

2023-2024 Workforce Development and Career Exploration Projects

E-CAP

Beyond School Bells
Goal Alignment



Quality



Sustain



Policy



Programming

The Environmental Conservation Action Program (E-CAP), launched in 2021, is a programming hub from which BSB coordinates, supports, and expands environment and conservation-oriented learning experiences for NE youth. Based on research showing young people care about the environment and want to act on their environmental concerns, E-CAP creates intentional connections that inspire, excite, and engage students through gardening and food systems experiences, local resource management, and educational and career opportunities.

The E-CAP hub has allowed BSB to elevate and connect meaningful and impactful experiences across students' K-12 ELO educational pathways. The project focuses on three branches of activities:

Food Systems

Conservation

Outdoor Education

In 2024, BSB provided support to E-CAP grantees in the following project areas:

FOOD SYSTEMS

- Invested in **more than 10** partner programs' afterschool gardens, hydroponic systems, or engagement with local producers via mini-grants, summer learning expansions, and year-round project support

DEVELOPING SERVICE LEARNING

In 2024, BSB was selected by the National Youth Leadership Council (NYLC) as one of four statewide networks to develop service-learning strategies for afterschool programs. In Year 1 of its NYLC-supported work, BSB engaged more students in the development and sharing of E-CAP's service-learning strategies and increased opportunities for service learning within its food systems and conservation programming strands.

- Added a service learning framework
- Promoted student leadership and ownership via project-based learning
- Met communities where they were along their food systems journeys
- Focused programming to reflect local context and partnership opportunities. Examples included:

Lincoln: Established the Freight Farm at The Career Academy/Southeast Community College, engaging high school students during and after school hours. Partnered with Southeast Community College and UNL's Department of Environmental and Sustainability Studies to lead food systems activities connected to the Freight Farm.

Broken Bow: Combined student leadership with Farm to School resources, connecting learning to local agriculture.

Red Cloud: Expanded their edible schoolyard initiative with youth-led projects that promoted hands-on learning and community engagement.

CONSERVATION

- BSB reinstated its full-scale **Conservation Management Summer Internship**, introducing youth to conservation careers and professionals across Nebraska. In Summer 2024, the program supported two cohorts and expanded partnerships to include new sites such as Meadowlark Hearth Organic Farm in Scotts Bluff County, Agate Fossil Beds National Monument, and the North Platte NRD.
- Through its partnership with the **National Youth Leadership Council (NYLC)**, BSB deepened the program's service-learning focus, helping students apply field-based knowledge to conservation projects in their home communities. Participants explored pollinator gardens, habitat restoration, and peer engagement in local conservation efforts.
- Additionally, new conservation education materials and activities were developed in collaboration with the **Center for Great Plains Studies** and **Spring Creek Prairie Audubon Center**, expanding access to high-quality, place-based learning resources.



PROJECT HIGHLIGHT: LINCOLN NORTHEAST HIGH SCHOOL

BSB's youth leadership and service-learning model empowers high school students to identify community challenges, design creative solutions, and implement them through afterschool partnerships—building skills in leadership, public speaking, project management, and problem-solving.

In 2024, students at **Lincoln Northeast High School** led a standout project focused on educating peers about local food systems and reducing food waste. Youth engaged in hands-on learning using a **FarmBot**, a high-capacity **hydroponic tower**, outdoor garden beds, and composting systems. They also participated in **NASA's Plant the Moon Challenge**, experimenting with growing plants in simulated lunar soil.

OUTDOOR EDUCATION

- Introduced the Energy Independence club with resources to connect youth to local energy careers like solar and wind developments and future connections to post-secondary education and training
- Empowered youth across the state to contribute to the design and use of their outdoor spaces, including gardens, outdoor classrooms, tree plantings, and activities
- Provided summer grants to build outdoor gardens and classrooms, including TMC Labs-based activities to instigate and support school-wide outdoor education
- Provided professional development support and promoted access to shared resources from our state and national partners

Engineering Pathways

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ENGINEERING PATHWAYS – YEAR 1 PILOT

During the first-year pilot, students from four rural communities explored engineering design thinking, near-peer mentorship, postsecondary pathways such as the Peter Kiewit Foundation Engineering Scholarship, and potential engineering careers.

Crete: The Cardinal Community Learning Center expanded its Engineering Pathway programming from early elementary (K–2) to include intermediate (3rd grade). In the fall, a new Site Coordinator hired in Summer 2023 introduced a project-connected engineering club at the middle school.

Scottsbluff: The afterschool program partnered with the high school math club, whose leader

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This project has opened our students to think about STEM careers they may like to investigate in the future.

The Engineering Pathway project is meaningful to our students who are teaching this project because they get to share their passion with the younger students. Our younger students then get to share all of their experiences with their families.

– Program Directors

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PROGRAMMING HOURS	Fall 2023	Spring 2024
Elementary	59	50
Middle School	34	20
OLDER YOUTH SUPPORTED	Fall 2023	Spring 2024
High School	15	16
College	5	2

ensured the participating high school students were prepared and engaged to lead younger youth in engineering activities. The older youth also attended weekly online mentoring sessions with UNL engineering students, coordinated by Nebraska 4-H Extension. The program hosted a family engagement night where students and families explored engineering careers together through hands-on STEM activities.

Valentine: All elementary afterschool students participated in Engineering Pathway programming designed to increase awareness of engineering and related careers. Activities highlighted agricultural engineering and demonstrated how engineering impacts everyday life.

Broken Bow: Despite a leadership transition and the program changing ownership, the site delivered a strong summer and fall semester of engineering programming.

Engineering Pathways programs engaged **320** unique elementary and middle school students during the 2023-2024 school year.

ENGAGING FAMILIES IN ENGINEERING

Programs hosted **5 family events** in the fall, with **200 families** attending. In the spring, Engineering Pathways programs offered **3 events**, and **130 families** attended.

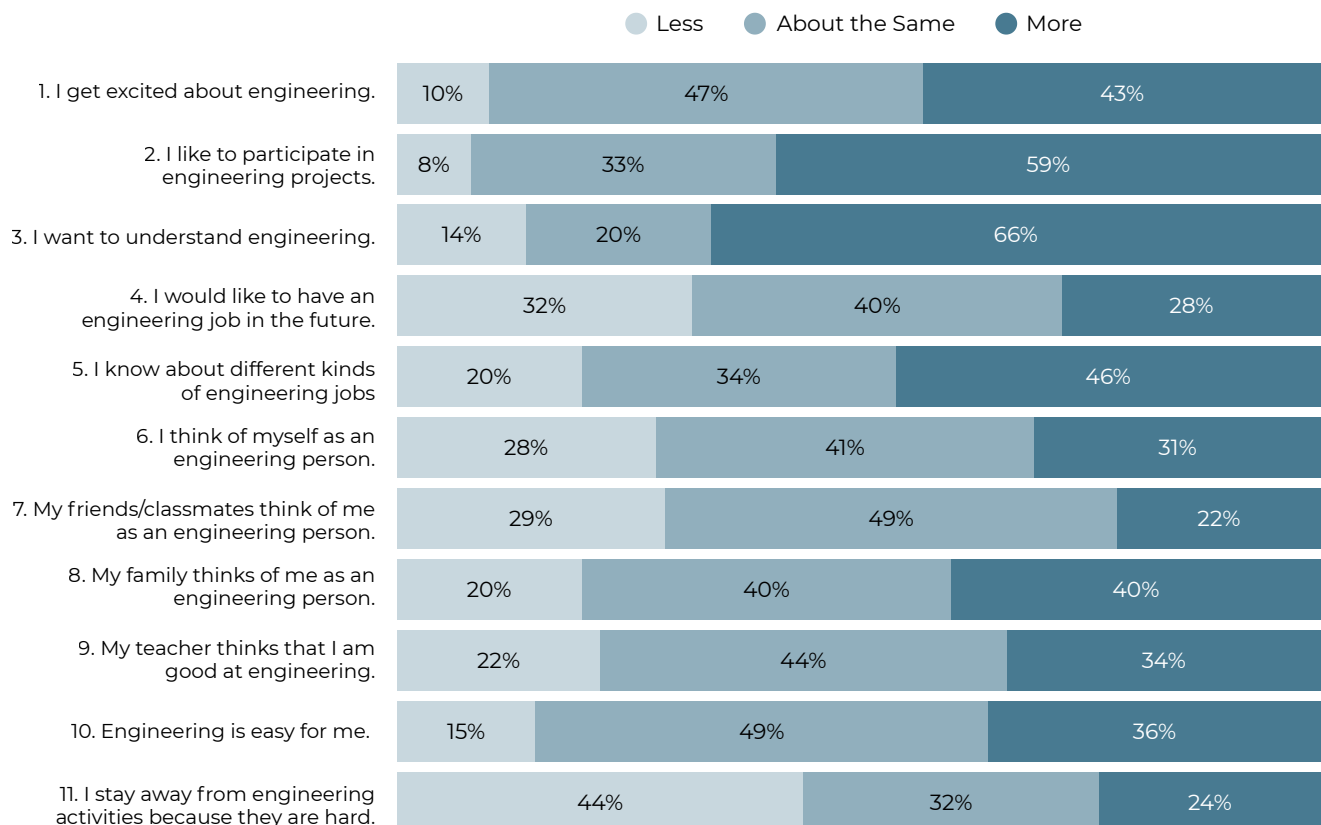
“The highlight of our spring program was the family engagement night. High School students led various activities focused on different career fields in engineering. Elementary and middle school students were able to complete each of these activities with their families all while showing their families what they have learned.”

“We provided all afterschool elementary program families with a step-by-step walkthrough of the engineering design process in relation to building a gingerbread house and also provided gingerbread house kits to each family to practice the engineering design process as a family at home.”

STUDENT SURVEY OUTCOMES, GRADES 5-8

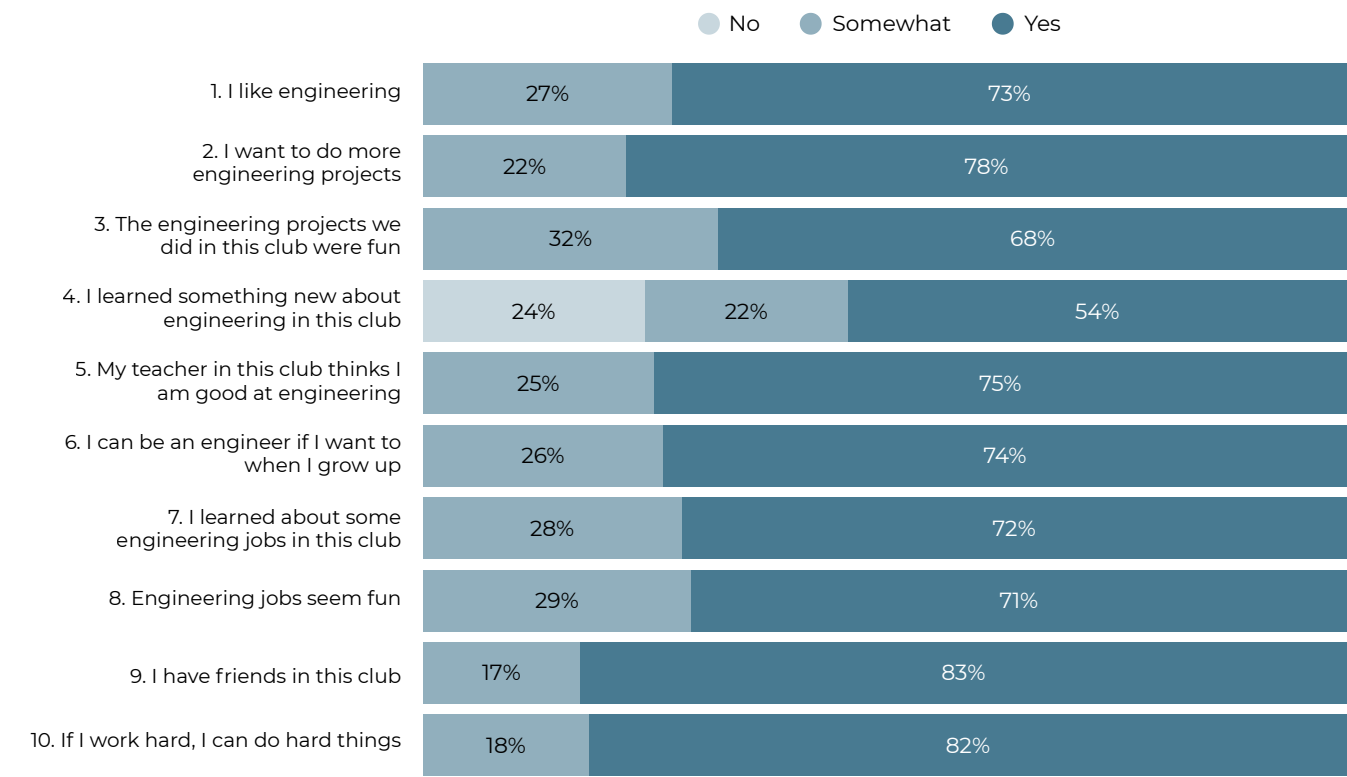
During the first year of engineering programming, two different surveys were piloted with youth. In fall 2023 semester, students in grades 5-8 completed the CIS-Engineering Survey, a retrospective post-participation tool developed by Partnerships in Education, Afterschool, and Resilience (PEAR). Youth were prompted to think about **how they felt at the end of the engineering program, compared to how they felt at the beginning of the program**, about various elements of engineering. For example, in item 1 below, 43% of grades 5-8 youth reported feeling more excited about engineering after the program than they were before the program.

Fall Student Survey, Grades 5-8 (n=50, 71% return rate)



In the spring 2024 semester a non-retrospective post survey was administered to students in grades 5-8 near the end of the engineering programming session.

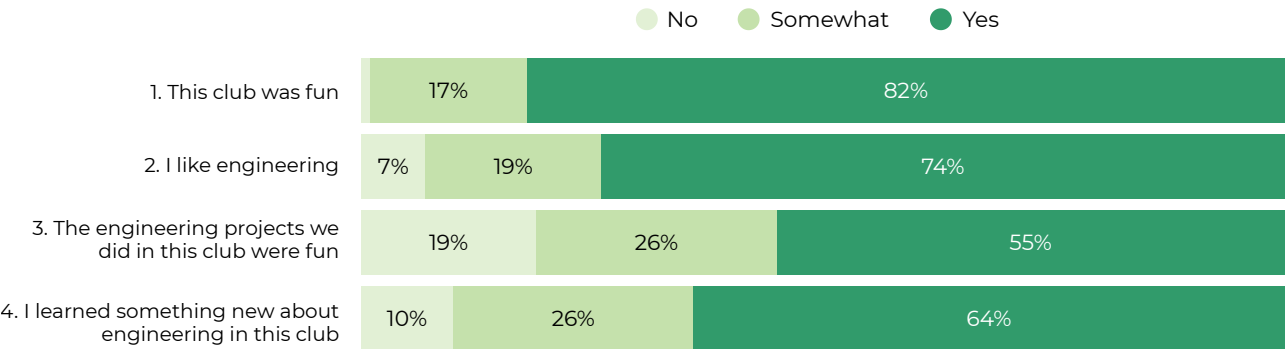
Spring Student Survey, Grades 5-8 (n=109, 59% return rate)



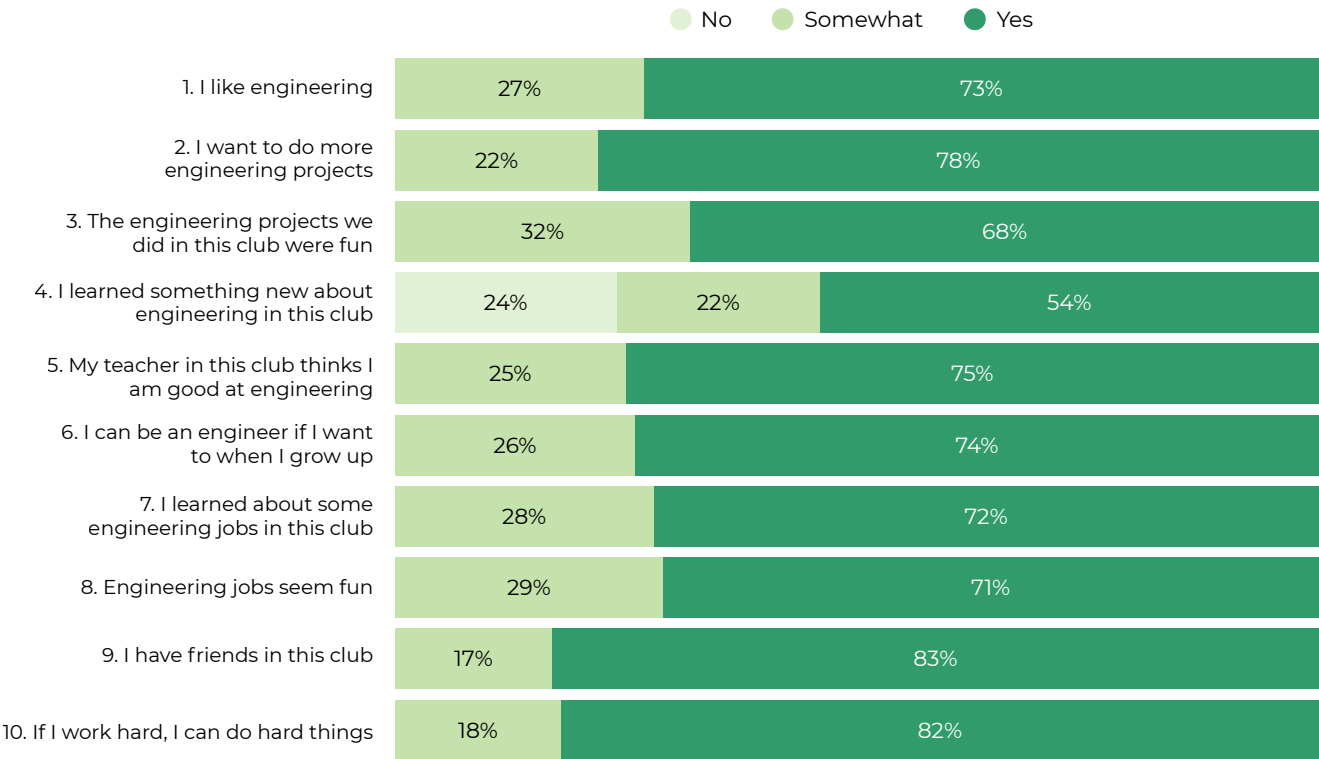
STUDENT SURVEY OUTCOMES, GRADES 1-4

In Fall 2023, students in grades 1–4 completed a short survey about their engineering club experiences. The Spring 2024 survey expanded to include attitudes toward engineering and 21st-century skills. Across both surveys, most students said they liked engineering and enjoyed the projects, with more students finding the activities fun in spring (68% vs. 55% in fall). The “learning something new” item received the most “No” responses in both surveys, suggesting future support should focus on formative assessment and differentiation strategies to build on students’ prior knowledge and engage all participants.

Fall Student Survey, Grades 1-4 (n=160, 72% return rate)



Spring Student Survey, Grades 1-4 (n=109, 59% return rate)



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