

# Sukhomlinsky News

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## UNESCO recognition

*The 100th anniversary of Sukhomlinsky's birth, on 28 September 2018, will be recognised next year in the UNESCO calendar.*

*Thank you to all those who have lent their support to making this happen.*

*In this month's extract from Pavlysh Secondary School, Sukhomlinsky continues his account of his work with physics and mathematics teacher Aleksandr Filippov, and demonstrates the extent to which his school was a centre of professional excellence.*

*I have translated two more of Sukhomlinsky's little stories for children, which I hope you will enjoy.*

*Seasons greetings!*

*Alan Cockerill*



## Teacher training on the job

**In this month's extract from Pavlysh Secondary School, Sukhomlinsky continues to describe how he assisted the professional development of one of his staff.**

We visited each other's lessons for a year, and also visited the lessons of other teachers. The young teacher was always set the task of analysing how students were stimulated to work actively when studying new material, how they independently made sense of facts, how memorisation and learning takes place on the basis of deep understanding. Simultaneously with visiting lessons the young teacher studied a section in a pedagogy textbook devoted to the process of active and conscious learning, and a section on 'Thought and Language' in a psychology textbook.

It is impossible to learn from others' experience and develop pedagogical mastery without theoretical understanding. At our school, regardless of their previous education, every beginning teacher studies didactics and psychology in close connection with an analysis of their practical work and the experience of other teachers. Mastery comes to teachers only when they have theoretical insight into each pedagogical phenomenon. Mr Filippov experienced significant difficulty in revising previously studied material. He was able to understand how revision takes place during the study of new material only by clarifying the psychological, pedagogical and logical connections between the objects and phenomena of the surrounding world. The study of pedagogical and psychological literature helped the young teacher to understand what he observed during the lessons of experienced teachers.

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## From Pavlysh Secondary School [cont.]

He understood that revision is not an end in itself, but a means of developing and deepening knowledge, and that skilled selection of material for revision comes about through determining the logical connections between topics, concepts, laws, rules, and formulas.

At the end of the first academic year, Mr Filippov and I had a discussion that included other teachers whose lessons he had visited. The young teacher had learnt to engage children in intellectual work, and had developed a strong connection with them. He had mastered the logical step-by-step exposition of new material and the heuristic discussion method. He had taken the first steps towards combining the study of new material with incidental assessment of prior knowledge. But there were still many areas for improvement in his work: an inability to plan revision over a sequence of lessons, a separation between the application of knowledge and the acquisition of new knowledge, insufficient use of individual students' enthusiasm for technical innovation, construction and modelling to broaden their outlook and deepen their theoretical knowledge.

We decided to continue working together with the same format for another year. I and the other experienced teachers would visit 8-10 of his lessons, with the aim of further developing methods of instruction, especially the students' independent work analysing facts and phenomena. Mr Filippov would visit three or four of my lessons, with the aim of studying methods of discussion and exposition, studying methods for revising previously studied material and

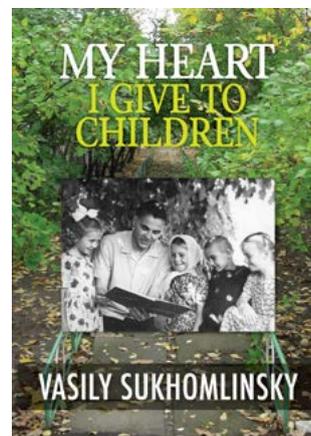
for applying knowledge in order to deepen it. Together we would both visit a sequence of year six algebra lessons conducted by Mr Panchenko, so as to familiarise ourselves with his lesson preparation, and study the processes he utilised for revising, developing and deepening knowledge. After that we would cooperatively prepare a single physics lesson plan, (with a verbatim exposition script). Mr Filippov would study this lesson plan and conduct the lesson. The aim was to perfect the exposition of new material. We would also continue to study the curriculum and textbooks, and texts on pedagogy and the methodology for teaching physics and mathematics.

The second year of Mr Filippov's work began. Analysing his lessons, I delved deeper and deeper into the students' intellectual work. We became aware of an interesting rule of thumb: the greater the extent to which material that has been studied earlier is utilised to understand new material, the more students' intellectual activity is stimulated, the deeper the understanding of new material, and the more material studied earlier is consolidated. Students intellectual activity is stimulated most of all when material studied earlier is used as a key to understanding new material. In addition, the more I reflected on what was happening during lessons, the more I found a source of new pedagogical ideas, creativity and convictions.

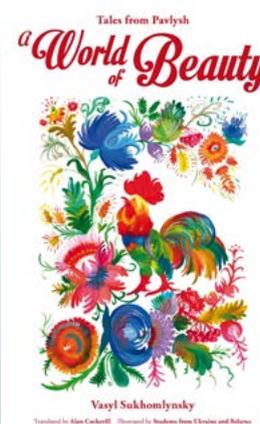
My educational experience owes a great deal to the intelligent, thoughtful teachers whose lessons I have visited and analysed. When I was still uncovering some new facet of educational practice, but was having difficulty understanding its essence, I would visit from five to seven

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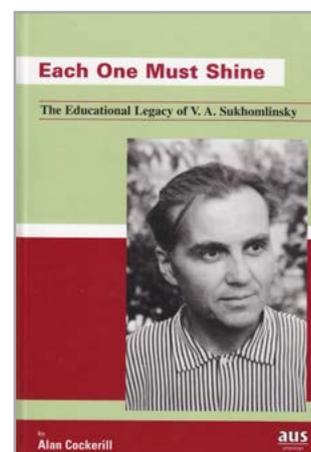
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lessons in a row given by these teachers, trying to find an answer to the question that was bothering me.

Studying the dependence of students' active intellectual work on the application of prior knowledge at Mr Filippov's lessons, I discerned another rule of thumb: the more difficult it is to grasp some abstract truth, which has to be memorised and is required as a key to the explanation of some new fact or phenomenon, the more the memorisation of this abstraction (rule, formula, law) depends on the body of facts a student has independently analysed and made sense of. Going through the young teacher's lessons, we came to the conclusion that deep memorisation of a rule (law, formula) takes place when students concentrate their thought on the corresponding facts, analyse them, and work out their own theoretical generalisations based on the relationships they see. This is creative innovation in the process of intellectual activity, leading to the development of intellectual ability.

During our final conversation at the end of the second year Mr Filippov and I planned our further work together, this time for the next three years. I was to visit and analyse 10-12 of the young teacher's lessons each year, paying particular attention to lessons in which knowledge was systematised. Now I would analyse whole systems of lessons, including laboratory and practical lessons, excursions, observation of natural phenomena and of work processes, and independent work with textbooks and with popular scientific literature. We also compiled a list of pedagogical and methodological literature which he would study independently during the coming three years. Towards the end of his fourth year of work he prepared a presentation on the topic 'The in-

terpretation of facts and memorisation of generalisations'.

When I visited Mr Filippov's lessons, I now focused on the path to knowledge, from observation and the analysis of facts to the formation of generalisations and their application in further study. We kept discovering new principles governing the education process. We became convinced that generalisations can be memorised without any special effort, if they are applied multiple times as keys to understanding more and more new facts. In this way time is gained for practical work, training, and developing good study habits. The study of new material was now combined with the development, deepening and consolidating of knowledge.

Together with the young teacher we often reflected on detailed aspects of individual lessons. (Such reflection is also a form of educational creativity.) For example, we were once planning a lesson on magnetic fields. The teacher's idea was that the students would observe an experiment and then independently draw conclusions from it. But as we talked about it, it became clear that this observation would be largely passive. The students would memorise an explanation and then reproduce it. We thought about how to use observation as a means of actively acquiring knowledge. We came to the conclusion that the concepts that the students would come to understand during the lesson (space, force, line, field, etc.) needed to be included in their active work to acquire knowledge. Let each student make independent observations and mentally explain what they see. They would arrange small compasses around the magnet and describe the phenomenon taking place before their eyes. They would explain how the compasses and the magnet interact, and

the role played by lines of force in the magnetic field. I advised the teacher to prepare questions beginning with the word 'Why' to stimulate students' thought while they were working independently. In answering these questions, the students would actively use their observations to investigate cause and effect relationships, and consequently, to acquire knowledge.

Mr Filippov became very skilled in subordinating observation to active intellectual work. The posing of questions beginning with 'Why' was gradually transformed into the setting of thought-provoking problems which combined the observation of phenomena with the analysis of theoretical principles. He read a number of articles on the psychology of thought processes. The idea of combining observation, laboratory and practical sessions with thoughtful analysis of theoretical principles was developed and deepened by our staff. We conducted our first theoretical seminar devoted to the intellectual work of students during lessons. Since that time we have conducted nineteen annual seminars on that topic. I deliver a presentation in which I analyse lessons and student responses; the teachers share their creative investigations and discoveries.

At one of the seminars Mr Filippov raised an interesting question: how can a teacher be aware of what is going on in a student's head when apprehending new knowledge. 'I should know,' he said, 'Even before I finish my exposition, which concepts already familiar to the student are being connected in his or her consciousness to the new material that I am presenting.' He was touching once again upon the problem of feedback that had concerned him for so long. He had already gained some experience relevant to this issue.

# Stories for Children

## The rag doll

For many years a mother stored away various off-cuts and scraps of cloth in a corner of her cupboard. Sometimes her little daughter's worn out dresses ended up there as well.

This pile of old rags would have stayed there for goodness knows how long, but the mother's daughter grew up and became a mother herself, and the mother became a grandmother.

The grandmother remembered her old rags, and used them to make a doll for her granddaughter. The doll was a real beauty, with a white face, dark eyebrows, blue eyes, slim legs and a plait of red hair.

The grandmother put the doll on a bed. The doll sighed deeply and began to snivel. The grandmother realised why the doll was crying: it wanted to say something, but it did not have a tongue.

The grandmother opened up a little mouth for the doll, and gave it a tongue of the prettiest pink cloth. The doll clapped its hands and said in a ringing voice, 'And where is the mirror?'

The grandmother picked up the doll to take it to the mirror, but the doll became angry and demanded, 'Bring the mirror to me!'

The grandmother brought the doll a mirror. When the doll saw herself in the mirror she was very disappointed. Her face was too yellow, her eyes were sad, her cheeks were not pink enough and her plait was too thin...

'You can do what you like,' said the doll to the grandmother, 'But I want you to make me beautiful.'

'All right,' said the grandmother quietly, and with a deep sigh, she unstitched, unpicked and unstuck all the rags from which the doll was made. Once again the doll was just a pile of many-coloured rags.

'How beautiful!' exclaimed the granddaughter, when she saw all the rags, and she began to play with them very happily.

## The blue pencil

Fedya's father gave him a blue pencil. The boy brought his present to school and showed it to his friend Yura. Yura drew a line on some paper with the pencil and admired the blue colour.

'Let's swap,' he suggested to Fedya. 'I will give

you my metal lion, and you give me your blue pencil.'

'Will you really give me your metal lion for a blue pencil?' asked Fedya in surprise.

He knew that Yura's father had bought him a metal lion the year before, and although it was only iron, it was so well made that it looked real. In the middle of the toy was a spring, and if you wound it up, the lion jumped. Once Yura had wound up the spring and put the metal lion on the green grass. It had jumped once, twice, three times, and the sparrows perched on the roof had flown away in fear.

Yura swapped his metal lion for the blue pencil.

Fedya became the master of the metal lion. He wound it up and admired its jumping. His cat, seeing the strange creature of iron, jumping on the floor, miaowed pitifully and hid behind a wardrobe.

'Look what a frightening animal I have,' boasted Fedya.

Yura began to draw with the blue pencil. On the first day, he drew the steppe, and a tall burial mound on the horizon. Everything was as blue as a transparent spring sky.

Fedya admired the blue steppe, but to him the metal lion still seemed incomparably better.

Then Yura drew an orchard. It was an unusual, magical orchard, with blue apple trees, blue bunches of grapes and blue pear trees.

Fedya could not take his eyes off the magical orchard. For some reason he no longer felt like watching his metal lion jump.

Then Yura drew some distant blue mountains, and high above them a blue moon. Fedya sighed deeply. He felt upset.

'Why did I swap?' he thought. 'The metal lion can only jump, but the blue pencil... Oh, the blue pencil... You can draw anything with the blue pencil!'

On the fourth day Yura brought a new drawing. It was fairy tale as blue as can be. In a wonderful blue sea swam a blue bird, while above it floated a blue cloud.

Fedya saw this drawing and burst into tears. At home he could not bear to look at the metal lion, which could do nothing but jump. He hid the metal toy in the very bottom of his wardrobe.