Investigation on the popularization of synthetic biology and iGEM in Fuzhou Lakeside International School

1. Introduction:

The questionnaire was distributed to all students of Fuzhou Lakeside International School before the presentation. Through this questionnaire, we aim to know the secondary school students' familiarity with synthetic biology and iGEM before the presentation. And prepare for the reinvestigation after the presentation. By comparing the feedback of interviewees before and after the lecture, we will know which part of the presentation impressed respondents most. To confirm the publicity effect of the presentation. In addition, through this questionnaire, we can investigate people's initial impression of synthetic biology and find out the social popularization significance of the presentation.

2. Basic situation:

Location: Fuzhou Lakeside International School

Time: September 15, 2021

Respondents: Students from grades 7-12 of Fuzhou Lakeside International School

Objective: We investigated by designing a questionnaire, taking

Fuzhou Lakeside International School as an example. We aim to find out how students of secondary school think of synthetic biology and iGEM. Their understanding of the areas where synthetic biology can be used, and their vision and outlook on how it will facilitate our lives.

Method: The questionnaire will survey all the students in Fuzhou Lakeside International School.

3. The Questionnaire

Question 1: Your grade

A:7-9

B:10-12

Question 2: Have you learned about synthetic biology in detail?

A: Yes

B: No

Question 3: Where did you hear about synthetic biology?

A: The Internet or TV

B: News

C: The people around

D: Books and magazines

E: Others

F: Never heard of synthetic biology

Question 4: What do you think of synthetic biology? [Multiple choice]

A: It is an esoteric subject

B: It is an interesting subject

C: It is a subject that can benefit society

D: It is a subject with many cross-cutting areas

E: It is a subject closely related to daily life

Question 5: If you had the chance to learn about synthetic biology, which part would you like to know about it? [Multiple choice]

A: Principles of synthetic biology

B: The experimental operation of synthetic biology

C: Techniques in synthetic biology

D: All kinds of equipment in synthetic biology

E: The impact of the application of symbiotic biology on daily life

Question 6: What do you think synthetic biology is being used more now? [Multiple choice]

A: Medical and health care

B: The environmental protection

C: Agricultural

D: Animal husbandry

E: Energy

F: Chemical industry

G: The food industry

H: Aeronautics and astronautics

Question 7: Where do you hope synthetic biology can be applied? [Multiple choice]

A: Medical and health care

B: The environmental protection

C: Agricultural

D: Animal husbandry

E: Energy

F: Chemical industry

G: The food industry

H: Aeronautics and astronautics

Question 8: Do you know what role synthetic biology played in treating depression? Fill in the blanks.

_____

Question9: Have you heard of iGEM?

A: Yes

B: No

Question 10: If you have heard of iGEM， where did you hear about it? [Multiple choice]

A: The Internet or TV

B: News

C: The people around

D: Books and magazines

E: Others

F: I have taken part in it.

G: Never heard it ever

4. Analysis

The subjects of this survey are all the students(235) from Fuzhou Lakeside International School. Among them, junior high school students accounted for 40.0% and high school students accounted for 60.0%.

- From Questions 2 and 9: 42.1% of the participants said they had learned about synthetic biology in detail, and 8.9% of the participants said they had heard of iGEM. It is worth mentioning that more than 80% of these two groups are high school students.

This means that the popularity of synthetic biology and iGEM among young people needs to be improved. Changing this situation may need relevant agencies and organizations to increase publicity efforts in society, schools and families. At the same time, they also need to ensure that science popularization and education are carried out in a form that is easier for young people and children to understand.

- In Questions 3 and 10: more than 90% of all students who have learned about synthetic biology and iGEM events learned about them through two ways: people around them and social media. In other words, we must not only continue to use schools, families, and the Internet to promote publicity, but also attach great importance to the role of other ways in publicity and education.
- In Questions 6 and 7: 77.4% and 61.7% of the students think that synthetic biology is currently more used in medical and environmental protection. However, 66.4%, 57.4% and 54.9% of students hope that synthetic biology can have more applications and developments in energy, medical and health, and environmental governance. In other words, students have a higher degree of attention in those ways.
- In Question 8: only 28.9% of the students filled in blanks. It shows that middle school students at this stage lack a certain degree of

attention and conjecture about the connection between synthetic biology and depression.

- Before the presentation, most of the students thought that synthetic biology was an esoteric and distant subject. At the same time, they are most interested in the experimental part of synthetic biology. Therefore, we hope that through this presentation, they can feel more charm of synthetic biology. And we aim to make students full of curiosity about synthetic biology. We will try to introduce our experiments as much as possible to satisfy their interests. Our team hopes that through this presentation, more people will understand the great role of synthetic biology in the treatment of depression, and we also hope to make some contribution to the publicity and education of synthetic biology and iGEM events.