

## **1. Pre-lecture work**

### **1.1 School Contact**

We mainly contacted the school through channels such as classmates introducing their alma mater. In addition to that, there are also methods such as applying by phone and the school's academic office. The method of recommendation and introduction is just a brick in the door, more important is to show your identity and intention. When connecting with the teachers, we will provide the teachers and school related parties with the main purpose, main content and main format of our activities in advance.

### **1.2 Timing**

We found that through the feedback of the activities of science lectures held during the holidays that not many students would participate in the activities during the holidays. If it is during the period when students are in school after the beginning of the school year, it needs to be determined with the teachers, because the system is different in different schools.

### **1.3 Course content design**

- 1) Providing pre-course reflection questions and introduction of basic concepts to high school students in advance of the lecture can prepare them psychologically for the unknown and thus make it easier for them to understand in class.
- 2) It is suggested that the lecture should start with the history of biosynthesis, and the lecture should be based on the history of the development of the subject.
- 3) The concepts of synthetic biology can be explained in a more simple and easy-to-understand way, such as giving some common examples in life to analogize those complicated and abstract things, which will be easier to understand. In addition to reducing the difficulty of the language of explanation, we also need to minimize the specialized vocabulary and try to use the language from the high school biology textbook or link to some examples given in the high school biology textbook. This can create a sense of familiarity for high school students, and also allow them to relate and consolidate what they have learned.
- 4) Having more interesting examples and other video content in the lecture can attract students' interest and attention.
- 5) For the PPT setup, make notes on the PPT with Chinese keywords so that those whose thinking has not followed can combine the words for further understanding. Every time the speaker says a sentence or several sentences, an animation will appear on the PPT, which can improve the students' concentration.
- 6) For different levels of cities, the ratio of synthetic biology and cutting-edge knowledge in life can be adjusted to suit the learning ability of students.
- 7) Be ready to provide the recommended reading list of synthetic biology and news of related research at the end of the lecture, so that more students who want to learn more can study further

### **1.4 Suggestions on questionnaire design**

Provide text descriptions under all questions of the questionnaire and indicate the time required for the questionnaire at the beginning. When designing the questionnaire, all possibilities of answers need to be considered in order to ensure objectivity, such as the absence of difficult-to-grasp parts or the complete lack of interest in the lecture.

## **1.5 Other aspects suggested**

- 1) If you choose the form of recording, you need to export the video with high definition, and you also need to ensure the smoothness of the video playback.
- 2) Peripheral design: In order to attract more students to participate in our science lectures, but also to give commendable answers to the lecture feedback questionnaire we designed and project-related peripheral, grapefruit to drive away mosquito's keychain and stand, in the back is also written the chemical formula of round grapefruit ketone. It is aesthetically pleasing and educational at the same time.
- 3) Need to make timely improvement measures for the actual situation: for example, we found that the number of people entering the group, i.e., the number of people interested in the lecture, was much smaller than the number of people watching, so we set up a questionnaire collection time for students interested in the lecture to fill in the specific time period they want to listen to the lecture, and then decide the specific time of the lecture. When we found that the reading rate of the activity publicity push was not high, we chose to make a promotional film to put out the interesting clips of the lecture in advance to attract the interest of the participating students.

## **2. During the lecture**

### **2.1 About the lecturer**

- 1) Slow down the speed when talking about professional knowledge
- 2) Add some interactive question and answer sessions to attract students' interest.
- 3) The mouse arrow can be changed to a laser pointer, or the size of the mouse can be increased directly to be more indicative.
- 4) Music can be played during the break time
- 5) The voice is loud and clear

## **3. After the lecture**

- 1) Need to collect questionnaires and feedback to improve the level and quality of the next event.
- 2) Need to increase experience, experience in organizing events and experience in teaching knowledge