Report on Visits to Senior Schools of the British School in the Netherlands

José Ángel Ávila Rodríguez (European Inventor Award 2017) The Hague, The Netherlands, 01/01/2025

1. Introduction:

As part of the European Patent Office's (EPO) commitment to fostering innovation and inspiring the next generation of inventors, I visited two campuses of the British School in the Netherlands in December 2024. These visits aimed to share my professional experiences, highlight the importance of innovation and education, and encourage young minds to explore careers in science, technology, engineering, and mathematics (STEM). During my visit, I shared personal experiences in space exploration and innovation, particularly focusing on the Galileo project, Europe's Global Navigation Satellite System (GNSS).

2. Visit Details

Senior School Voorschoten (SSV)

Date: Tuesday, 17th December 2024

Location: Jan van Hooflaan 3, 2252 BG Voorschoten, the Netherlands

Audience:

- Over 300 students from Years 7 & 9 (ages 11-14)
- Over 200 students from Years 10 & 11 (ages 15-16)
- Approximately 300 students from the International Baccalaureate Programme focusing on STEM
- A smaller group of about 50 students from the Spanish section, mostly girls

Engagement: The speeches captivated the audience, with students actively participating in discussions and posing insightful questions. The interactive session facilitated a deeper understanding of satellite navigation technologies and their real-world applications.

Total Reach: Approximately 900 students

Senior School Leidschenveen (SSL)

Date: Thursday, 19th December 2024

Location: Vrouw Avenweg 640, 2493 WZ Den Haag, the Netherlands

Audience:

- General speech to about 50 Year 12 & 13 Spanish students (ages 17-18) in the International Baccalaureate Programme
- Approximately 150 Year 9 (age 13) and Year 11 (age 15) students in the assembly hall
- Smaller round-table discussions with students aged 17 and 18, addressing specific topics in science and engineering
- A final session with about 50 Year 10 students (age 14)

Engagement: The discussion evidences a highly enthusiastic response from the students, with many expressing keen interest in pursuing careers in fields related to space. The students were amazed about the potential of Galileo and other European initiatives to drive technological innovation and economic growth.

Total Reach: Approximately 250 students

3. Engaging Activities for Simplifying Complex Technologies:

To simplify complex concepts and demystify complex technologies, interactive games were incorporated into the sessions. During both visits, I employed interactive methods to make complex technological concepts accessible and engaging for students. These included:

- **Dynamic Presentations**: Visual aids such as videos on the European Patent Office, European Space Agency, and Galileo (the European satellite navigation system) were used to illustrate the principles of satellite navigation and the importance of protecting ideas through patents.
- Interactive Demonstrations: Practical examples, such as explaining how wireless networks operate, were conducted with the active participation of students. These demonstrations highlighted the real-world applications of theoretical knowledge.
- Hands-On Learning Through Games: Students participated in games designed to teach fundamental concepts of modern technology. Rewards, such as space-themed goodies, were distributed not only to those who answered questions correctly but also to those who displayed curiosity and the courage to ask questions.
- **Highlighting Women's Contributions**: Specific activities showcased inventions by women, emphasizing their role in shaping technological advancements and inspiring young girls to pursue careers in STEM fields.

• **Encouraging Inquiry**: Students were motivated to ask questions, with the message that curiosity is a cornerstone of innovation. Acknowledging when they did not understand something was framed as a positive step towards learning.

4. Key Messages Delivered:

- Learning and Curiosity: The most important lesson in school is to develop the ability to learn and nurture a lifelong curiosity for knowledge. The visits underscored the vital role of fostering curiosity and self-confidence among students, especially in the realms of science, technology, engineering, and mathematics (STEM). Students were encouraged to delve into their interests and follow their passions, with the understanding that a curious mind serves as the cornerstone for innovation and discovery.
- **Pursuit of Passion**: Students were encouraged to follow their interests, with the assurance that success and happiness come from doing what one loves. The visit aimed to inspire students to become future leaders in science, technology, engineering, and mathematics, empowering them to pursue their dreams and make a positive impact on the world. Students were encouraged to dream big, set ambitious goals, and work tirelessly to turn their visions into reality, recognizing that they have the potential to shape the future of technology and innovation.
- Women in STEM: Emphasizing the essential role of women in science and engineering, I shared personal experiences and highlighted how diverse perspectives enrich problem-solving in technical fields. A significant focus was placed on the role of women in STEM fields and the need for greater representation and participation. The visit underscored the invaluable contributions of women in driving technological advancement and innovation, while also highlighting the importance of encouraging young girls to pursue careers in science and technology.
- **Collaboration**: Stressing that the greatest human achievements rely on teamwork and the ability to work effectively with others. The importance of collaboration and diversity in driving innovation was emphasized, highlighting the need for interdisciplinary teamwork and the inclusion of diverse perspectives. Students were encouraged to embrace diversity and work together to tackle the complex challenges facing society, recognizing that innovation thrives in environments that celebrate difference and collaboration.
- **European Unity and Success**: Showcasing initiatives like Erasmus and Galileo as symbols of European innovation and cooperation. The visit showcased Europe's potential for innovation and technological advancement. Students were encouraged to take pride in Europe's rich history of innovation and to seize the opportunities available to them in shaping the future of technology on the continent.

- Value of Languages and Culture: Advocating for learning new languages to unlock better cultural understanding and broaden horizons beyond professional benefits. My personal experience was a fundamental element of the speech in both schools.
- **Protecting Innovation**: Highlighting the role of the European Patent Office in safeguarding ideas and fostering a culture of innovation. The value of intellectual property rights and patents in protecting innovation and fostering economic growth was emphasized. Students were introduced to the concept of patent protection and its role in incentivizing innovation, encouraging them to consider the importance of intellectual property in their future endeavors.
- Adaptability: Encouraging students to remain open to change and continuous learning, as most knowledge acquired today will evolve over time. The importance of lifelong learning and continuous personal growth was highlighted as essential elements for success in STEM fields. Students were encouraged to embrace curiosity and remain open to new ideas and experiences, recognizing that learning is a lifelong journey that extends beyond the classroom.

5. Impact on Students:

The impact of the visits was profound and evident through the students' enthusiastic participation and engagement. Key observations include:

- Heightened Interest in STEM: Many students expressed a newfound excitement for science and technology. Complex topics like relativity, satellite navigation, and atomic clocks sparked deep curiosity and inspired questions.
- **Broadened Perspectives**: Students showed keen interest in understanding how scientific innovation intersects with humanitarian careers like psychology, law, and economics in large-scale projects.
- **Inspiration to Dream**: The interactive sessions encouraged students to dream big and view challenges as opportunities for growth. The message of perseverance and open-mindedness resonated strongly.
- Interactive Learning: Games and demonstrations were particularly effective, with students actively participating and showing appreciation for the hands-on approach to learning.
- **Teacher Feedback**: Educators reported a noticeable boost in students' motivation and curiosity. They emphasized the importance of such visits in complementing classroom learning and igniting a passion for exploration.

The visits also demonstrated the power of personal storytelling in connecting with young audiences. Many students stayed back after presentations to ask further questions, indicating the depth of their interest. Teachers and administrators unanimously expressed their gratitude and enthusiasm for the program, requesting similar initiatives in the future.

6. Conclusions:

The visits to the Senior School Voorschoten and Senior School Leidschenveen were resounding successes. They provided an invaluable opportunity to inspire the next generation, promote the importance of STEM, and highlight Europe's role in fostering innovation and collaboration. The gratitude expressed by students and staff alike underscores the importance of such engagements in shaping the future.

Both schools have requested future visits, emphasizing the need to continue nurturing curiosity, creativity, and innovation among young minds. The experience reaffirmed the critical role of education in awakening dreams and inspiring lifelong learning. There is a clear consensus on the need for continued efforts to inspire and empower young minds in STEM fields, with the European Patent Office playing a crucial role in supporting such initiatives and driving innovation across Europe.

7. Pictures from both visits

Senior School Voorschoten (SSV) on December 17th 2024









Senior School Leidschenveen (SSL) on December 19th 2024



Example of some of the prizes given to students participating in the games (one of the several prizes given to female students). Every team got space bags and shirts and the captain and leader polo shirts with ESA related motives.