Improving the content of the subject area "Technology" according to experts, parents and pupils

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Abstract

Research results of opinion of group experts, parents and students (schoolchildren) about importance of the subject area «Technology» in a school, an interest to «Technology», important for life parts of «Technology», modern technologies for teaching in schools are described.

Primary survey of experts, parents and students was conducted in 2015 on the content of the subject area "Technology", its role and place in the structure of general education [1,2]. The survey-involved students from four schools in Moscow and the Moscow Region, the teacher of technology and the faculty of the Moscow City Pedagogical University and Social Management Academy (ASOU).

Evaluation was carried out on a 7-point scale (one to 7 points, where 7 points - the highest) and the determination of response rates according to each grade (in %).

The experts gave 61 respondents representing: 1) two regions - Moscow and the Moscow region (31 and 30 persons, respectively); 2) employees of universities (14 people) and school staff (47 people), with teaching experience in the subject area and training, teacher-training technology.

The questionnaire for the experts were presented five questions:

1) Evaluate the importance of the "Technology" subject in school?

2) Rate of interest to contemporary students of "Technology" subject.

3) What do you think what sections of "Technology" subject necessary for the person in your life?

4) What do you think modern technologies necessary to learn the lessons of technology?

5) What are the technological areas of training you think is necessary to study in depth the modern school (including in the profile level)?

The survey results showed the following distribution of the views of respondents (respondents).

The first question: Rate the importance of the "Technology" subject in school?

7 points (the most important subject in school) put up 42.6% of the respondents, 14.8% 6 points, 5 points-27.9%, 4 points- to 13.1%.

The second question: Rate of interest to contemporary students of "Technology" subject.

7 points (a subject of great interest to students) put up 13.1% of the respondents, 6 points, to 19.7%, 5 points- 32.8%, 4 points, to 13.1%, 3 points, to 16.4%.

Most experts believe the importance of the subject is higher than the attitude of students that fully reflect the position of the teachers interviewed.

The third question: What do you think what sections of "Technology" subject necessary for the person in your life? Each expert can select multiple sections.

The answers were as follows:
Food processing (cooking) 80.3%.
Repair work at home -78.7%.
Culture-house -75.4%.
Economics of the family -72.1%.
Projects (design and research) - 68.9%.
Graphics, drawing- 67.2%.
Fundamentals of Business-59%.
Art processing of materials (arts and crafts) -54.1%.
Electrical Equipment- 55.7%.
Wood-processing technology -41%.
Technology textile processing-41%.
Agricultural labor Technology - 34.4%.
Metal-processing - 24,6%.
Other -9.8%, including current and future technologies, crafts, production bases, the history of art and technology, digital and automated technology (CNC, CAD, 3D).

The fourth question: What do you think modern technologies necessary to learn the lessons of technology?
Design -72%.
Technology computer-aided design-67.2%.
Digital technology-62.3%.
Telecommunications - 52.5%.
Technology repair of home appliances- 52.5%.
Robotics - 49.2%.
Construction finishing work- 47.5%.
Decorating and restoration works-47.5%.
Business Design-44.3%.
Technology 3D-printing- 42.6%.
Marketing -42.6%.
Car repair- 41%.
Nanotechnology - 31.1%.
CNC - 21.3%.
Accounting - 21.3%.
Space technology - 13.1%.
Other 4,9%.

The fifth question: What are the technological areas of training you think is necessary to study in depth the modern school (including in the profile level in 10-11 grades)?
In the field of information and digital technologies -72.1%.
In the field of design-62.3%.
In the field of artistic treatment of materials-54.1%.
In the area of social services -50.8%.
In the field of management and business- 49.2%.
In the field of medicine and health care- 47.5%.
In the field of telecommunications and communications-45.9%.
In the sphere of industrial production (machines, equipment) -26.2%.
In the field of agricultural production-16.4%.
Other 3,3%.

Further, analyze the responses of 57 parents of Moscow and the Moscow region, which the same questions were asked.

1. The answer to the first question: "Rate the importance of the" Technology "subject in school", by 7 points (the most important subject in school) reported 24.6% of the parents; 6-points of 26.3% at 5 points, and 31.6% -17.5% 4 points. We emphasize that there is no low values, all values begin with 4 points.

2. On the second question: "Please rate your child's interest in the subject" Technology "in the 7 points responded to 40.4% of parents, 6 points, to 21.1%, 5 points, to 17.5%, by 4 points to 12.3, % and 3% 5,3-points.

3. Answers of parents to the third question, "How do you think, what sections of" Technology "subject in need of life to your child?" As follows, (you can specify the number of sections):

Economy family-63.2%.
Food processing (cooking) -61.4%.
Repair work in the home- 57.9%.
Electrical Equipment-52.6%.
Graphics, drawing-52.6%.
Culture-house -49.1%.
Projects (design and research) -43.9%.
Art processing of materials (DPI) -42.1%.
Wood-Processing Technology -36.8%.
Technology textile processing -35.1%.
Fundamentals of Business - 33.3%.
Metal-Processing Technology -31.6%.
Technology-agricultural labor -24.6%.

1. Responses to the fourth question, "What do you think modern technologies necessary to learn the lessons of technology?" As follows:

Technology computer-aided design- 64.9%.
Design -57.9%.
Digital technology- 54.4%.
Telecommunications and communications-38.6%.
Repair of car-38.6%.
Construction finishing work-38.6%.
Business Design-36.8%.
Robotics-33.3%.
Marketing- 28.1%.
Technology repair of home appliances- 28.1%.
Technology 3D-printing-26.3%.
Nanotechnology-24.6%.
Laser technology-21.1%.
Decorative and restoration works-17.5%.
Accounting-15.8%.
Space technology-14%.
CNC-12.3%.

2. On the fifth question, "What is the direction of technological training would you choose for your child-depth training?" Answers were as follows:

In the field of information and digital technologies- 61.4%.
In the field of management and business-47.4%.
In the field of design- 40.4%.
In the field of medicine and health care-28.1%.
In the field of telecommunications and communications-26.3%.
In the field of tourism and hospitality-21.1%.
In the sphere of industrial production (machines, equipment) -15.8%.
In the field of artistic treatment of materials- 15.8%.
In the area of social services -5.3%.
In the field of agricultural production-5.3%.

3. Where a profession is planning your child?
In high school-71.9%.
In college-17.5%.
Not decided -10%.

The survey involved 386 students, mostly 5, 6, 7 classes of schools in Moscow and Moscow region studying in the areas:
"Technical work (boys)" - 50%.
"The service work (girls)" - 46.6%.
"Co-education of boys and girls" -3.4%.
Their responses were as follows.
The first question is "Rate the importance of the" Technology "subject at school is 7 points (the most important subject in school) reported 14.3%, 6 points, to 19.7%, 5 points, 27.9% at 4 points - 22.5%, 3 points - 11.3%.
On the second question: "Please rate your interest in the" Technology "subject responded by 7 points to 43.5%, 6 points, 23%, 5 points, to 15.1%, 4 points, 9%, 3 points 6, 6%.
If we compare the average responses of teachers and students, it turns out an interesting pattern. The importance of the subject "Technology" in the schoolteachers is estimated to average higher than students (5.84 and 4.88 points, respectively). At the same time, students assess their interest in the subject and teachers above (5.77 and 4.8 points, respectively), and above their assessment of the importance of the subject (5.77 and 4.88 points, respectively). The parents in this case agree with the opinion of their children. In this regard, it can be concluded relatively high valuation of the subject "Technology" modern consumers of educational services to the general education.

On the third question, "What do you think, what sections of" Technology "subject will require you to life?" (You can specify more than one section) answers as follows:
Food processing (cooking) -53.7%.
Electrical Equipment- 40.2%.
Drawing, drawing-39.6%.
Repair work in the home-36.1%.
Culture House -33%.
Wood-Processing Technology- 29.7%.
Technology textile processing -27.9% .
Economy family-25.8%.
Art processing of materials (DPI) -23%.
Projects (design and research) -22.5%.

Metal-processing technologies- 21.7%.

Technology of agricultural labor- 12%.

Fundamentals of Business-to 10.7%.

On the fourth question, "What modern technology you would like to learn the lessons on technology?" The following answers were received:

Technology 3D-printing-47.8%.

Design -46%.

Laser technology-41.2%.

Robotics-37.1%.

Nanotechnology-37.8%.

Digital technology- 28.6%.

Technology computer-aided design-25.8%.

Business-design-24%.

Repair of car-19.4%.

CNC-19.2%.

Technology repair of home appliances-18.7%.

Marketing -17.1%.

Construction finishing work- 14.3%.

Telecommunications and communications-11.5%.

Accounting-8.4%.

Space technologies-8.2%.

Decorative and restoration work- 3.1%.

Thus, parents and students are united in the assessment of the importance of the study of design as staging areas. At the same time, students do not support the views of parents about the importance of studying engineering technology, telecommunications and communication, repair, digital technologies.

On the fifth question, "What is the direction of the process of preparation you would like to study in depth?" The answers were as follows: In the field of design- 43.2%.

In the field of management and business- 32.7%.

In the field of information and digital technologies- 27.1%.

In the field of artistic treatment of materials-23.8%.

In the sphere of industrial production (machines, equipment) -22.8%.

In the field of tourism and hospitality-14.6%.

In the field of telecommunications and communications-14.3%.

In the field of medicine and health care- 14.1%.

In the field of agricultural production-7.4%.

In the area of social services- 2%.

Other 2,8%.

Thus, parents and students are unanimous on two core areas of technological preparation: Design, management, and business. At the same time, students do not share the opinion of parents about the priority of the study of information and digital technologies.

On the sixth question, "Where do you plan to get a profession?" The answers were distributed in the following proportion:

In high school-42.6%.

In college-20.8%.

It not decided-36.4%.

If we compare these answers against the parents, it turns out that most of the parents wants to see students themselves think their child in high school than it.

The above survey of the general education stakeholders (students, parents, experts) shows the need for a school teaching such sections technological training as design, electrical engineering, graphics and drawing, modern industrial technology, economics and business, taking into account the practical orientation and social importance of the subject area "Technology" .

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