

Opportunities to Advance Afterschool and Informal STEM Education Through The Every Student Succeeds Act

The Every Student Succeeds Act (ESSA), enacted last year by an overwhelming bipartisan majority of Congress, has established a number of new, flexible funding streams that states and districts can employ to support improvements in STEM education, and in particular to leverage the enormous potential of informal, out of school, and summer education programs to contribute to both academic and social measures of student success. If we want to employ an “all hands on deck” approach to improve STEM, we must fully utilize these new learning pathways through the opportunities offered by our nation’s primary K-12 education law.

The purpose of this document is to provide afterschool, informal, and STEM education advocates with specific guidance on how to utilize two new authorities provided in the ESSA law to improve the use of informal and afterschool programming as a core element of strategies to improve STEM education.

There are several references included here to the actual statutory language of ESSA, which are meant to help strengthen your case when advocating with district and state officials.

One: Integrating Afterschool and Informal Learning with Classroom-based STEM Programming

The Opportunity:

Utilize the authority provided by the ESSA Student Support and Academic Enrichment Grants Program (Title IV-A) to employ federal funding at both the state and district level to support programs that integrate informal and afterschool STEM learning with classroom-based STEM programming.

Key Details:

- ESSA authorized \$1.65 billion annually for the new Title IV-A program, which will provide funding to every state and district to support well-rounded learning opportunities with a strong emphasis on STEM education, as well as learning technologies, and healthy and safe school programs. Congress is debating the final funding level, which will likely end up somewhere between \$500 million and \$1 billion.
- Of these funds, 95% will flow to school districts through formula to be spent largely at their discretion, with the remaining 5% reserved for state-level activities.
- Every district will receive at least \$10,000 through the program and those receiving more than \$30,000 in federal funds under the program – all but the smallest school districts will likely cross this threshold – must devote 20% to “well-rounded” learning activities, which includes a large variety of STEM activities.

- Activities specifically authorized under ESSA for these grants include:
 - “Facilitating collaboration among school, afterschool program, and informal program personnel to improve the integration of programming and instruction in the identified [STEM] subjects” [Sec. 4107 (a)(3)(C)(v)]
 - “Providing hands-on learning and exposure to science, technology, engineering, and mathematics and supporting the use of field-based or service learning to enhance the students’ understanding of the STEM subjects” [Sec. 4107 (a)(3)(C)(iii)]
 - “Supporting the participation of low-income students in nonprofit competitions related to STEM subjects (such as robotics, science research, invention, mathematics, computer science, and technology competitions)” [Sec. 4107 (a)(3)(C)(ii)]
 - “Activities and programs to support student access to, and success in, a variety of well-rounded education experiences” [Sec. 4107 (a)(3)(J)]
- Every district must submit a proposal to their state education authority describing how they intend to use the funds and may partner with any non-profit organizations with a “demonstrated record of success” on any proposed activities. The [Afterschool Alliance](#) and [Change the Equation](#) have compiled a range of resources to help afterschool programs demonstrate their success.
- Every district receiving more than \$30,000 in federal funding through the program is required to develop its application in consultation with community-based organizations, instructional support personnel, and a wide variety of other education partners.
- While STEM activities do not receive an explicit preference under the law, every district receiving more than \$30,000 in federal funding is also required to conduct a needs assessment that shows how their proposed activities are aligned with the workforce needs of their community – which is potentially a significant boost for activities that address STEM education-related needs. Afterschool providers could also potentially distinguish themselves by demonstrating how they integrate learning across STEM and other subjects, such as school health, arts, and the environment.
- You can see the full language of the Every Student Succeeds Act here: <https://www.gpo.gov/fdsys/pkg/BILLS-114s1177enr/pdf/BILLS-114s1177enr.pdf>
- You can see the U.S Department of Education’s guidance on the implementation of Title IV-A here: <http://www2.ed.gov/policy/elsec/leg/essa/essassaegrantguid10212016.pdf>

What Can You Do:

- Call upon state and district leaders to prioritize STEM, afterschool, and informal learning activities in their applications for Title IV-A funds.
- Offer your assistance to district and state leaders as a partner in developing their applications for Title IV-A funding. You can also offer to bring other community-based organizations to the table.
- Call upon your state education authority to propagate guidance on how districts can apply for Title IV-A funding that includes specific examples of ways to use these federal funds that would promote afterschool and informal STEM learning.
- Urge your state to utilize the portion of funds from the Title IV-A program that they receive for state-wide activities to prioritize afterschool and informal STEM education activities. For example, states can propose matching district funds with state funds for certain types of activities like STEM programming.
- Partner with national and state-based STEM organizations in these requests. We can help you with that.
- Below we have outlined the central elements of requests to both district and state officials that address these topics in general terms, along with some suggestions on specific programs and activities you can include with your request to tailor it to your specific state and local needs.

Example Request to A District on Title IV-A Grants:

Here is what the key piece of a direct policy ask could look like:

We request that the district apply for federal funding through the Student Support and Academic Enrichment Grants program established by the Every Student Succeeds Act (ESSA, Title IV-A). Our organization would like to work with you to help develop the district application and serve as a partner to improving the well-rounded education of all of our students.

Under ESSA, districts can now utilize new funding provided under the Title IV-A program to support collaborations among school, afterschool program, and informal program personnel to improve the integration of programming and instruction in the STEM subjects. These funds can also be used to support hands-on STEM learning, which can take place in a wide variety of afterschool and informal settings. Research has demonstrated the importance of STEM learning in these settings to build STEM fluency and persistence in STEM fields. We urge the district to use these new federal funds to support learning opportunities that bring together both classroom-based approaches and informal learning to improve student success.

Specific projects and activities that could be supported with these funds could include... [See “Example Activities” section below.]

Example Request to A State on Title IV-A Grants:

Here is what the key piece of a direct policy ask could look like:

We request that the state apply for federal funding through the Student Support and Academic Enrichment Grants program established by the Every Student Succeeds Act (ESSA, Title IV, Part A). Our organization would like to work with you to help develop the state application and plan for administering these new funds and serve as a partner to improving the well-rounded education of all of our students.

These funds can also be used to support hands-on STEM learning, which can take place in a wide variety of afterschool and informal settings. Research has demonstrated the importance of STEM learning in these settings to build STEM fluency and persistence in STEM fields. We urge the state to use these new federal funds to support learning opportunities that bring together both classroom-based approaches and informal learning to improve student success.

Under ESSA, districts will now be applying to the state for an allocation of formula funds under Title IV-A program that can be used to support collaborations among school, afterschool program, and informal program personnel to improve the integration of programming and instruction in the STEM subjects. These applications will be required to demonstrate how proposed activities are aligned with community and workforce needs. Considering this and the strong connections between excellence in the STEM fields and our ability to compete local, state-wide, and nationally in the global economy, we encourage you to prioritize STEM education activities within this program. For example, the state can propose matching district funds with state funds for certain types of activities like STEM programming.

Specific projects and activities that could be supported with these funds could include... [See "Example Activities" section below.]

Example Activities

You will want to add in some locally applicable specific examples that fit within the plans of your state network and state and local/district needs. Some possibilities:

Supporting school requirements: Afterschool STEM programs can support students with projects that might be required by the school. For example, some school districts require students to complete science fair projects. Young people can work with their afterschool educators and expert mentors to design and complete such projects. (Example: [Science Club](#) in Chicago, IL, and [Math Counts](#), a national program)

Complementing school learning with real world scientific enquiry: Increased collaboration between school teachers and afterschool providers can provide opportunities for students to apply their learning to solve real problems in their communities. For example, [Project GUTS](#) in Santa Fe, New Mexico, teaches coding and computational thinking by using students' schools and neighborhoods as the context for scientific inquiry, thus making the content immediately relevant. It recruits teachers as club leaders from local middle schools who in turn recruit students to join the clubs. STEM-oriented high school students from various neighborhoods and socioeconomic backgrounds also serve as student recruiters and near-peer mentors. (Examples include: [BUILD IT](#) in Alameda, CA and [Engineering Adventures](#), a national program)

Supplementing school learning with afterschool experiences: Afterschool programs are effective at making young people aware of the plethora of STEM-related career options available to them. They can bring in mentors from various fields, organize internship experiences for high school students and help them learn about scientific research, leadership and applying to college. (Examples include: [Evolutions](#) in New Haven, CT and [Techbridge](#), a national program, and [Urban Advantage](#) in Denver, CO)

Two further sources of examples of integrative STEM afterschool activities:

Afterschool Alliance: <http://www.afterschoolalliance.org/STEMprofiles.cfm>

Change the Equation's STEMWork Repository:
<http://changetheequation.org/stemworks#programs-a>

Two: Integrating Including Afterschool and Informal Learning into STEM Teacher Professional Development

The Opportunity:

Utilize the authority provided by the ESSA Supporting Effective Instruction State Grants (Title II-A) to employ federal funding at both the state and district level to support programs that integrate informal and afterschool learning with STEM educator professional development programs as a widely recognized best practice.

Key Details:

- ESSA authorized \$2.3 billion annually for the long-standing Title II-A program, which will provide funding to every state and district to support professional development, training, and other teacher quality related activities. This section of ESSA was also greatly enhanced by the additional of a number of STEM-related provisions to encourage states to use funding through this program to support modern professional approaches in the STEM subjects, align PD efforts with workforce needs, and emphasize hands-on learning. Congress is debating the final funding level, which will likely end up somewhere around \$2 billion.
- Similar to Title IV, Part A funding, 95% of the Title II-A funds will flow directly to school districts to be spent largely at their discretion, with the remaining 5% reserved for state-level activities.
- Activities specifically authorized under ESSA for these grants include:
 - “Developing and providing professional development and other comprehensive systems of support for teachers, principals, or other school leaders to promote high-quality instruction and instructional leadership in science, technology, engineering, and mathematics subjects” [Sec. 2103 (b)(3)(M)]
 - “Providing high-quality professional development for teachers, principals, or other school leaders on effective strategies to integrate rigorous academic content, career and technical education, and work-based learning (if appropriate), which may include providing common planning time, to help prepare students for postsecondary education and the workforce” [Sec. 2103 (b)(3)(O)]
 - “Participation in opportunities for experiential learning through observation” [Sec. 2103 (b)(3)(E)(vi)]
- Similarly, every district must submit a proposal to their state education authority describing how they intend to use the funds and may partner with any non-profit organizations with a “demonstrated record of success” on any proposed activities.
- Every district is required to develop its application in consultation with community-based organizations, instructional support personnel, and a wide variety of other education partners.

- You can see the full language of the Every Student Succeeds Act here: <https://www.gpo.gov/fdsys/pkg/BILLS-114s1177enr/pdf/BILLS-114s1177enr.pdf>
- You can see the U.S Department of Education’s guidance on the implementation of Title II-A here: <http://www2.ed.gov/policy/elsec/leg/essa/essatitleiipartaguidance.pdf>

What Can You Do:

- Call upon state and district leaders to prioritize STEM, afterschool, and informal activities in their applications for Title II-A funds.
- Offer your assistance to district and state leaders as a partner in developing their applications for Title II-A funding. You can also offer to bring other community-based organizations to the table.
- Call upon your state education authority to propagate guidance on how districts can apply for Title II-A funding that includes specific examples of ways to use these federal funds to that would promote afterschool and informal STEM learning.
- Urge your state to utilize the portion of funds from the Title II-A program that they receive for state-wide to prioritize afterschool and informal STEM education activities. For example, states can propose matching district funds with state funds for certain types of activities like STEM programming.
- Partner with national and state-based STEM organizations in these requests. We can help you with that.
- Below we have outlined the central elements of requests to both district and state officials that address these topics in general terms, along with some suggestions on specific programs and activities you can include with your request to tailor it to your specific state and local needs.

Example Request to A District on Title II-A Funding:

Here is what the key piece of a direct policy ask could look like...

We request that the district utilize federal funding provided through the through the Supporting Effective Instruction State Grants program authorized by the Every Student Succeeds Act (SEIS, Title II-A) to support integration of afterschool and informal learning pathways into STEM teacher professional development programs.

Our organization would like to work with you to help develop the district application and serve as a partner in improving teaching and learning for our critical STEM educators and all of our students.

Under ESSA, districts can now utilize funding provided under the Title II-A program to support the use of best practices to improve teacher quality and professional development program, especially as they relate to learning in the STEM subjects. These funds can also be used to expand the use of hands-on STEM learning, which can take place in a wide variety of afterschool and informal settings. We urge the district to use these flexible federal funds to support innovative professional development for educators that increase collaboration between classroom teachers and afterschool educators.

Specific projects and activities that could be supported with these funds could include:[See "Example Activities" section below.]

Example Request to A State on Title II-A Funding:

Here is what the key piece of a direct policy ask could look like...

We request that the state utilize federal funding provided through the through the Supporting Effective Instruction State Grants program authorized by the Every Student Succeeds Act (SEIS, Title II-A) to support integration of afterschool and informal learning pathways into STEM teacher professional development programs.

Our organization would like to work with you to help develop the state application and plan serve as a partner in improving teaching and learning for our critical STEM educators and all of our students.

Under ESSA, districts will now be applying to the state for an allocation of formula funds under Title II-A program that can be used to support the use of best practices to improve teacher quality and professional development program, especially as they relate to learning in the STEM subjects. These applications will be required to demonstrate how proposed activities are aligned with community and workforce needs. Considering this and the strong connections between excellence in the STEM fields and our ability to compete local, state-wide, and nationally in the global economy, we encourage you to prioritize STEM education activities within this program. For example, the state can propose matching district funds with state funds for certain types of activities like STEM-related professional development.

Specific projects and activities that could be supported with these funds could include:[See "Example Activities" section below.]

Example Activities:

District Professional Development Core Infrastructure: These include novice teacher training, district-mandated teacher development, curriculum planning projects, and other structural programs designed to reach every STEM educator. These programs could be designed in collaboration with afterschool and informal learning partners as part of long-term improvement strategies. For example, Girlstart in Austin, TX has an intensive internship program to prepare and train pre-service STEM teachers. The recruited interns gain intensive and sequential training and immersion in informal and inquiry-based classroom strategies and curriculum that are not available through their certification programs. They utilize this training to run the afterschool programs as part of their pre-service education program. Some states have experimented with placing pre-service teachers in afterschool programs to gain their practicum experiences and work with youth development experts. (Other examples: [InnovaTE3](#) of California [and Making STEM Connections](#) in Iowa)

Sustained teacher learning communities: These programs provide teachers with sustained or ongoing professional development support that focuses on STEM content and/or STEM pedagogies and is conducted in partnership with afterschool and informal STEM partners with access to so-called STEM-rich resources and personnel. They use the resources of the STEM-rich cultural institution (which may include museums, natural settings, staff teaching expertise, staff scientific research activities) to engage teachers as STEM learners (and not necessarily for direct use with their students).

Two further sources of examples of applicable integrative STEM afterschool activities:

Afterschool Alliance: <http://www.afterschoolalliance.org/STEMprofiles.cfm>

Change the Equation's STEMWork Repository:
<http://changetheequation.org/stemworks#programs-a>

The full Informal Education State Advocacy Toolkit can be found [here](#).