

Virtual Worlds Conference

Dassault Systèmes – Cambridge 2019



Executive Summary

The purpose of this report is to evaluate the effectiveness of the STEM Champion Dassault Systèmes Cambridge Conference in reaching its aims. These aims were to teach young students about STEM subjects and STEM-based careers using fun and engaging methods, as well to showcase to them the cutting-edge technologies that Dassault Systèmes develops and employs as part of their vast portfolio.

Twenty-seven students from two schools in Cambridgeshire attended the second “Virtual Worlds” themed conference hosted by STEM Champion and Dassault Systèmes. Engineering students from the University of Warwick and the University of Bath, and a recent Biomedical Science graduate from University College London led the sessions where they taught students about various STEM (Science, Technology, Engineering and Maths) topics, as well as careers.

The findings of this report show that the students had a very positive experience at the conference, particularly enjoying the interactive aspect of the various sessions. Ninety-six percent of the students expressed that they knew more about STEM than they did before the conference, and a similar proportion knew more about Dassault Systèmes and the company’s capabilities.

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Introduction

On Wednesday 18th December 2019, the STEM Champion Dassault Systèmes Cambridge Conference took place. Dassault Systèmes' Cambridge office was host to 27 students from two schools located in the county of Cambridgeshire – Bottisham Village College and Thomas Clarkson Academy.

The aim of STEM Champion is to tackle the ongoing UK STEM skills shortage by targeting the declining interest in STEM (Science, Technology, Engineering and Maths) among the youngest generation. STEM Champion's methods of doing so revolves around three key elements:

- ▶ Placing students in an engaging, expressive learning setting - conference-based learning.
- ▶ Having university students lead learning sessions, resulting in a “For Students, By Students” model.
- ▶ Placing emphasis on the exciting careers and industrial applications of STEM disciplines, as well as the theory.

Led by a theme of “Virtual Worlds”, the conference sought to teach the students about STEM disciplines and a variety of STEM related careers aided by Dassault Systèmes' technologies and employees. Students were separated into three pre-determined groups, which mixed students from each school, and participated in sessions where they were taught about STEM. University students from University College London, the University of Warwick and the University of Bath taught the sessions as Directors. Respectively, these Directors led sessions called Living Heart (Science session based on the Dassault Systèmes Living Heart Project), Robotic Mechanisms (Technology and Engineering Session based on Dassault Systèmes' SolidWorks Apps for Kids), and STEM Streak (Careers session based on STEM Champion's developing careers card game, STEM Streak). Each Director taught their content three times; once to each group of students. An additional role of the Directors was to observe the students and pick out the most enthusiastic, passionate and knowledgeable students to receive one of nine “Medals of Recognition”. There were also 3D printers running throughout the day to give the students an opportunity to view the modern technology of additive manufacturing.

This report aims to evaluate the effectiveness of the conference in achieving STEM Champion's goals of teaching STEM in a fun and engaging way.

Evaluation Method

To help to evaluate the event, quantitative and qualitative feedback was collected from the students in the form of surveys. Directors collected in completed student surveys during the last committee session so the students could give their thoughts on the day that they had just experienced. Interviews were also conducted with students, teachers and Dassault Systèmes employees throughout the day, so that each group could give their thoughts on the experience STEM Champion provides, as well as the importance of STEM education as a whole. This offered various perspectives on the day's events.

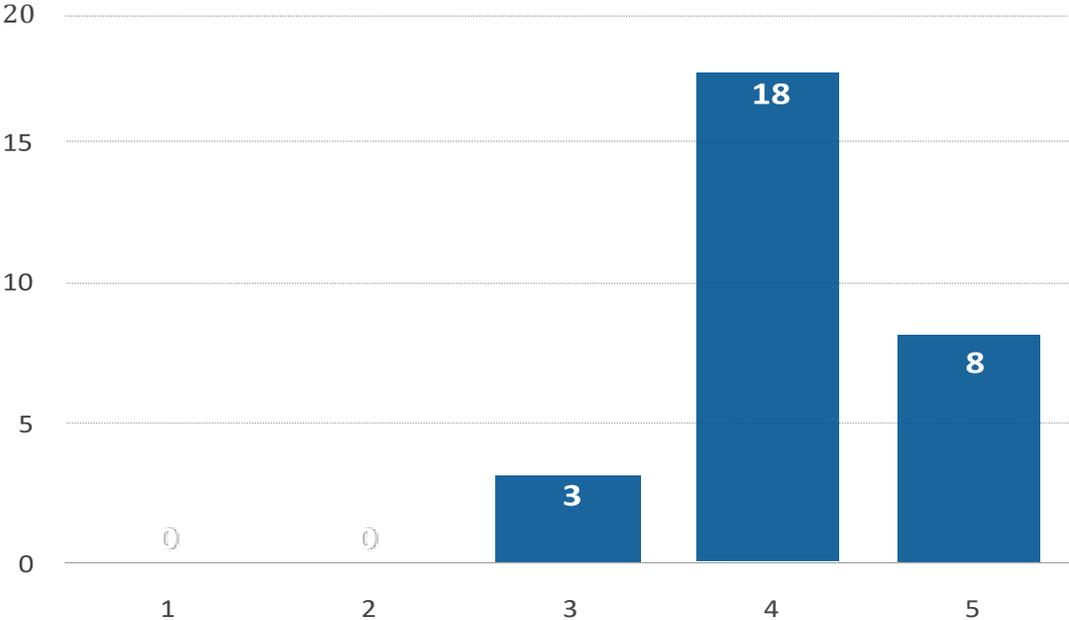
Findings

27 surveys were handed out to the students, of which all 27 responded to the qualitative questions as follows:

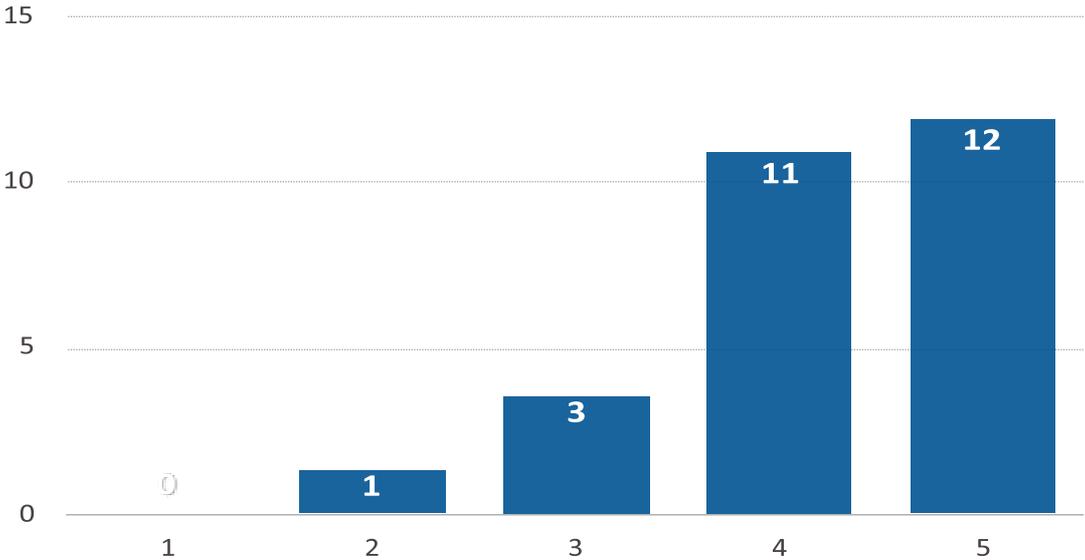
- **96%** (26) of the students knew more about STEM than they did before the conference.
- **74%** (20) of the students were interested in pursuing a career in STEM.
- **93%** (25) of the students preferred the experience of the conference over the traditional classroom experience.
- **96%** (26) of the students enjoyed the format of the conference.
- **89%** (24) of the students learned from the discussions with peers and mentors.
- **100%** (27) of the students found the session activities relevant and interesting.
- **96%** (26) of the students knew more about Dassault Systèmes than they did before the conference.

- **33%** (9) of the students would be interested in working in Dassault Systèmes.

Student responses when asked “On a scale of 1 to 5, with 5 being high, how much did you enjoy this conference?”

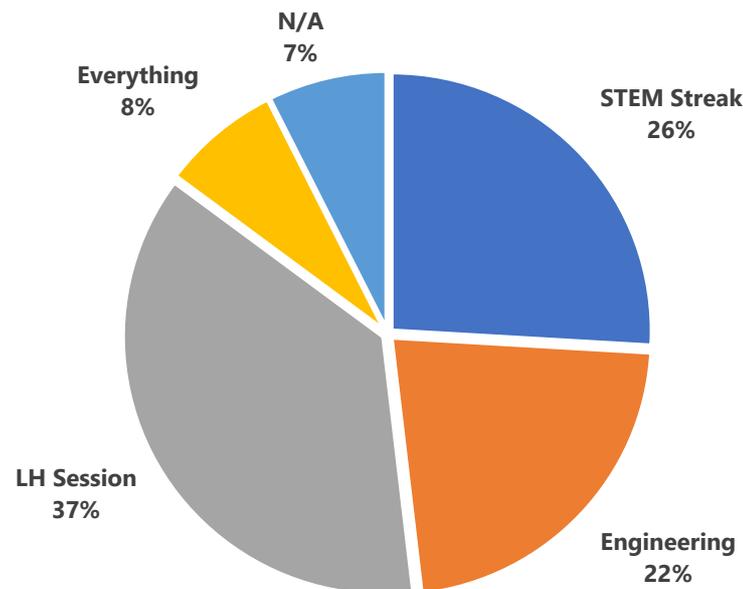


Student responses when asked “On a scale of 1 to 5, with 5 being high, how much would you like to participate in this conference again?”



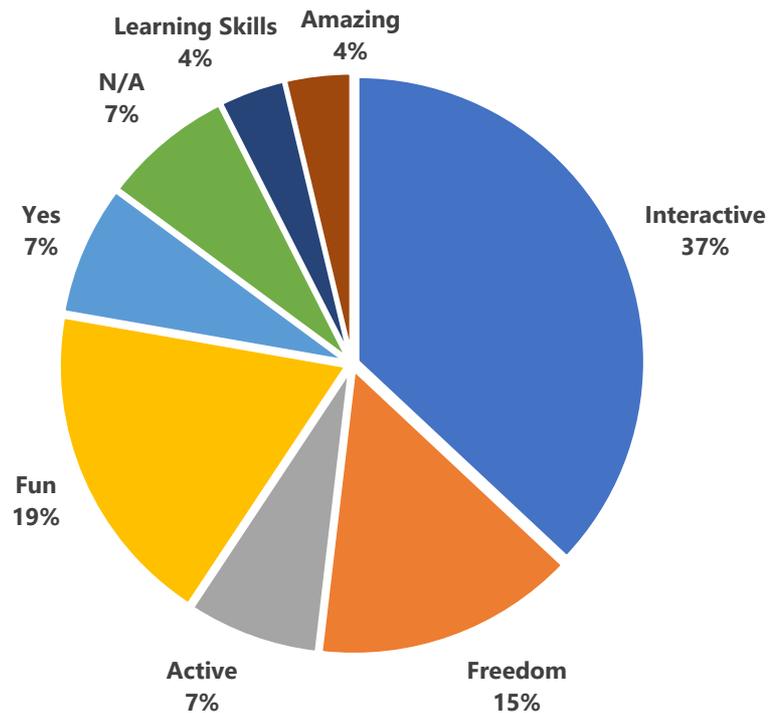
When students were asked about their favourite parts of the conference, the top responses were:

- Living Heart Session (Science) – **37%** (10 respondents)
- STEM Streak Session (Careers) – **26%** (7 respondents)
- Robotic Mechanisms Session (Technology and Engineering) – **22%** (6 respondents)



When students were asked how the conference was different to a classroom the top responses were:

- More interactive – 37% (10 respondents)
- More fun – 19% (7 respondents)
- Freedom – 15% (6 respondents)



Student quotes:

“It allowed me to learn creative and independent skills that we don’t normally get to learn in the classroom.”

“...I enjoyed all of it.”

Teacher quotes:

“This was an amazing opportunity. It’s the first time that any of these students have been able to engage with this kind of technology, and with how quickly technology is developing it’s crucial that they’re really aware of all the paths available to them for their futures.”

“A wonderful experience enabling young people to see real world applications of STEM.”

Dassault Systèmes employee quote:

“... children can start to see that they can change the world with technology, and then get inspired.”

Discussion and Recommendations

Results of the feedback analysis suggest that the conference's primary objectives were successfully met, with almost all the students benefitting from the fun pedagogical learning style of the conference (96% enjoying the format of the conference). Interactivity was pointed out as a major advantage over the traditional classroom learning, significantly aided by the use of Dassault Systèmes' technologies, the SolidWorks Apps 4 Kids, Living Heart and 3D printing. Future events should maintain this hands-on approach and look at including other technological resources that can be used to engage the students to the same degree.

Exposure to Dassault Systèmes proved to be a benefit of the event, with 96% of students having learned more about Dassault Systèmes. The career's element of the conference was successful with 74% of students indicating that they were more interested in pursuing a career in a STEM-related field, and a third expressing their interest in working with Dassault Systèmes specifically. A recommendation that can be drawn from this is that repeated exposure to the Dassault Systèmes portfolio will improve the talent pool capture pipeline.

Appendices

Appendix A

Students evaluation survey distributed at Virtual Worlds Cambridge Conference 2019.



Delegates' Survey

Year Group:

1. Do you know more about STEM than you did before this conference? Yes / No / Not Sure

2. Are you more interested in pursuing a career in STEM than you were before this conference? Yes / No / Not Sure

3. Did you prefer the experience of this conference over the traditional classroom experience? Yes / No / Not Sure

4. Did you enjoy the format of this conference? Yes / No / Not Sure

5. Do you think you learned from discussions with peers and mentors? Yes / No / Not Sure

6. Do you feel that the session activities were relevant and interesting? Yes / No / Not Sure

7. Do you know more about Dassault Systèmes than you did before the conference? Yes / No / Not Sure

8. Would you be interested in working for Dassault Systèmes in the future? Yes / No / Not Sure

9. On a scale of 1 to 5, with 5 being high, how much did you enjoy this conference?

1 2 3 4 5

10. On a scale of 1 to 5, with 5 being high, how much would you like to participate in this conference again?

1 2 3 4 5



What was your favorite part of the conference?

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.....

Was there anything you did not enjoy about the conference?

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.....

How do you think this conference provided a different experience than the traditional classroom environment?

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.....

Did you enjoy playing STEM Steak? Why/why not?

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.....

How do you think STEM Streak could be improved?

.....
.....

I am aware that by filling and handing back this survey, I am giving STEM Champion permission to use some of the content/data anonymously to further research and/or funding proposals. If I **DO NOT** give permission, I will tick the below box:

I **DO NOT** give permission to the above

