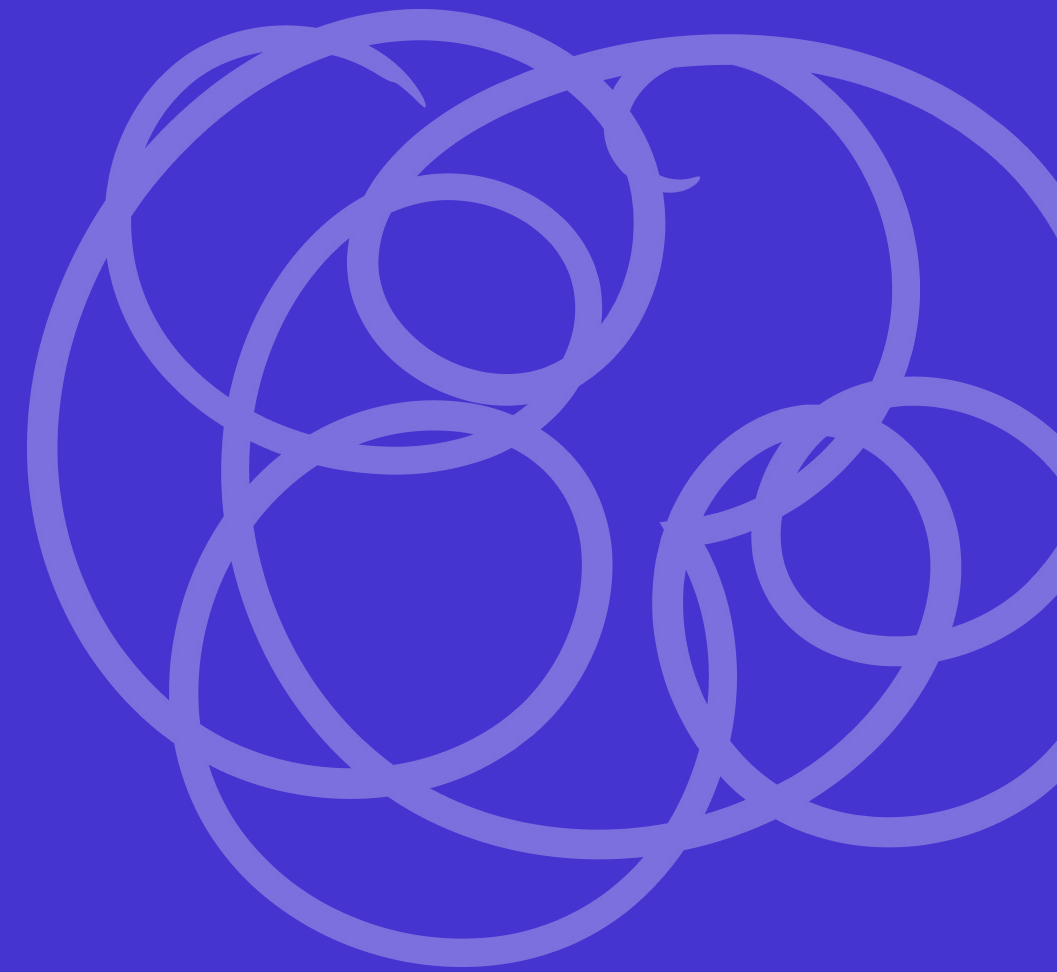

Dreams for Schools and Breakthrough San Juan Capistrano:

Student Outcomes Data Analysis

Report Overview

- 01. General Information
 - 02. Evaluation Procedure
 - 03. Theory of Change
 - 04. Evaluation Results
 - 05. Data Sets
 - 06. Student Testimonials
 - 07. Class Photos
-

General Class Information



DFS Workshops:

Breakthrough SJC students attended the following DFS STEAM workshops:

- Website Development
- Arduino
- Mobile App Development

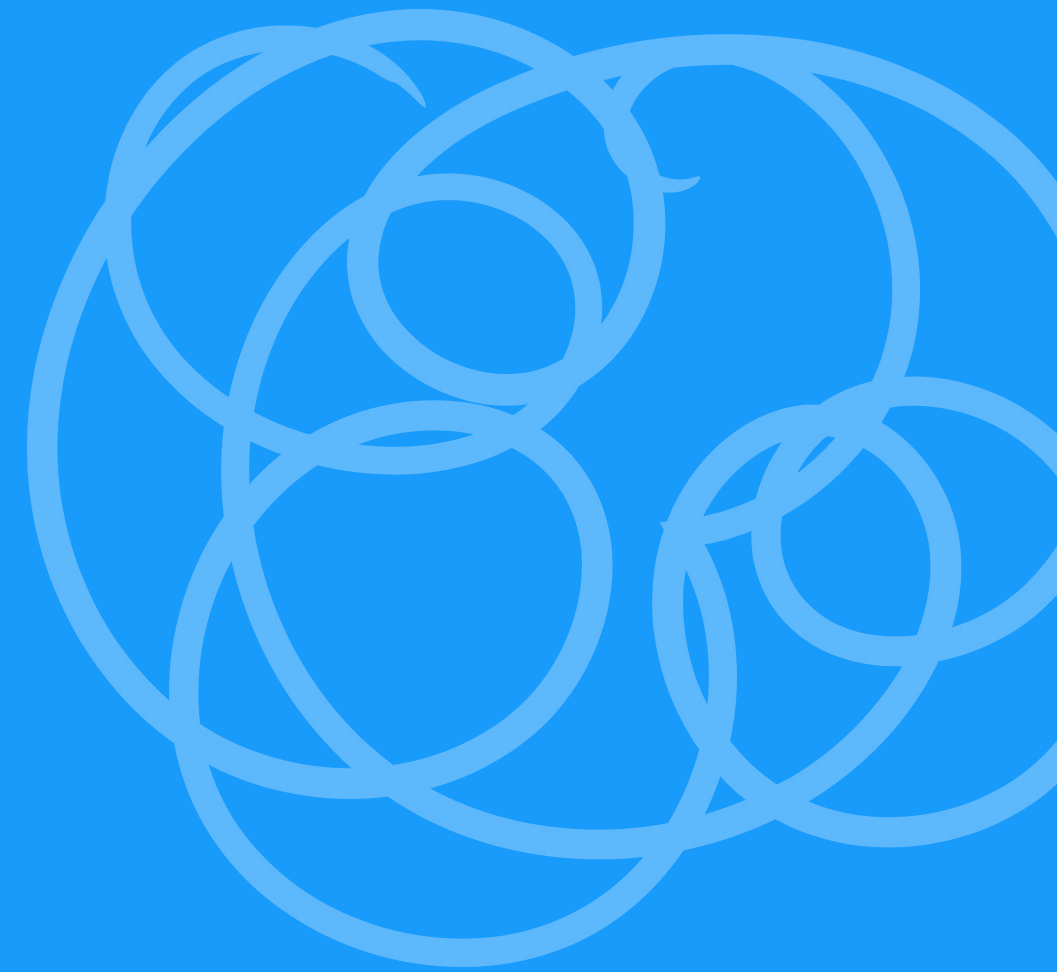
Workshop Attendance:

Instruction took place from January 8, 2024 – February 14, 2024.

- 7th grade students attended Mondays
- 8th grade students attended Wednesdays

Students attended a total of 6 workshops. Workshop curriculum switched every 2 weeks.

Evaluation Procedure



Evaluation Procedure:

- DFS provided Breakthrough SJC with 2 surveys to measure student outcomes.
- These surveys were taken during the first and last week of class
- Both surveys contained STEAM content questions as well attitudinal questions toward coding and engineering, grit, creativity, and mentorship.

Evaluation Procedure:

- Assessments consisted of multiple choice, ordinal scale, and open response questions
- Once student data was received, all questions were coded and analyzed.

Theory of Change



Theory of Change

At the end of the rotation, we expected to see students achieve academic achievement and growth in STEAM competency through the following activities:

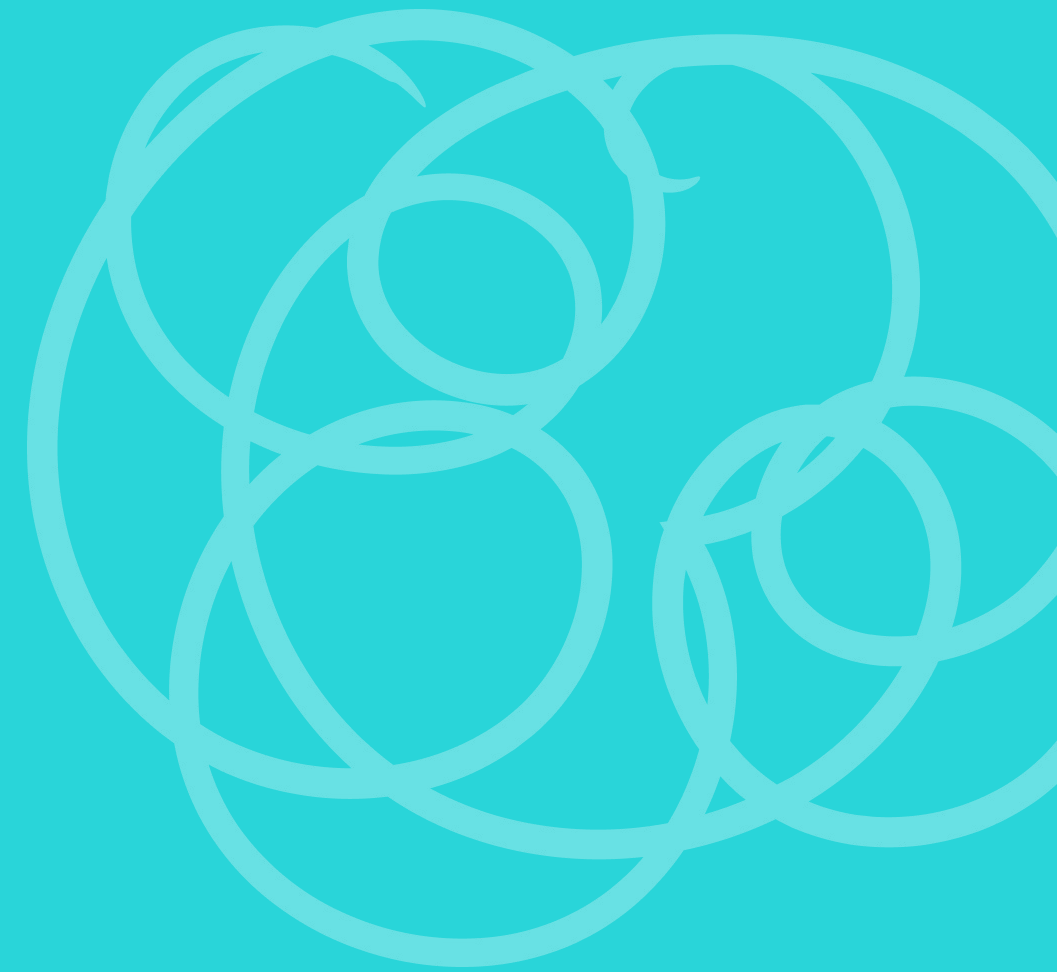
1. Implementation of STEAM and engineering instruction in a classroom setting by qualified DFS Instructors.
2. Hands-on learning for students through Coding & Engineering projects that offer students ownership over their own work and increase both exposure as well as access to STEAM career pathways.
3. Mentorship by qualified DFS Instructors trained on building rapport with students and developing a growth mindset in students.

Theory of Change

At the end of the rotation, we also expected to see the following outcomes:

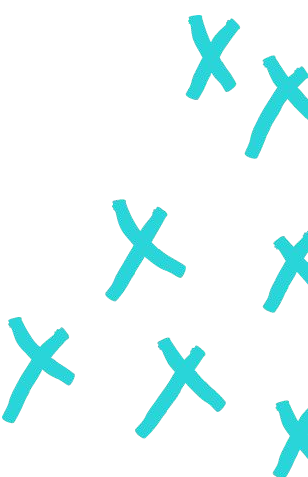
1. General awareness and knowledge of basic engineering and coding concepts.
2. Students' ability to ask specific program related questions.
3. Improved attitudes towards STEAM careers and career pathways.
4. Increased confidence and self-perception of creativity and grit.

Evaluation Results

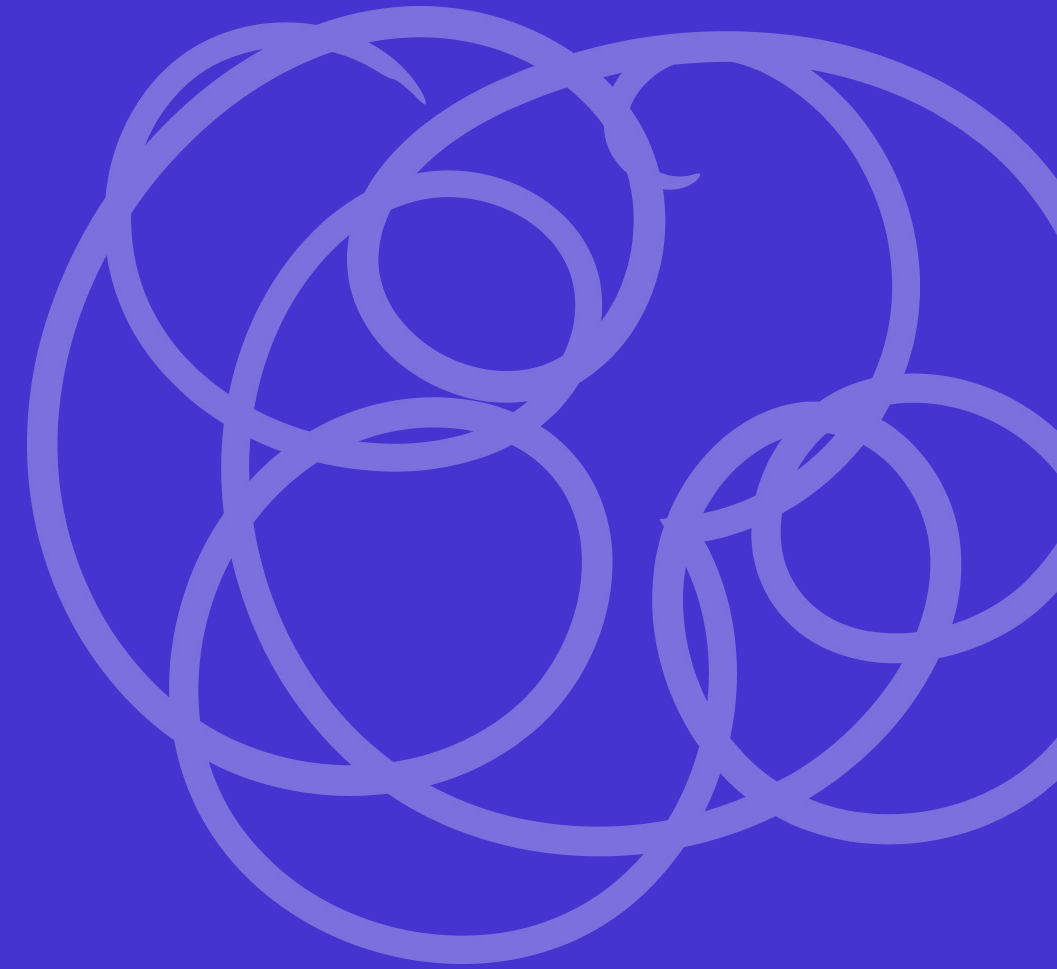


General Evaluation Results

- 87% of the students felt that the topics they learned were beneficial for their future
- Students improved their ability to focus on a single coding or engineering goal in the classroom by 6.4%
- Student creative self-concept increased by 4.3%
- When students were asked, “Did you enjoy learning from the DFS instructors?” 91% said yes



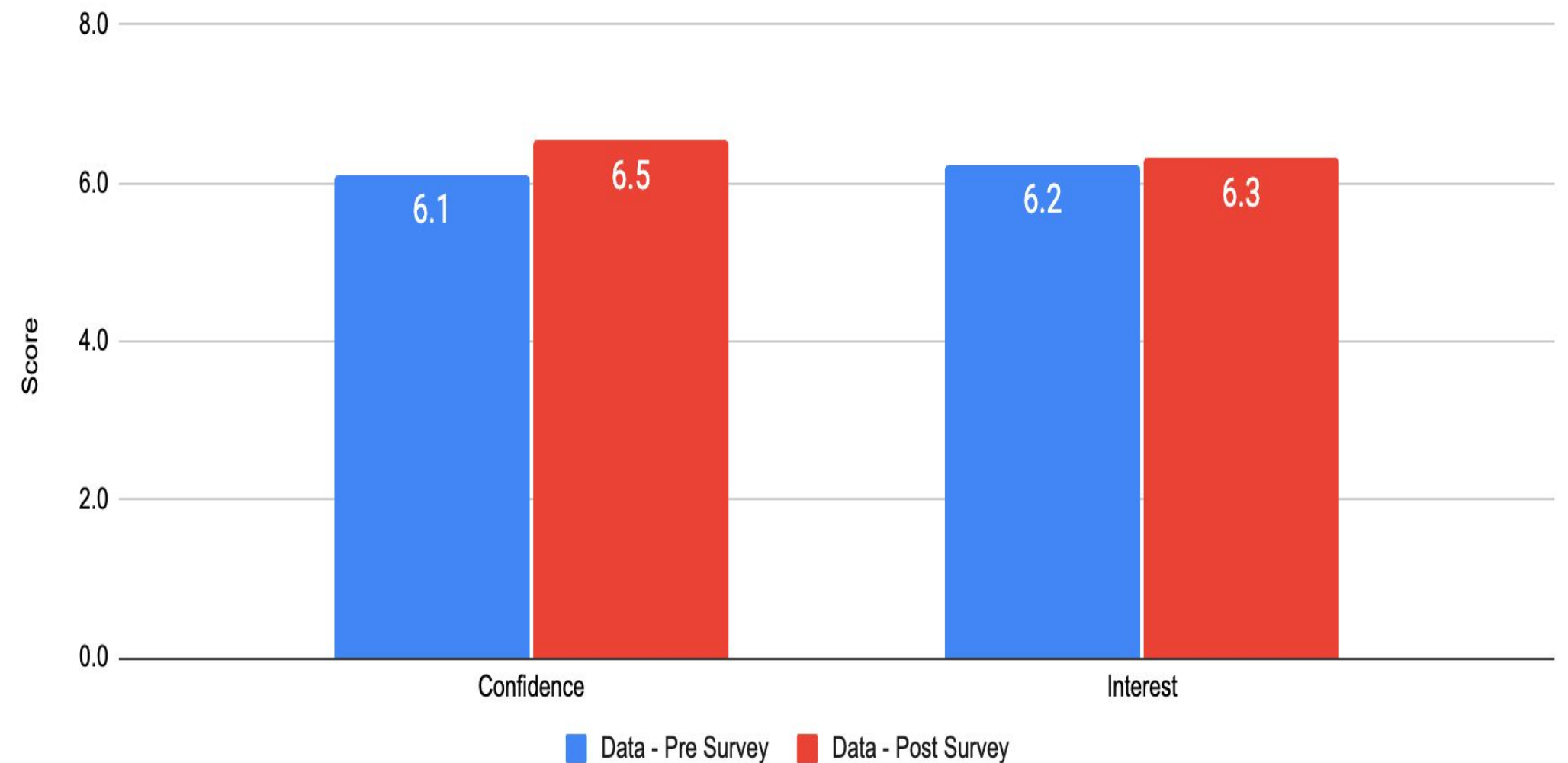
Data Sets



Data Set 1: STEAM Assessment >>>

Student attitudes toward increased overall across both factors from pre to post assessment. On average, there was a 4.1% increase per factor in the post responses of students' attitudes towards STEAM across all factors.

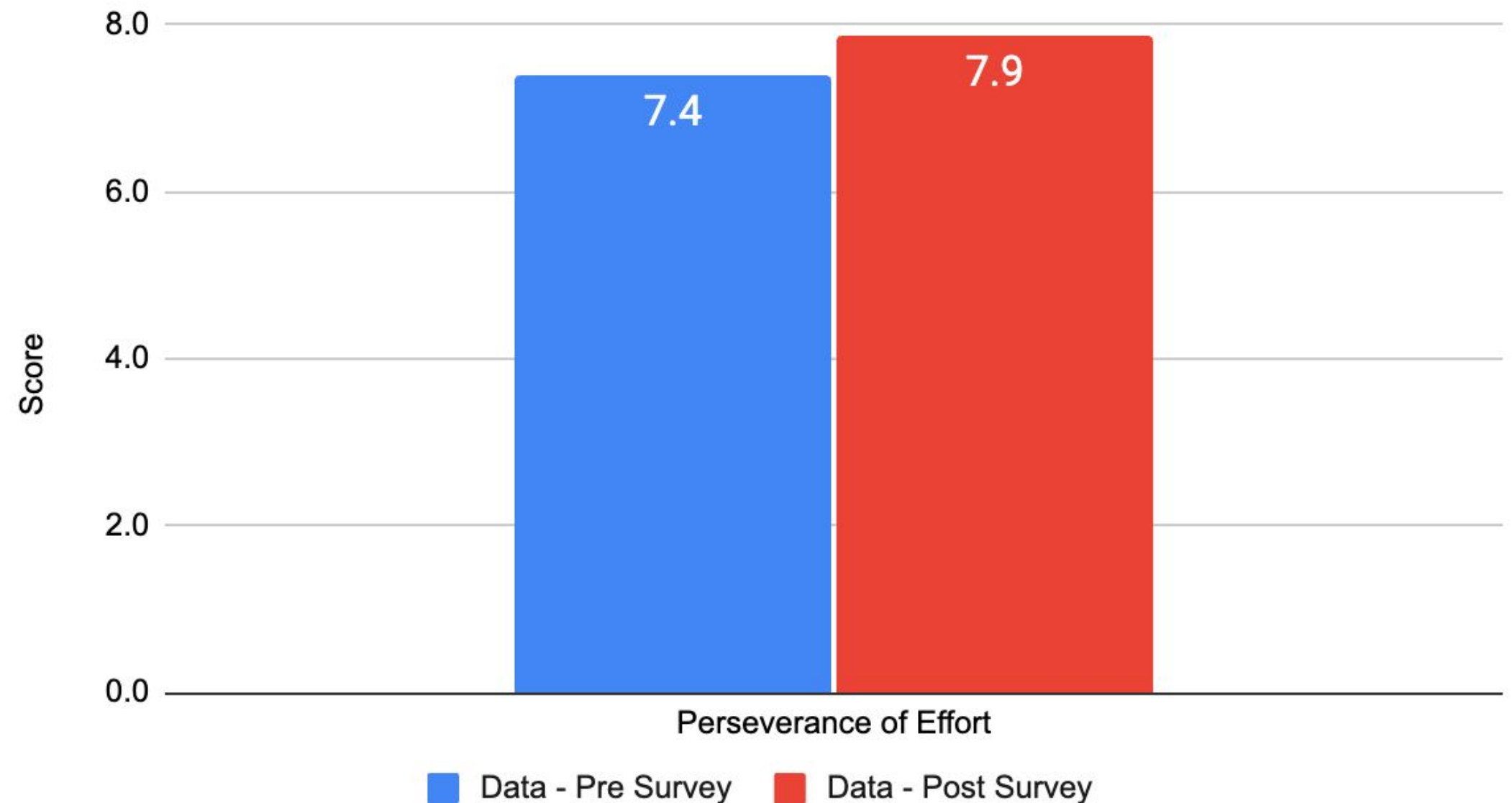
STEAM Assessment



Data Set 2: Grit Assessment >>>

In the perseverance of effort factor, we saw a 6.8% increase where students completed tasks and boosted their self-confidence knowing that they're capable of moving through setbacks.

Grit Assessment



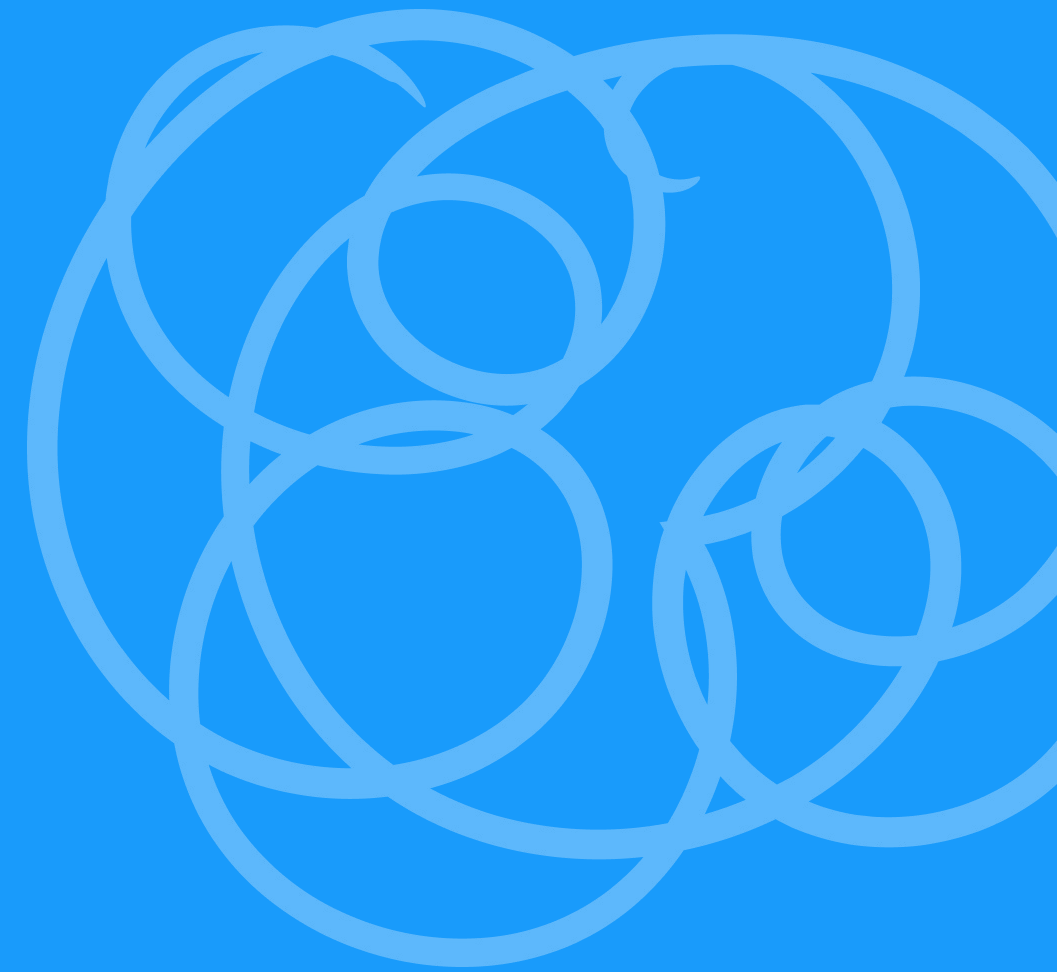
Data Set 3: Creativity Assessment >>>

Regarding creativity, we saw a 5.4% overall increase in creative personal identity which shows a strong resonance with identifying as a creative individual with creative abilities.

Creativity Assessment



Student Testimonials



Student Testimonials

The following quotes were taken from the open response section of the post survey:

- "I would like more opportunities to take class[es] like these because I get to learn new things in order to know them for my future career."
- "I would take more opportunities to take classes like these because it would expand my knowledge and it could be useful in the future."
- "I had fun doing something that we did with a group and then trying to use it... I would like to take another class and have opportunities to learn more."

Pictures:

<https://photos.app.goo.gl/MRtJWcoNJHSZrw7y6>