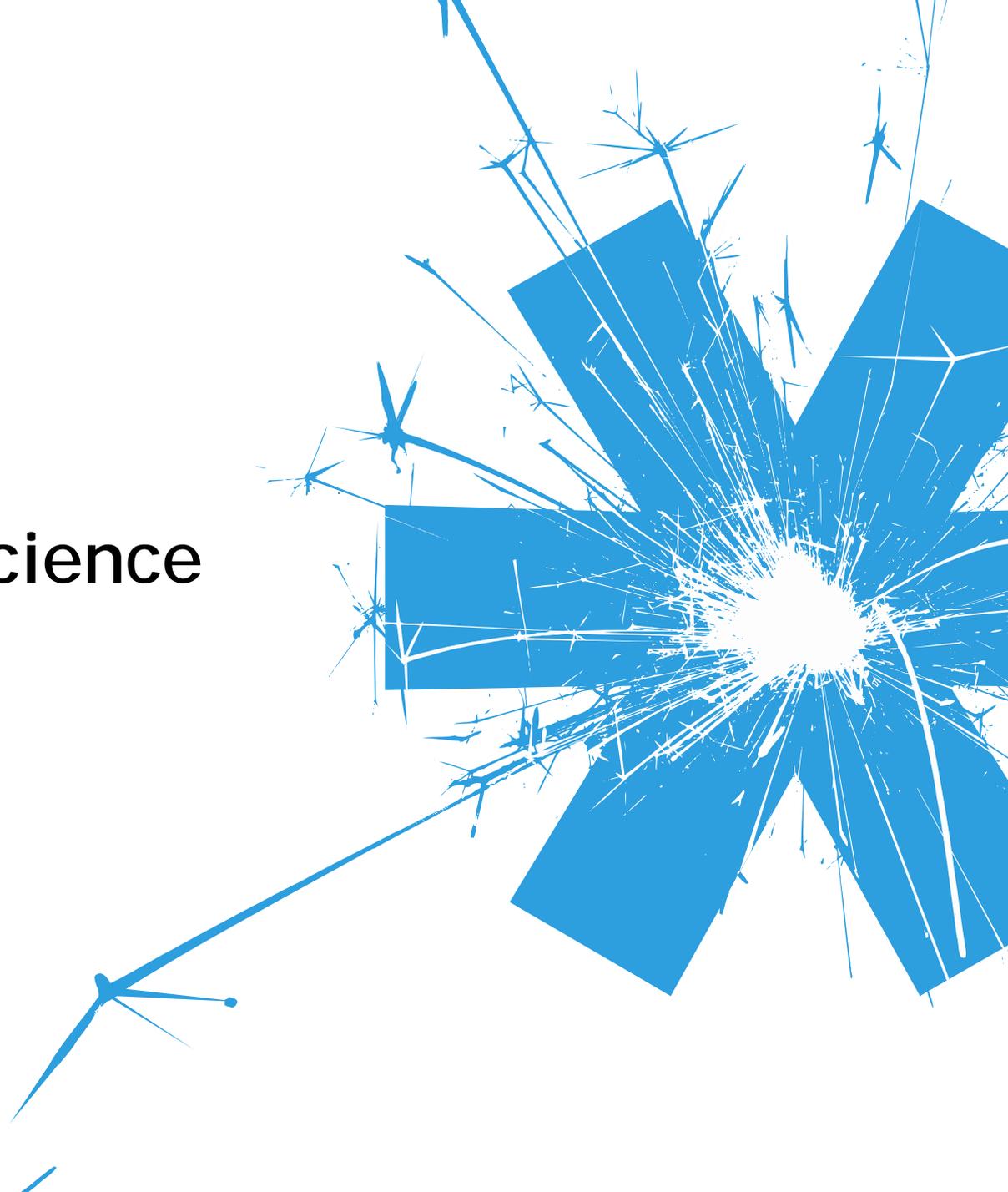




Engaging non-science students

ASTC 2017



The Challenges

2017-06-17



Science for non-academic students

- low engagement in school
- mandatory course (i.e. not valued)
- "science"

What's a teacher to do?

Solution:

"Let's get the students to make science centre exhibits"

- Initial leadership was 2 individual educators:
 - keen, inquiry-based
- Contacted TELUS Spark in 2014
- 3 schools, 500 students

- *"... figure it out as we go."*

The Program

2017-06-17



Community Collaboration

Key components of an Exhibit:

- science concept/phenomenon to illustrate
- communication goals
- design concepts
- technical capabilities
- logistics

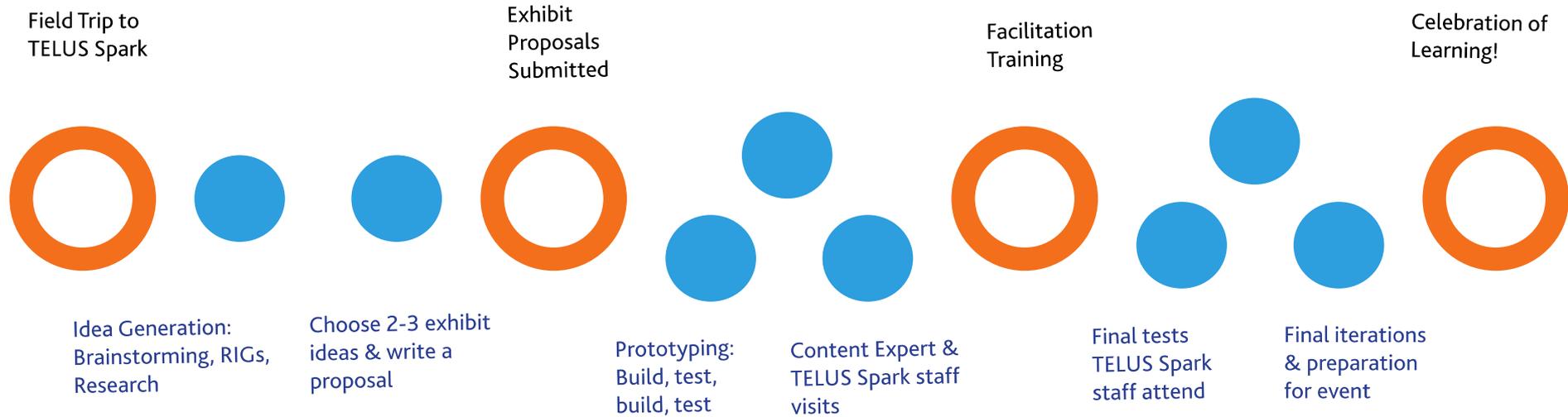
Program design

- 350 students per semester (i.e. 2 times per calendar year)
- 3 schools - a total of 12 classes
- Grades 8 - 11

Collaboration

- Classroom teachers
 - curriculum connections
 - student relationship and team management
- TELUS Spark
 - logistics
 - exhibit communication and design
 - celebration
- Volunteers
 - technical skills and mentoring (science, engineering, electrical, communications, shop support) - 100 hours per semester
- University of Calgary
 - Professors and Graduate students as mentors

Process



The Results

2017-06-17



Celebration: their exhibits on display



2017-06-17

Pride



Collaboration



Community



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Science, engineering mentors help high school students bring ideas to life



Results of collaboration with TELUS Spark go on display Dec. 9

By Erin Guilteneane

December 7, 2015



The Celebration of Learning at TELUS Spark showcases the scientific ingenuity of students taking part in the Prototype Project. Photo courtesy of TELUS Spark

Feedback - Students

- I didn't just learn about mechanical systems, I also learned about teamwork and how to be a good leader and how to persuade people to visit your exhibit.
- This has definitely has made my interest for science a lot bigger and I want to get more involved with things like mechanics and robotics
- *No, as the project was quite stressful. We were quite successful, but the amount of time that we had to devote to completing the project was a bit unnecessary, as no awards were given, and the project was not worth many marks.*

Feedback - Teachers

- [Students] being able to walk away saying that they created something (working or not) and look at the failures they encountered as a chance for improvement instead of a dead end.
- Increased engagement, attendance, and student success in school
- It was an innovative way to have the students think about something other than the end results.

"...look at the failures they encountered..."



2017-06-17

TELUS
Spark*