

Form B-2
(FY2022)
Must be typed

Date (日付)
09/11/2022 (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): Thomas Byrne (ID No. PE21771)

- Name and title of the lecture assistant (講義補助者の職・氏名)
None used

- Participating school (学校名): Aichi Prefectural Kariya High School

- Date (実施日時): 08/11/2022 (Date/Month/Year: 日/月/年)

- Lecture title (講義題目):
Where It's At: the life and work of a young researcher in location analysis

- 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) 110 min (分), Q&A time (質疑応答時間) 10 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))
Projector, chalk board, group discussion, handout of translated terms

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

The lecture was divided into two clear halves. The first half concerned my life and what lead me to pursue operational research (and, in particular, location analysis). It began by tracing my early life, through house moves and schooling (teaching the audience a little about the geography and history of the UK as well as providing touristy suggestions, and educating the audience about the education system in the UK) to my academic development (covering experiences of my life (study and extra-curricular) at the University of Cambridge and the University of Edinburgh and my decision-making considerations concerning what subjects to pursue, where to apply, and how to succeed when there) to my eventual arrival in professional academia (discussing what it means to be a researcher and what that involves – the joys and the challenges – as well as how I ended up in Japan, thanks to JSPS).

The second half of the lecture discussed my general area of research and the specifics of my work. It introduced operational research (detailing its definition, some of the many applications,

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its purpose, its history and first results during World War II, major contributions in the field by Japanese researchers, how it works, and what branches of mathematics use, or are used in, operational research) before explaining the specifics of my area: facility location. Here I demonstrated the importance of location analysis in many different aspects of everyday life, its first exploration in the nineteenth century, the problem definitions, and examples of problems we can solve. The audience was then asked to discuss on their tables potential optimal solutions to a simple case study shown on the board for three different facilities: a hospital, a fire station, and a refuse tip. Following this, accurate and more appropriate models of demand and distance were discussed, and my major finding in the area were displayed by way of examples of their application, unveiling some of the simple (school-level) mathematics behind the discoveries.

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

Though the students seemed shy, there was some interaction, and the students seemed attentive and interested (my host in Japan was present and commented that students were actively discussing the material in the breaks for discussion). More interactive activities were planned but engagement seemed difficult to rely upon so the lecture was mainly a presentation. Time for questions were given sporadically throughout the presentation but, since there were only a few questions during the lecture (more came after the lecture had finished), I continued with the lecture (which explains the small time recorded for questions).

- Impressions and comments from the lecture assistant (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。):

None used.