NAC 2024 Talking Points

June 25, 2024

START THE MEETING

Facilitator starts the meeting

- Everyone introduces themselves briefly with: Name, Grade, School, Team, Role on Team (make eye contact, pass business card)
- We are here representing <LIST ALL TEAMS AND THEIR SCHOOLS/CITIES>, <*FIRST* Robotics and/or VEX Robotics/REC Foundation> and the Student Association for STEM Advocacy.
- Each person who will be speaking during the meeting introduces themselves (Name, Grade, Position).
- Thank you for meeting with us and thank you for <specific things that you can thank them for such as: supporting last appropriation that increased Title IV-A funding (if they voted for it), visiting your school, attending a competition>.

ABOUT SASA

Let's start with some background on the Student Association for STEM Advocacy, or SASA:

- We are all members because we want to further, grow, and expand STEM advocacy efforts nationwide federally and within each state.
- SASA's mission is to educate, engage, and mobilize students to promote the expansion of and access to STEM programs, especially to underserved and underrepresented populations which tend to be really rural areas and really urban areas.
- SASA represents robotics students and teams from the largest extracurricular robotics programs, including *FIRST* and VEX/REC Foundation who reach more than 1.75 million students worldwide.

ABOUT ROBOTICS

Let us tell you about <FIRST and/or VEX/REC>:

- *FIRST*
  - Started 31 years ago to inspire kids to become STEM professionals.
  - Adopted sports model and created four programs (briefly describe each).
    - FLL Discover (ages 4-6), FLL Explore (ages 6-10), FLL Challenge (ages 9-16), FTC (ages 12-18), FRC (ages 14-18).
  - Over 668,000 students participated in the 2023 season with 320,000 coaches / mentors / volunteers though 3,700 events.
    - Over 50K people attended the Championship events in Houston 2024

- VEX/REC
  - The Robotics Education and Competition Foundation (REC Foundation) supports a variety of robotics tournament platforms including the VEX Robotics Competition. Students design, build, and program robots to compete in events across the United States and around the world.
  - There are over 1 million students from over 28,000 teams worldwide that participated in REC programs this year.
  - The annual VEX Robotics World Championship event attracts more than 40,000 attendees from across the nation, and represents more than 70 nations around the globe.
- There are approximately <NUMBER OF TEAMS/SCHOOLS> in your <CONGRESSIONAL DISTRICT/STATE>.

We have had some awesome experiences in Robotics and we think every student should have the opportunity to experience Robotics or STEM in some way shape or form regardless of where they live.

ABOUT OUR TEAM(s)

Telling them about your team and what your team does *(Customize to your team and program):*

- How your team gets the game challenge and design and build a robot.
- How your team is structured into different subteams (i.e. students can participate in design, manufacturing, electrical, strategy, business, media, or any number of other areas to make this happen).
- Each team then competes at Regional/State Championship/District/Local competitions with their robot and for judged awards hoping to ultimately make it to one of the World Championship events.
- Team trainings (i.e. We hold trainings year round in engineering, programming, safety, communications, resume writing and about a dozen others).
- Public/Private Partnership for Funding (Does any funding come from school/state? How many different sponsors do you have? What are some of them? Do they provide internships, mentors, financial support, etc.?)
- Year-round outreach events (i.e. summer camps, parades, volunteer activities, community events, robot demos, presentations to sponsors).
- Advocacy: We are also now getting more involved with advocacy (or you've been involved for years) to make sure that everyone has a chance to be exposed to STEM regardless of their background or where they live. We think the diversity of STEM workers should reflect the diversity in our general population (include any specific goals around Diversity, Equity, and Inclusion such as initiatives to get more girls/minorities/special education students/etc. involved on your team).

We are here representing SASA and <*FIRST* and/or VEX> because these programs work. Extracurricular Robotics Programs Generate 21st Century STEM Workers like us. Our teams have impacted us. Let us share some of what we've personally experienced. <Include 3-5 student stories based on time left.>

PERSONAL STORIES

- Introduction: What grade are you in? How long were you on the team? What is your role?
- Where did you start: What were you like before the team? Why did you join the team? What were you expecting and is that what you experienced?
- The transformational moment: What experiences did you have on the team and how did they change you? What did you learn?
- Outcomes: How is your future now different? What is your career path or future plan and how was it affected/changed by your experience on the team?

THE DATA

Our experiences are NOT unique. Every one of the almost 2 Million students participating in these programs have the same experience and the data shows it (mention about 5 to 10 data points that back up your personal stories to show every student has a similar experience to what you've shared - don't just recite the list of bullet points):

- *FIRST* data:
  - Longitudinal Study from Brandeis University based on 10 years of Data say *FIRST* Students:
    - 2.2x more likely to be interested in STEM
    - 2x more like to major in engineering
    - 2.4x more likely to major in computer science
    - 1.5x more likely to show higher involvement in STEM activity
    - 1.9x more likely to score higher in understanding of STEM
    - 81% of *FIRST* Alumni Declare Majors in STEM
    - 83% of *FIRST* Alumni have the Confidence to Take Leadership Roles
    - 2x more likely to major in engineering or computer science
    - 87% more interested in doing well in school
    - 87% plan to take a more challenging math or science course
    - 89% more interested in going to college
    - 93% increase conflict resolution skills, 95% time management skills, 94% problem solving skills, 90% communication skills
    - 75%+ of Alumni are in STEM field as a student or professional
  - Major corporations supporting *FIRST* and teams (examples of corporate support for your team)
    - *FIRST* sponsors include more than 200 of the Fortune 500 companies

- VEX/REC data:
  - VEX participants performed better in math than their peers. Students in grades 6-10 performed higher than their peers on math exams.
  - 93% of program participants are more confident in their ability to learn STEM subjects.
  - 90% of program participants are more likely to take elective STEM courses in high school.
  - 95% of VRC students report positive growth in creative problem-solving, seeing possibilities and opportunities in design challenges.
  - Students learn valuable programming skills that prepare them to enter the STEM workforce.
    - 90% learn Program Conditional Statements
    - 84% learn Troubleshoot Programs
    - 84% learn Update Programming Software
    - 72% Commenting in Programming
  - VEX Robotics students show an increased interest in STEM careers as a result of their participation in the program.
    - 83% are interested in taking engineering courses in college
    - 87% are interested in having a job in a STEM or computer field
    - 92% are interested in learning more about engineering design
    - 95% are interested in learning more about robotics

We think every student in America should have access to these awesome programs, just like us! This is where we need your help. Robotics teams tend to be in suburban areas and we need to encourage schools in very urban and very rural areas to start and sustain teams. Robotics teams can help with a variety of school related challenges such as: student engagement, gangs, truancy and attendance, substance abuse, and dealing with past trauma by setting students up to engage with their school and form positive relationships with their mentors and coaches.

NDAA

First, we wanted to talk about something that impacts the National Defense Authorization Act. We understand that this year's NDAA is well underway, but we wanted to plant some seeds of a novel idea of how to grow the future STEM workforce using the annual NDAA.

To support the workforce pipeline in critical STEM fields, Congress could require that one quarter of one percent of all DoD contracts must be used to support high-quality STEM education. A list of qualifiers for providers would allow these partners to ensure they meet the requirements and contract winners would be obligated to show engagement with these entities. This makes sense because these companies would be helping to train their future workforce with these investments and it would not increase the need to spend additional federal funds on these initiatives.

In FY 23, the DoD awarded $470 billion in contract awards. That would have directed $1.175 billion to ensure a future pipeline of reliable STEM workers.

What are your thoughts on this idea and concept? Would you be supportive of helping to shape a future NDAA markup to include this concept? What are the next steps we could take over the next year to begin implementing something like this? [TAKES NOTES TO REPORT BACK ON WHAT THEY SAY USING OUR MEETING REPORT FORM]

CHIPS AND SCIENCE ACT OF 2022

The first Federal program that we want to discuss is the CHIPS and Science Act of 2022.

The CHIPS and Science Act of 2022 authorized historic investments in research to ensure people from all backgrounds, regions, and communities around the country benefit from and participate in STEM education and workforce development opportunities.

The Act's authorized investments in National Science Foundation (NSF) will help the United States remain a global leader in innovation by:

- Establishing new programs to scale-up innovations in Pre-K-12 STEM education, including afterschool programs, like robotics.
- Investing in workforce development and training, including for youth through partnerships with afterschool providers.
- Improving accessibility and enhancing demographic, geographic, and institutional diversity in STEM.
- Cultivating a STEM workforce that reflects the diversity of the Nation's population.

Particularly the STEM Education Directorate (EDU):

- Works to develop a well-informed citizenry and a diverse and capable workforce of scientists, technicians, engineers, mathematicians, and educators.
- Supports STEM education at all educational levels and in a variety of settings, including in robotics programs.

There is also a research component that is very much needed. The Advancing Informal STEM Learning (AISL) program:

- Supports research on the design, development, and impact of STEM learning opportunities and experiences in information educational environments.
- contributes to research and practices that explores:
    - STEM learning's role in equity and belonging in STEM
    - Personal and educational success in STEM
    - Fostering interest in STEM careers

- Creating and enhancing the theoretical and empirical foundations for effective informal STEM learning
- Enhancing science communication and the public's engagement in and understanding of STEM

These NSF programs will directly promote and grow our STEM workforce while the research components will share best practices and increase the effectiveness of STEM learning (formal and informal) across the entire country.

We are asking you to fulfill the promise of the CHIPS and Science Act for the NSF and its STEM Education Directorate. In FY 2024, the NSF was funded at 9.06 billion, an 8% cut from the FY 23 level of $9.8775 billion. $199 million of that cut, or 15% was to the STEM Education Directorate. This cut is a step back for informal STEM education. It comes at a time when investments in STEM education and workforce development are more important than ever.

Can we count on you to push to revert NSF funding back to the FY23 level, specifically to support the STEM Education Directorate and the Advancing Informal STEM Learning program so we can grow our STEM workforce?

- ***STOP and wait for a response.***

EVERY STUDENT SUCCEEDS ACT - TITLE IV PARTS A and B

The next federal program that can help create and sustain robotics teams and STEM in underserved and underrepresented areas is The Every Student Succeeds Act, or ESSA, Title IV Part A and B:

- ESSA Title IV A is a flexible block grant program called Student Support and Academic Enrichment (SSAE) grants, which was authorized at $1.6 billion when the law passed. Title IV Part A authorizes activities in three broad areas:
  - **Well-rounded education** including programs in STEM including but not limited to extracurricular robotics.
  - **Safe and healthy** students/schools.
  - **Technology** (professional development, blended learning, and devices.
- School districts (LEA's) can use Title IV-A grants to provide students with a well-rounded education and improve instruction and student engagement in STEM by:
  - Increasing access to STEM for underserved and at risk student populations;
  - Supporting the participation of students in STEM nonprofit competitions (such as robotics, science research, invention, math, computer science, and technology competitions);
  - Providing hands-on learning opportunities in STEM;
  - Integrating other academic subjects, incl. the arts, into STEM subject programs;
  - Creating or enhancing STEM specialty schools;
  - Integrating classroom based and afterschool and informal STEM instruction.

- Title IV Part A, student support and academic enrichment grants, was **funded at $1.38B in FY24**.

- Title IV Part B's 21st Century Community Learning Centers (21st CCLC) has been around for over 25 years. These can provide:
    - Hands-on, academically enriching learning experiences
    - Programs and activities focusing on subjects like STEM (and also physical fitness, wellness, drug and violence prevention, nutrition and health education, service learning, youth development, and arts and music)
    - In-demand industry sectors or occupations to reinforce and complement the academic program of students (including financial and environmental literary, career readiness, internships, and apprenticeships)
    - Parental and Family engagement in their children's education
    - 21st CCLC increases engagement in school and reduces chronic absenteeism.
- Title IV, Part B was **funded at $1.33B in FY24.**

ESSA Title IV A and B can help grow robotics programs to get more students access and exposure to these programs.

- These programs are formula based funding that targets underserved and underrepresented areas and the schools that get the most funds here typically have the most need to start and increase STEM opportunities for kids.
- We support the increase in funding and specifically the targeting of the funds to underserved and underrepresented areas.

Can we count on you for your support to continue to fund ESSA Title IV, Part A Student Support and Academic Enrichment Grants above the current $1.38 billion and Title IV, Part B 21st Century Community Learning Centers above the current $1.33 billion?

- ***STOP and wait for a response.***

IF SUPPORTIVE OF CHIPS AND SCIENCE and/or TITLE IV A and B - USE THIS:

Thank you for your support on CHIPS and Science and/or Title IV A and B! We have our letter of support that we've written that we will leave with you and we would ask your office to follow up with Appropriations Chair (Senator Murray or Representative Cole) and (Vice Chair Senator Collins or Ranking Member DeLauro)

and for CHIPS and Science

the CJS Subcommittee Chair (Senator Shaheen or Representative Rogers) and (Vice Chair Senator Moran or Ranking Member Cartright)

and for Title IV A and B

the Labor H Subcommittee Chair (Senator Baldwin or Representative Aderholdt) (and Ranking Member Senator Capito [do not mention anyone else in house meetings, you've already mentioned Representative DeLauro and don't need to mention her again])

to let them know these are important issues to your constituents.

Closings

- Thank them for their past and continued support on the issues you discussed. Thank them for their time. Offer to be a STEM resource for them.
- Invite Senator or Member to your school/build site. Get the contact information of the district scheduler to make that happen.
- Confirm the best email to follow up with (make sure their email in the scheduling document is the right one to use or get the correct one).
- Leave Behinds
    - LEAVE BEHIND SASA FOLDER - Let them know it includes information on SASA and your team and ESSA and CHIPS.
    - LEAVE RECEPTION INVITE - and personally invite them to the reception:

      We are having a reception with robots tonight and you and your entire office staff are invited. We will have some refreshments, a lot of awesome kids like us, and some robots for you to check out. It is 5pm to 7pm in the Cannon Caucus Room (CHOB 390). Your office received a hardcopy and email invitation as well, we would really love it if you can stop by to see some robots in action and talk to some awesome kids like us.

Pre-Meeting Homework

- ***Look up and estimate how many teams are in your particular State and Congressional District(s).***
  - ***When estimating teams in your Congressional District, look up your Representative by name, find their website, and look at the map/cities/areas included in that district.***
  - ***Search the state/area on program websites at:***
    - ***VEX/REC: https://www.robotevents.com/map (click "Filter" and select "Teams")***
    - ***FIRST: https://www.firstinspires.org/team-event-search***
  - ***Include an estimated summary of the number of teams (you can include all levels/ages of teams in this area) and/or schools in your Congressional District (House meetings) or State (Senate meetings).***

- ***Consult your school district's website to determine how much Title IV funding your school district received for the previous fiscal year. All school districts in the United States that receive Federal funds are required to publish this information.***
  - ***Look for the Transparency Report, Financial Report, Audit Report, or another report that details funds your school district received or its budget.***
  - ***The information you are looking for is specifically required by OMB Circular A-133 and some school districts may denote it that way.***
  - ***If you can't find the information, contact your school district's administration or business office (it is public information).***

SASA Post-Meeting Report: Scan the QR or go to mysasa.org/meeting