

(For JSPS Fellow)

Form B-5

Date (日付) 15/07/14

(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): _____ (ID No. P 13041)

Pontus Lars Erik SAITO STENETORP

- Participating school (学校名): _____

Yamanashi Prefectural Hikawa High School

- Date (実施日時): _____ (Date/Month/Year: 日/月/年)

14/07/14

- Lecture title (講演題目): (in English) _____ Computers and Language

(in Japanese) _____

None

- Lecture summary (講演概要): Please summary your lecture 200-500 words.

The presentation initially covered personal aspects, such as, how did I become interested in computers. Also, what does a researcher do? What motivates a researcher? We then covered the history of computers, why were they invented? How old were the first computers? Giving examples of what computers can do, why they are simple and really can only do amazing things because they are incredibly fast. After this we introduced the concept of information, about binary numbers and how we can use them to calculate. Then, we arrived at language, discussing what knowing language means and why it is difficult to explain language without using language. Since computers only understand numbers, we need to do precisely this, explain language using numbers in order for them to understand. I then introduced the idea of representing words as coordinates, this way we can relate words to other words by comparing their coordinates. But how do we learn the coordinates? For this I introduced the idea of learning by example from text, exploiting the speed of a computer to read many thousands of words per second. I gave a brief overview of what learning would mean in the coordinate space and how the words move around as the computer sees more and more examples. After this we let the computer learn from Wikipedia for about 2 minutes and then observed what the computer had learnt. This was the part that the students liked the most. After giving some few examples of my own I asked the students to supply questions and the computer could come up with good related words for words like "tokugawa" and "manga". Lastly, we also covered that we can add and subtract coordinates and for example calculate that Tokyo - Japan + Sweden becomes Stockholm.

- Language used (使用言語): English

- Lecture format (講演形式): Presentation with interactive elements.

◆Lecture time (講演時間) ≈60 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))

Projector and demonstration of computational experiments. _____

◆Interpretation (ex.: assistance by accompanied person, provided Japanese explanation by yourself) (通訳 (例: 同行者によるサポート、講師本人による日本語説明))

Providing explanations in Japanese when necessary. _____

◆Name and title of accompanied person (同行者 職・氏名)

HASHIMOTO Kazuma _____

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

None _____

- Impressions and opinions from accompanied person (同行者の方から、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。):

基本的にはこのような企画は良いものだと思います。これから大学などへ進学する高校生に最先端の研究内容について知ってもらえるのは嬉しいことです。講演の後には、一人の生徒が質問をしてきて、その後も公演中では話せなかったことなどいろいろと話すことが出来、興味を持ってもらえたようでした。ただ一つ残念だったのは、質問時間中に生徒側からあまり質問が来なかったことです。日本語でも構いませんので、是非積極的に質問をしていただくのが良いかと思います。