

(For JSPS Fellow)

Form B-2  
(FY2018)

Date (日付)  
27/11/2018 (Date/Month/Year: 日/月/年)

**Activity Report -Science Dialogue Program-**  
(サイエンス・ダイアログ事業 実施報告書)

- Fellow's name (講師氏名): Binbin Zhang (ID No.P 17722)
- Participating school (学校名): Hikawa High School, Yamanashi-shi, Yamanashi
- Date (実施日時): 05/11/2018 (Date/Month/Year: 日/月/年)
- Lecture title (講演題目): 3D Printing and Tissue Engineering
- Name and title of your accompanying person (講義補助者 職・氏名)  
横浜国立大学 理工学部 化学・生命系学科 4年 福田研究室 増本美波
- Lecture format (講演形式):
  - ◆Lecture time (講演時間) 70 min (分), Q&A time (質疑応答時間) 20 min (分)
  - ◆Lecture style (ex.: used projector, conducted experiments)  
(講演方法 (例: プロジェクター使用による講演、実験・実習の有無など))  
Used projector
- Lecture summary (講演概要): Please summary your lecture 200-500 words.

As requested by the school, my lecture consisted of two parts- the first half of the lecture was about myself and the second half of the lecture was about my research.

For the first half, instead of talking only about my own experience, I combined with introducing the countries and places I have been to and spoke about their geography and culture. For example, my hometown Shandong Province in China, was also the birth place of Confucius, whom the Japanese students could be familiar with. Then I introduced Hangzhou, where I went to college, which is a famous and popular city in China, but might not be familiar to Japanese people. Lastly, I spoke about Australia, where I did my PhD and spent 10 years at before moving to Japan.

For the second half, I spoke about my research "3D printing and tissue engineering". Because both 3D printing and tissue engineering are unfamiliar topics for high school students, I started from the very basic knowledge and also used a lot of pictures and videos. I introduced different 3D printing techniques, how they work and how are they used for different applications. I also introduced what is tissue engineering, how it is different from traditional medicine, why it is needed and how it can be used to treat patients. At the end, I showed two examples how 3D printing can be used for tissue engineering, and explained why is using 3D printing necessary.

We took a brief break between the two parts, and there was question time following each part. Students asked very interesting questions about myself and my research respectively. They asked questions from “what’s your favourite Japanese food”, “which country will you cheer for at 2020 Tokyo Olympic Games”, and even very difficult questions such as “China has been developing very fast in economy, do you think China will become the next world leader?” They have also asked scientific related questions such as “the regenerative abilities compared between different animals and human”, “the detailed approach if we were 3D printing an organ”, and even more ethical and philosophical question “are we still human if our body parts have been replaced”. Overall, I was very impressed.

- Overall advice or comments to future participants in the program (今後の講師へのアドバイス):

I would suggest using a lot of visual aids (e.g. pictures, videos) to explain difficult topics; start from easy and daily topics, so students can first adapt to your speech style and accents; make the topics relevant to keep the students interested.

- Other noteworthy information (その他特筆すべき事項):

The Japanese students are shy at first, but if the speaker is patient and encouraging, some of them will become active in asking questions.

- Impressions and comments from the accompanying person (講義補助者の方から、本事業に対する意見・感想等がありましたら、お願いいたします。)

**高校生がこのような研究に触れる機会があることはとても良いことだと思いました。これからの進路を決める上でもこのような機会を通して視野を広げることが大切だと思います。**