< The results of a questionnaire “An invitation to synthetic biology in Kichijyo-joshi High School, July 20th 2016” >

(1)Have you changed your impression on genetic modification and *E. coli*? If you have, could you be more specific, please?

10th Grade

- I had heard the news that food poisoning occurred at the restaurant near my school, so I was holding negative impressions about *E. coli*; nevertheless, after the class, I got to know that *E. coli* is useful to do experiments so now I have a better impression about it..

- When it comes to genetic modification, I only knew genetically modified beans and corns, but after the class, I found out it is more profound and interesting. I found it interesting that modifying genes can change many things such as reactions and the cell itself.

- I thought of genetic engineering as such a complicated topic. However, after the explanation about the experiments of the Snow White project, I got to know that genetic engineering can do many unique things depending on its application and I found it interesting.

- The name of *E. coli* is written with the term fungus in Japanese, so I thought that it was harmful. However, I got to pay respect to *E. coli* because it is easy to use in experiments and helpful for the future.

11th Grade

- I knew that genetic modification can get the resistance to some diseases and just change the features, but through the class, I got to know that genetic modification can do various things combining the modified features. This fact made me notice the great potential of genetic modification.

- I thought *E. coli* had bad influence on our bodies, but I have changed my thoughts of *E. coli*.

- It was good to know the real way of genetic modification because I had presumed that genetic modification changed the genes directly.

- I had always been taught the cons of genetic modification, but after the class, I thought that it is a great tool to solve current problems depending on its usage.

- I had associated *E. coli* with food poisoning, but I learned that there are many types of *E. coli* and toxic ones are limited. Moreover, I got to know that *E. coli* is suitable for experiments.

12th Grade

- I imagined that genetically modified food was not good because I sometimes stumbled on food with labeled “not-GMO”, but I have changed my thoughts. The story that genetically modified *E. coli* must not be scattered around the field deepened my thoughts: I noticed that one has to solve some problems of genetic modification to make it work for society.

- I learned genetic modification and knew a little about its application, but I didn’t know how useful genetic modification is. I think that the system of genetic modification has infinite possibilities.

(2)What do you think is interesting about the Snow White project? What do you think needs improvement?

10th Grade

- It was interesting that tiny living things such as *E. coli* could represent the story depending on experiments.

11th Grade

- The project which represents Snow White story with *E. coli* is interesting and I want to see it.

- First of all, I was surprised that iGEM 2016 team Tokyo Tech did the experiments with fun and excitement.

- I thought that iGEM 2016 team Tokyo Tech project seemed interesting.

12th Grade

- The project's idea is quite unique.

(3)What do you want to do with synthetic biology or genetic modification?

10th Grade

- Insert genes into not only fetus but also children and adults which prevents people from diseases such as flu, cold and cancer to make people with a better disease-resistance

- Make tiny flowers such as sunflowers and tulips which can be carried around

- A cure for genetic disorders

- Engineer the human genes to have cosmetic surgery without a surgical knife, inject something in one's head to change his or her white hair into black one, or make one's skin white

11th Grade

- Mark the factor of disease such as cancer (biomarker)

- Electric generation using plant's metabolism with the light reception system

- Change the color of flowers and modify plants genetically

12th Grade

- I am interested in evolution, so I want to see the process of extinction or natural selection.

- Introducing chlorophyll into *E. coli* and making it photosynthesize, which would contribute to the world.

Others

- The illustrations of *E. coli* on the slides are adorable!

- Just as I thought synthetic biology was difficult...

- I got a little bit interested in experiments and quantitative courses.

- Synthetic biology was really interesting. I want to do experiments about it!

Summary

- We succeeded in cleaning up（improving はより良いと思う）impressions on genetic modification and *E. coli*.

- It was difficult to teach synthetic biology.

- It is clear that high school students associated *E. coli* and genetic modification with negative things.

- The feedback that representing “Snow White” itself is interesting and our project helps students get interested in science shows that our project can be used as an educational tool.