reason for this strange phenomenon? Many years of experience have led me to the conclusion that the ability (or inability) to apply knowledge, and the interpretation of facts in the process of acquiring knowledge, are most clearly manifested in the study of grammar. Here it is the *first acquaintance* with the abstract principle or generalisation (the grammatical rule) that is of decisive significance. It is not such a simple matter to ensure that students do not make a lot of mistakes when first studying the material, and at the same time to ensure that they correctly formulate a rule and learn it.

For this reason I will devote the next section to a discussion of how to approach new material.

14. Introducing new material

One of the root causes of students' difficulties is inadequate study of new material. What do I mean by the study of new material, and is that terminology appropriate? I think it is appropriate. Knowledge undergoes a continuous process of development. The study of material continues for a long time, and each application of knowledge is at the same time a development and deepening of that knowledge. The first acquaintance with new material is the first significant step from ignorance to knowledge, to an understanding of the essence of facts, phenomena, qualities and attributes.

For example, students will have to work with polynomial identities for many lessons. Experience shows that a great deal depends on how deeply a student understands a formula at the first lesson at which it is introduced, including whether they will be able to use it to acquire new knowledge. In other words, the student's level of understanding of the new formula will determine whether they are ready for the next introduction of new material. This leads us to another important principle. The fewer unclear, hazy, superficial notions students have, the lighter will be the burden on their shoulders, the less they will fall behind, the more their thought processes will be prepared for the introduction of new material, and the more effective their work during lessons will be.

Lessons during which new material is presented have to be special lessons, in the sense that they require a special clarity, and students' independent work takes on a special significance. Try to ensure that you monitor the results of *every single student's* intellectual work when studying new material. When studying new material it is exceptionally important to observe the independent work of the 'slower' students: those who think slowly and are slow on the uptake, who need more examples and more time to make sense of the material (and who often require different examples to most of the other students).

Experienced teachers always check to see how students have completed independent work at lessons where new material is introduced. Such lessons must include independent work that includes making sense of the facts and a process of induction from the facts to a generalised truth. (I am referring especially to lessons in the natural sciences, mathematics and grammar.)

It is very important that in making sense of the facts there is some application of the knowledge acquired. Here again special attention must be given to the 'slower' students. The difficulties experienced by each individual student must be appreciated, and each must be given an appropriate task to complete. Sometimes it becomes apparent during a lesson that an individual homework assignment needs to be given to one student or another. An experienced teacher will usually do that immediately during the lesson. For students who struggle, success depends a great deal on how regularly and systematically they work on new material *during lessons*. They must not be allowed merely to listen to the correct answers of other students and copy material from the board. They must be required to think independently, and encouraged—patiently and tactfully—to achieve at least some degree of success in their intellectual work at every lesson.

When teaching grammar I always tried to ensure that at the very first lesson when new material was introduced, and during the period immediately after, students did not make any mistakes in their written work. It may sound paradoxical, but it is true: students will become literate when they do not make any mistakes during lessons. If they do not make any mistakes during lessons, they will not make them when completing homework, or they will make very few. One of the main reasons for the difficulties experienced by language teachers is that students make mistakes in their written work during lessons. The teacher's error is in not setting the goal of having no mistakes during the lesson.

How can we practically achieve the goal of writing without errors, and thus lay a firm foundation for knowledge? This depends on many factors, and perhaps most importantly on a student's ability to read fluently. In order to write without errors a student must be able to read fluently. There are also other determining factors, including the structure of the lesson and the methods and types of work conducted. When preparing for a grammar lesson, I tried to foresee which words students might have difficulty with, and who among the students would need help. Not a single 'tricky' word went without a preparatory explanation.

My advice when introducing new material is to avoid superficial understanding of facts, phenomena and rules, so that students will not make mistakes the first time you introduce a new grammatical rule or mathematical formula.

15. Making sense of new material as a stage in a lesson

Probably every teacher has experienced this. At yesterday's lesson everyone understood the rule (definition, law, formula). Everyone answered well and gave examples. But today half the class has only a hazy understanding of what was studied, and some have completely forgotten it. Many of the students have had great difficulty completing the homework task. During yesterday's lesson none of these difficulties were apparent.

To *understand* is not the same as to *know*. Understanding is not yet knowledge. In order to acquire firm knowledge, we have to *make sense* of it.

What do I mean by 'make sense'? I mean that the students think about what they have apprehended, checking whether they have understood it correctly, and try to apply the acquired knowledge in practice.

I will give an example. At a geometry lesson students are introduced to the notion of trigonometric functions. The teacher presents definitions of two functions: sine and cosine. The material does not present any difficulty, and it appears as if everything has been understood. But just because something has been understood, does not mean it has been mastered. After the explanation, time is devoted to thinking about the new material. The students open their exercise books and draw right-angled triangles, writing down the teacher's explanations, repeating the definitions of sine and cosine, and demonstrating the functions with their own examples. Here the students are combining revision of the knowledge with its first, elementary application. It turns out that when they check their work, many students are unable to reproduce the explanations of the concepts. Realising that they have forgotten some link in the explanation, the students refer to the textbook, but only after making an effort to remember it themselves.

This stage of making sense of new material is especially important for those 'weaker' students who struggle. Experienced teachers give a great deal of attention to helping these struggling students to focus their attention on those 'points' that represent the cause and effect relationships, the basis of knowledge. Many years of experience have convinced me that the reason some students have difficulty retaining knowledge is that they do not see or understand the interconnections between facts, phenomena and laws, those 'points' where cause and effect relationships are manifested, whether they be temporal, functional or of some other nature. It is to these 'points' that we need to direct the attention of students who struggle.

Suppose you are explaining verbal adverb phrases to your students. The elusive 'point' in this case is that a verbal adverb functions like a secondary predicate to the main predicate—the verb. Having given the students time to make sense of the new material, I direct the attention of a student who is struggling to the fact that when he is composing a sentence containing a verbal adverb phrase, he must imagine two actions: a main, primary action, and another, dependent, secondary action. The student thinks about some real actions and then composes a sentence.

However theoretical the material studied during the lesson may be, it is always possible to find some practical work to help make sense of it. At history and literature lessons, making sense of new material usually involves seeking meaningful cause and effect relationships in the material that has just been introduced. For example the teacher may have just told the students about the liberation of Russian peasants from serfdom in 1861. To make sense of this material, five to seven minutes are allocated to respond to the following questions. What path would the development of agriculture have taken in Russia if the imperial government had not liberated the serfs? What relationship existed between the development of capitalism in Russian agriculture and in industry before 1861, and how did that relationship change after the liberation of the serfs? What reasons were there for the persistence of feudal elements in Russian agriculture even after the reforms of 1861? These questions are written on a large sheet of paper that is posted on the blackboard immediately following the teacher's exposition of the subject. This marks the beginning of one of the most

intense and interesting parts of the lesson. The students recall material studied during earlier lessons and 'dig' into the textbook (incidentally the textbook is required in humanities subjects mainly in order to make sense of new material). What takes place is in my opinion the most essential and useful of learning processes: the revision of material studied earlier *without reading the whole textbook from beginning to end*. Such revision is the most effective, because it is driven by thought.

So do not be afraid of allocating as much time as possible to mastering new material. The more effective intellectual work is when making sense of knowledge, the less time a student will need to spend completing homework assignments, the less time you will need to check homework during the next lesson, and the more time you will have to explain new material. Understand this key interrelationship and you will break the vicious circle. You do not have enough time to introduce new material properly because you spend so much time checking homework, and checking homework takes so long because the material was not adequately studied in the first place.