**FIRST® LEGO® League Explore Ignites Early STEM Engagement**

**Hands-On Classroom and After-School Programs**

In FIRST® LEGO® League Explore, teams of students ages 6-10 focus on the fundamentals of engineering as they explore real-world problems, learn to design and code, and create unique solutions made with LEGO® bricks and powered by LEGO® Education SPIKE™ Essential.

Learn more about FIRST LEGO League by visiting www.firstlegoleague.org.

**FIRST LEGO League Explore Class Pack**

Explore can be implemented through FIRST Class Packs, which includes curriculum for educators and facilitators to guide their students through 12 sessions designed to introduce the fundamentals of engineering through real-world problem solving.

**Explore Implementation Study**

From 2019-2022, FIRST worked with the Lawrence Hall of Science, UC Berkeley1 to evaluate the FIRST LEGO League Explore and Challenge programs. Goals of the evaluation included understanding impact the programs had on students and teachers. This evaluation was funded by the LEGO Foundation.

**KEY FINDINGS**

Teachers and facilitators noted positive student outcomes in core FIRST program areas, including:

**Students have gains in STEM Outcomes**

- Interest in STEM: 100%
- Confidence in STEM: 100%
- Programming and coding skills: 97%
- Understanding STEM content: 97%

**Students have gains in teamwork and problem solving**

- Ability to work with others: 100%
- Ability to make a decision as a team: 97%
- Ability to accept feedback or criticism: 97%
- Ability to adapt, improve, and modify ideas: 97%

**Students reported increased interest in robotics and programming**

- Robotics: 78%
- Programming: 71%

---

At the end of the program, students have gains in creativity:

<table>
<thead>
<tr>
<th>IMAGINATIVE THINKING</th>
<th>100%</th>
</tr>
</thead>
<tbody>
<tr>
<td>COMING UP WITH UNUSUAL, UNIQUE, OR CLEVER IDEAS</td>
<td>100%</td>
</tr>
</tbody>
</table>

“…Class Pack provides [the idea] that robotics is not just for most students, but for all students. So every kid can feel that they are worthy to work with [this] equipment.”
— Teacher

At the end of the program, teachers feel more prepared to:

- TEACH STUDENTS HOW TO PROGRAM/CODE | 89%
- CONNECT ACTIVITIES WITH STEM CONTENT | 84%
- LEAD YOUTH THROUGH THE CHALLENGE COMPONENTS | 86%

At the end of the program, teachers feel more confident in:

- TEACHING STEM | 88%
- USING PROJECT-BASED LEARNING TO TEACH STEM | 87%
- MAKING CONNECTIONS BETWEEN STEM CONCEPTS AND REAL-WORLD PROBLEMS | 91%
- TEACHING ABOUT PROGRAMMING/CODING | 91%

“…I learned that you can be an inventor, scientist, you can build things, you can listen to everyone’s ideas. Just be you.” — Explore Youth

Learn more at firstinspires.org/impact

FIRST® and the FIRST® logo are trademarks of For Inspiration and Recognition of Science and Technology (FIRST). LEGO® is a trademark of the LEGO Group. FIRST® LEGO® League is a jointly held trademark of FIRST and the LEGO Group. ©2023 FIRST and the LEGO Group. All rights reserved. FE006