

The way from school to science

Ilia State University

School: Tbilisi's Independent National Gimnasium „Shavnabada”

Teacher: Inga Paksashvili

Subject: Biology

Target group: 10th form

The partner: Levan Samkharauli National Forensics Bureau.

Purpose:

- To create co-operative triangle : University - School-Enterprise;
- To promote Biology among students;
- To encourage students to develop inquiry skills.



Practical research to teach natural science



In 2017-2018 different types of actions were planned and carried out to increase the students' motivation within the project „ARTIST”.

The students saw and did the researches in the cheese enterprise „Shirak”.

1 Cycle

Action: To find out if the students' motivation increased or not after being in „Shirak”, I collected the data by questioning and with the help of the focus-group.

Observation: The questioning showed that the student did not have the desire to connect the future profession to Biology. The focus-group named the reasons: These were working with technologies and methods.

Reflection: It was necessary to find the enterprise which was equipped with latest technologies and research methods.

Planning: I planned to take the students to the Levan Samkharauli National Forensics Bureau.

Many types of expertise are carried out in Samkharauli Bureau: Medical, Biological, Drugs, Psychiatric, Toxicological, Dialloptic, Food products, Ballistics, Chemical, Corporeal material, Serologic, Cytological, Blood groups, Handwriting, Radiation and etc.

2 Cycle

Action: I introduced the action plan to my students how to establish a relationship with a new organization.

Observation: Everybody liked my action plan.

I am confused. A lot of expertise are carried out, what I can do, I can't find so much information!

Our teacher advises us, what kind of information we can find and sort out!



Reflection: For theoretical readiness the student decided to find out what types of researches are carried out in the forensics bureau.

Planning: I planned for them how and where to find necessary information.

3 Cycle

Action: I took the students to Levan Samkharauli National Forensics Bureau, where they learned how to do different types of expertise, and they participated in some types of researches.

Observation: It was noticed that the students had high level of interest.

Reflection: The students summed up the information they found to the knowledge they got recently.

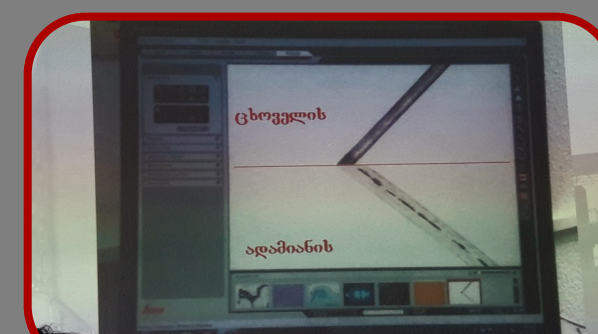
Planning: I planned school conference where my students would introduce the latest research methods to their peers and invited teachers.



The students understood and did the research:



Difference between citizen's passport and genetic passport.



Difference between human's hair and animal's fur.



The reason why there are differences between blood groups.



The students listened to very interesting lectures about research methods.

Focus-groups

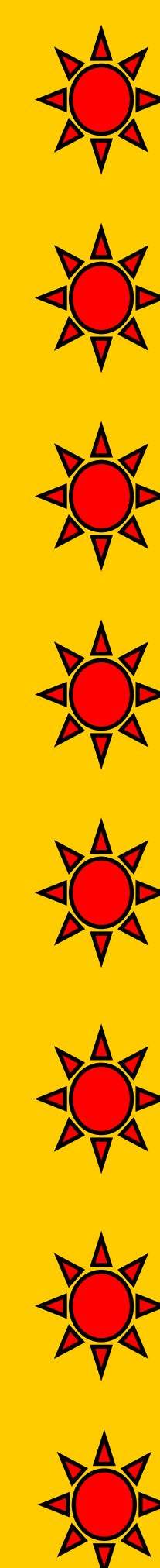
Analyzing results

Questioning



The students pointed out that they liked quiet and cosy environment, cleanliness and the newest technologies that they got amazing results..

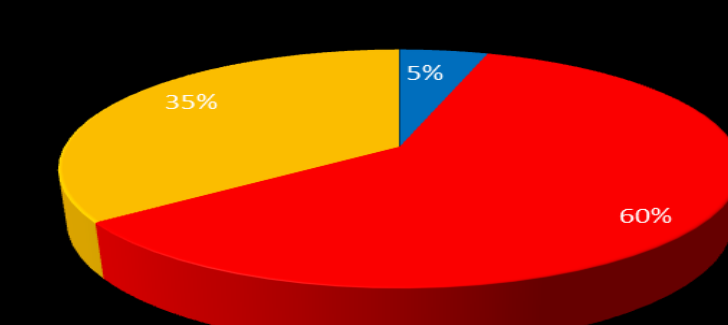
They liked the process of finding their blood group best of all.



The answer to the question if the students would connect their future profession to Biology was answered like this:

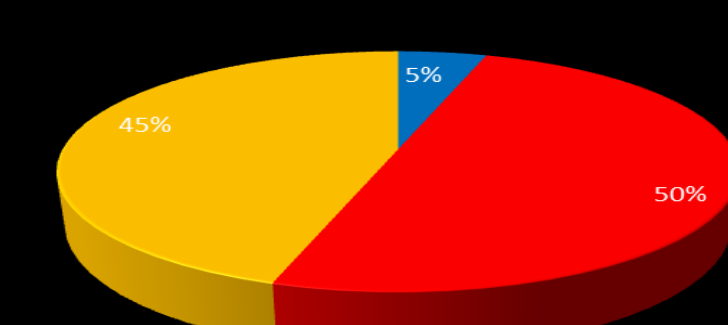
BEFORE VISITING „SHIRAK”

YES NO I DON'T KNOW



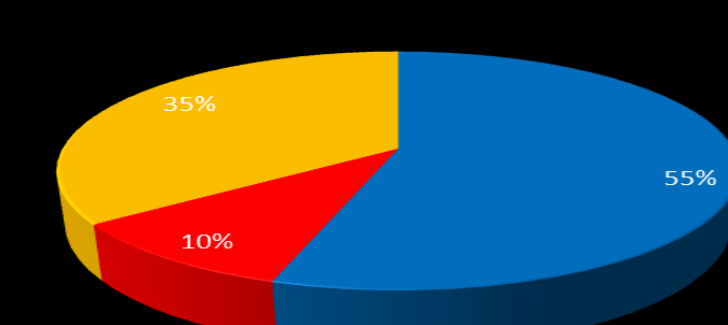
AFTER VISITING „SHIRAK”

YES NO I DON'T KNOW

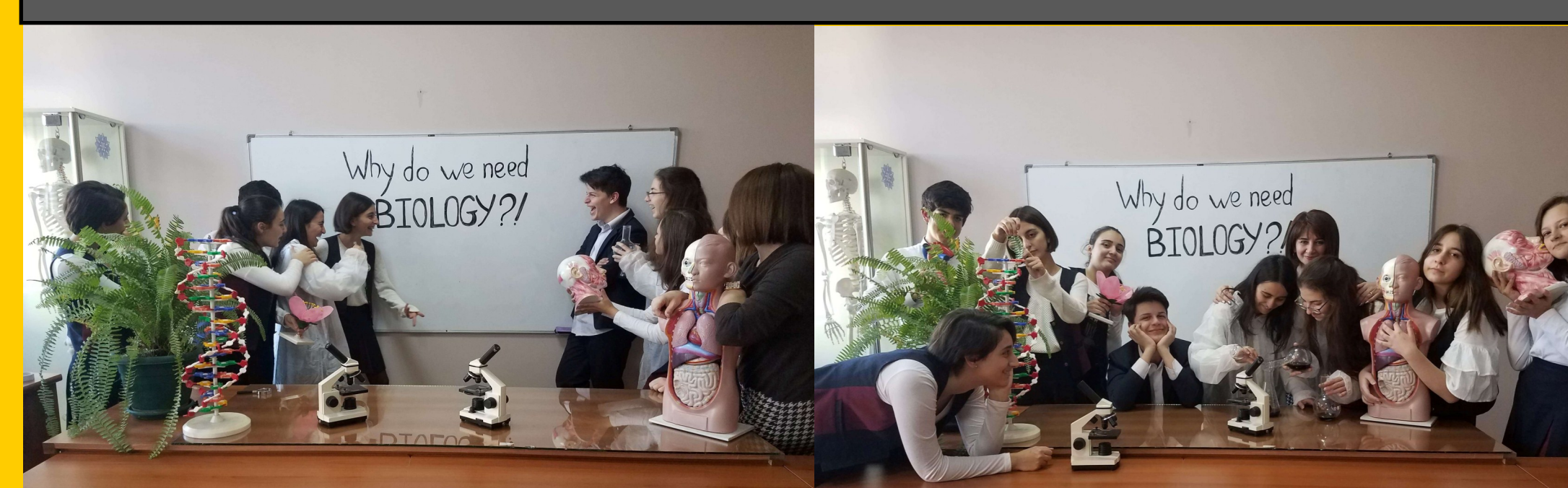


AFTER VISITING „SAMKHARAU”

YES NO I DON'T KNOW



The students realized why they needed Biology!



I shared research result to my colleagues and we planned our future goals



The students summed up the information they found, and the information they received recently. They worked on topics about the latest research methods. They worked on 17 types of research methods on the whole.



The students shared their own research methods to each other



The best research methods were presented at the conference

