2024年 12月 日

サイエンス・ダイアログ 実施報告書

- 1. 学校名·実施責任者氏名:_____京都府立山城高等学校 · 萩原 有紀_____
- 2. 講師氏名:____ Dr. Xue LI
- 3. 講義補助者氏名:_____
- 4. 実施日時: 2024 年 12 月 21 日 (土) 10:00 ~ 11:30
- 5. 参加生徒: <u>1</u>年生 <u>34</u>人、 <u></u>年生 <u>人</u>、 <u></u>年生 <u>人</u>(合計 <u>34</u>人) 備考:(例:理数科の生徒)
- 6. 講義題目: <u>精神医療における現代的課題に対するアプローチ</u>
- 7. 講義概要:
- 8. 講義形式:
 ⊠対面 ・ □オンライン (どちらか選択ください。)
 - 1) 講義時間 <u>60 分</u> 質疑応答時間 <u>30 分</u>
 - 2) 講義方法(例:プロジェクター使用による講義、実験・実習の有無など) プロジェクター使用による講義
 - 3) 事前学習
 - (有)・無(どちらかにOをしてください。)
 使用教材 サイエンスダイアログの HP からダウンロードした SampleC を講師に記入してもらい、
 その内容を基に本校で作成したプリントを使用
- 9. その他特筆すべき事項:

1年生でも聞き取りやすく理解しやすい英語で講義してくださった。質疑応答にも熱心に答えていただき感謝しています。

Form B-2 (FY2024) Must be typed
 Date (日付)

 23/12/2024
 (Date/Month/Year:日/月/年)

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

- Fellow's name(講師氏名): <u>LI XUE(ID No. 23713</u>)

- Name and title of the lecture assistant (講義補助者の職・氏名) N/A

- Participating school (学校名): ___ Kyoto Prefectural Yamashiro Senior High School

- Date (実施日時)	21/12/2024	(Date/Month/Year:
日/月/年)		

- Lecture title (講義題目):The brain and the life ahead

- Lecture format (講義形式):

- ◆ Onsite ・ □ Online (Please choose one.)(対面 ・ オンライン)((どちらか選択ください。))
- ◆Lecture time(講義時間)_60 min(分), Q&A time(質疑応答時間)_15 min(分)

Lecture style(ex.: used projector, conducted experiments)

(講義方法 (例:プロジェクター使用による講義、実験・実習の有無など))

Used projector and did interactive activities

- Lecture summary (講義概要): Please summarize your lecture within 200-500 words.

This talk explores the fascinating science of emotions and how the brain shapes the way we feel, think, and respond to the world. Emotions, whether happiness, fear, or stress, are driven by intricate processes in the brain and regulated by specific chemicals and neural systems.

The focus is on the "happy chemicals" that influence our positive feelings, such as **dopamine** (the reward and motivation neurotransmitter), **serotonin** (the mood stabilizer), **oxytocin** (the bonding hormone), and **endorphins** (the natural painkillers). These chemicals work together in the brain's reward system to create joy, connection, and resilience.

In addition, the talk examines the neuroscience of fear and stress. The **amygdala**, often called the brain's "fear center," plays a key role in detecting threats and triggering the "fight or flight" response. This response is powered by chemicals like **adrenaline** and **cortisol**, which prepare the body to react to danger. While this system helps us survive, chronic stress can negatively impact both mental and physical health.

The talk highlights **brain plasticity**, the ability of the brain to rewire itself, and how this knowledge applies to improving emotional regulation, mental health, and resilience. Practical ways to support the brain are also discussed, including the role of sleep, exercise, diet, and mindfulness in maintaining emotional well-being.

Through visuals, analogies, and interactive Q&A, the session makes the science accessible and engaging for high school students. By the end of the talk, students gain a deeper understanding of their emotions and practical tools to navigate them more effectively.

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

- The school requested that I prepare 20 key words for the students to learn before the talk.
 I found this to be an excellent practice, as it helped the students engage more actively
 during the session. Most of the students seemed to understand the words and were able
 to follow along with the presentation with ease.
- The students had also prepared questions in advance, which were thoughtful and demonstrated a genuine interest in the topic. I was particularly impressed by the depth of their inquiries, which reflected their understanding of the subject and curiosity about neuroscience.
- The preparation done by both the students and the school truly enhanced the overall experience. It was evident in the level of engagement and the quality of the discussion during the talk. This preparation contributed to a smooth and interactive session, which I thoroughly enjoyed.

Overall, I believe the collaborative effort to prepare for the talk was a key factor in its success. I am grateful for the opportunity and look forward to similar experiences in the future.

- Impressions and comments from the lecture assistant (講義補助者の方から、本プログラムに対する 意見・感想等がありましたら、お願いいたします。): Not applicable

