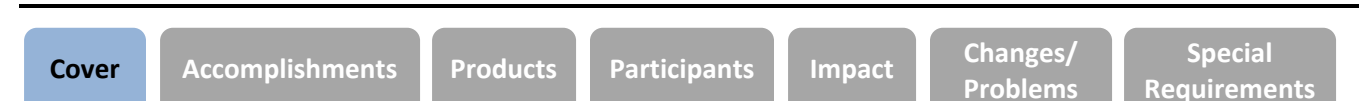


NSF-funded principal investigators submit annual reports to NSF via Research.gov. This document is a compilation of the Research.gov annual reports system components, including the explanations of what should be in addressed in each section, as well as the additional guidance that is that is provided within the Research.gov reporting system (i). This document was prepared by EvaluATE (NSF #1204683) to assist Advanced Technological Education (ATE) program grantees in preparing their annual reports. **No substantive modifications or additions have been made to the original Research.gov text.** The blue text boxes in this document identify items from the ATE annual survey, which all grantees are expected to complete, that are relevant to various annual report sections.

If you are an ATE grantee that has completed the annual survey, but do not have a copy of the answers you provided, email corey.d.smith@wmich.edu and ask for a copy of your competed questionnaire.



[Cover sheet is auto-filled by the Research.gov system]



ACCOMPLISHMENTS: What was done? What was learned?

i The information provided in this section allows the agency to assess whether satisfactory progress has been made during the reporting period.

For NSF purposes, the PI should provide accomplishments in the context of the NSF merit review criteria of intellectual merit and broader impacts, and program specific review criteria specified in the solicitation. Please include any transformative outcomes or unanticipated discoveries as part of the Accomplishment section.

The PI is reminded that the grantee is required to obtain prior written approval from the awarding agency grants official whenever there are significant changes in the project or its direction. See Exhibit II-1 of the Award & Administration Guide for a complete listing of Grantee Notifications To and Requests For Approval from the National Science Foundation.

What are the major goals of the project? (8,000 characters)


i List the major goals of the project as stated in the approved application or as approved by the agency. If the application lists milestones/target dates for important activities or phases of the project, identify these dates and show actual completion dates or the percentage of completion.

Generally, the goals will not change from one reporting period to the next. However, if the awarding agency approved changes to the goals during the reporting period, list the revised goals and objectives. Also explain any significant changes in approach or methods from the agency approved application or plan.

What was accomplished under these goals (you must provide information for at least one of the 4 categories below)?

For this reporting period describe:

- 1) major activities (8,000 characters)
- 2) specific objectives (8,000 characters)
- 3) significant results, including major findings, developments, or conclusions (both positive and negative) (8,000 characters)
- 4) key outcomes or other achievements. Include a discussion of stated goals not met (8,000 characters)

 As the project progresses, the emphasis in reporting in this section should shift from reporting activities to reporting accomplishments

EvaluATE | Relevant Data from ATE Survey:

Section 1, Questions 11-16

- Number of locations where ATE-supported program offered by education level,
- Number of students enrolled, by education level and demographics
- Status of students (i.e. graduated, stayed in program, dropped out)
- Articulation agreements, including number of institutions and students involved

Section 1, Question 18

- Information related to the evaluation. Evaluation information should be used to discuss results and outcomes


Section 4, Question 2

- Number of ATE-supported certificate/degree programs offered
- Number of programs developed/modified with grant funds
- Number of courses developed/modified with grant funds

Section 3, Questions 2-5

- Number and type of professional development activities
- Number and education level of professional development participants
- Percentage of participants that implemented new materials or ideas from the professional development.

What opportunities for training and professional development has the project provided? (8,000 characters)

 Describe opportunities for training and professional development provided to anyone who worked on the project or anyone who was involved in the activities supported by the project. "Training" activities are those in which individuals with advanced professional skills and experience assist others in attaining greater proficiency.

Training activities may include, for example, courses or one-on-one work with a mentor. "Professional development" activities result in increased knowledge or skill in one's area of expertise and may include workshops, conferences, seminars, study groups, and individual study. Include participation in conferences, workshops, and seminars not listed under major activities.

EvaluATE | Relevant Data from ATE Survey:

Note: If providing professional development is a major focus of your ATE grant, those activities and related accomplishments should be reported in the **ACCOMPLISHMENTS** section of your NSF annual report (described above), where you can report data related to the professional development activities provided by the grant and the participants served. If professional development was not a major focus, then you may describe those activities in this section of your NSF annual report.

Please summarize the contributions to the research and teaching skills and experience of those who have worked on the project, including undergraduate students, graduate students, post-docs, college faculty, and K-12 teachers. If your project supported postdoctoral researchers, then you must include a summary of the mentoring activities conducted.

If the research is not intended to provide training and professional development opportunities or there is nothing significant to report during this reporting period, please check "Nothing to Report" if applicable.

How have the results been disseminated to communities of interest? (8,000 characters)

i Describe how the results have been disseminated to communities of interest. Include any outreach activities that have been undertaken to reach members of communities who are not usually aware of these research activities, for the purpose of enhancing public understanding and increasing interest in learning and careers in science, technology, and the humanities.

What do you plan to do during the next reporting period to accomplish the goals? (8,000 characters)

Supporting Files

You may upload pdf files with images, tables, charts, or other graphics in support of this section. You may upload up to 4 pdf files with a maximum file size of 5 MB each.

Please provide a description of the content contained in the attached file.

Cover

Accomplishments

Products

Participants

Impact

Changes/
Problems

Special
Requirements

PRODUCTS: What has the project produced?

List any products resulting from the project during the reporting period. If there is nothing to report under a particular item, please check, "Nothing to Report" if applicable.

Publications

i Publications are the characteristic product of research. Agencies evaluate what the publications demonstrate about the excellence and significance of the research and the efficacy with which the results are being communicated to colleagues, potential users, and the public, not the number of publications.

Many projects (though not all) develop significant products other than publications. Agencies assess and report both publications and other products to Congress, communities of interest, and the public.

Agencies are interested in only those publications that most reflect the work under this award in the following categories:

Journal publications. List peer-reviewed articles or papers appearing in scientific, technical, or professional journals. Include any peer-reviewed publication in the periodically published proceedings of a scientific society, a conference, or the like. A publication in the proceedings of a one-time conference, not part of a series, should be reported under "Books or other non-periodical, one-time publications."

Identify for each publication: author(s), title, journal, volume, year and page numbers.

Books or other non-periodical, one-time publications. Report any book, monograph, dissertation, abstract, or the like published as or in a separate publication, rather than a periodical or series. Include any significant publication in the proceedings of a one-time conference or in the report of a one-time study, commission, or the like.


Identify for each one-time publication: author(s), title, editor, title of collection (if applicable), bibliographic information, year, and type of publication (book, thesis, dissertation, or other).

Other publications, conference papers and presentations. Identify any other publications, conference papers and/or presentations not reported above, including those that are "non-reviewed".


For each of the above publication types, PIs must specify the status of publication (published, accepted and awaiting publication, submitted and under review or other), and acknowledgement of federal support (yes/no).

Each category of publication should identify any associated data, software, other supplementary material and their appropriate identifiers. The PI should include and discuss in the Products section the goals associated with data management and access and note any significant changes in them, as well as specific plans for dissemination of data, software and other digital research products. When the PI reports any of these items, please include any available identifiers and whether and how these products can be accessed or shared.

Technologies or techniques

-  Identify technologies or techniques that have resulted from the research activities. Describe the technologies or techniques and how they are being shared.

Inventions, patent applications, and/or licenses

-  Identify inventions, patent applications with date, and/or licenses that have resulted from the research. Submission of this information as part of an interim research performance progress report is not a substitute for any other invention reporting required under the terms and conditions of an award.

You should ensure that your project report contains no invention disclosures that might adversely affect patent rights in subject invention under this award. For more information, consult the administration office that handles patents and other intellectual property at your institution.

Patents

Patent abstract

Patent title

Patent number

Country

Patent status (submitted, pending, granted)

Date issued

Inventions

Invention Title

Invention Description

Inventors

Websites

Title

URL

Description of the Website (8,000 characters)

Other products, such as data or databases, physical collections, audio or video

Product type—select one:

- Databases
- Physical collections
- Audio or video products
- Software or NetWare
- Models
- Educational aids or curricula
- Instruments or equipment
- Data & research material (e.g., cell lines, DNA probes, animal models)
- Evaluation instruments
- Survey instruments

Describe the product and how it is being shared (8,000 characters)

EvaluATE | Relevant Data from ATE Survey:

Section 2, Questions 2, 5

- Number of instructional materials developed by education level

EvaluATE | Relevant Data from ATE Survey:

Section 2, Questions 2c, 3-4

- Number of instructional materials published commercially
- Number of instructional materials in use locally, at partner institutions, and elsewhere
- Number of institutions using material

Supporting Files

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PARTICIPANTS & OTHER COLLABORATING ORGANIZATIONS: Who has been involved?

For NSF purposes, for separately submitted and awarded collaborative proposals, the PI should report progress on his/her institution's portion of the collaborative effort only.

In each of the subsections below, note which collaborators or contacts are involved in data contribution and/or management.

- i** Agencies need to know who has worked on the project to gauge and report performance in promoting partnerships and collaborations. Some PI and Co-PI information has been pre-populated from proposal information or previously submitted project reports. However, additional information that could not be pre-populated must be filled out for PI(s) or Co-PI(s).

What individuals have worked on the project?

- i** Provide the following information for each person who has worked at least one person month per year on the project during the reporting period, regardless of the source of compensation. Deletion or Addition of the PI or co-PI(s) associated with this award must be requested through the Notifications and Requests module located under the Award and Reporting Functions in FastLane.

Provide the **name and identify the role the person played** in the project. Indicate the nearest whole person month (Calendar, Academic, Summer) that the individual worked on the project. Show the most senior role in which the person has worked on the project for any significant length of time. For example, if an undergraduate student graduates, enters graduate school, and continues to work on the project, show that person as a graduate student, preferably explaining the change in involvement.

Describe **how this person contributed to the project** and with what funding support. If information is unchanged from a previous submission, provide the name only and indicate "no change".

Identify whether this person is **collaborating internationally**. Specifically is the person collaborating with an individual located in a foreign country and whether the person had traveled to the foreign country as part of that collaboration and duration of stay. The foreign country(ies) should be identified.

Example:

Name: Mary Smith

Project Role: Graduate Student

Nearest person month worked: 5

Contribution to Project: Ms. Smith has performed work in the area of combined error-control and constrained coding.

Funding Support: The Ford Foundation (Complete only if the funding support is provided from other than this award.)

Collaborated with individual in foreign country: Yes

Country(ies) of foreign collaborator: China

Travelled to foreign country: Yes

If traveled to foreign country(ies), duration of stay: 5 Months

Note: All participants will receive a notification via email to provide demographic information.

What other organizations have been involved as partners?

Type of partner institution (select one)

- Academic Institution
- Other nonprofits
- Industrial or commercial firms
- State or local government
- School or school systems
- Other

Partner's contribution to the project (select all that apply)

- Financial support
- In-kind support (e.g., partner makes software, computers, equipment, etc., available to project staff)
- Facilities (e.g., project staff use the partner's facilities for project activities)
- Collaborative research (e.g., partner's staff work with project staff on the project)
- Personnel exchanges (e.g., project staff and/or partner's staff use each other's facilities, work at each other's site)

More detail on partner's contribution

EvaluATE | Relevant Data from ATE Survey:

Section 1, Questions 23-25

- Type of collaborator
- Dollar value of contribution
- Nature of benefit from the collaboration

Have other collaborators or contacts been involved?

i Some significant collaborators or contacts within the recipient's organization may not be covered by "What people have worked on the project?" Likewise, some significant collaborators or contacts outside the recipient's organization may not be covered under "What other organizations have been involved as partners?"

For example, has there been any:

- collaborations with others within the recipient's organization; especially interdepartmental or interdisciplinary collaborations;
- collaborations or contact with others outside the organization; and
- collaborations or contacts with others outside the United States or with an international organization.

It is likely that many recipients will have no other collaborators or contacts to report.

IMPACT: What is the impact of the project? How has it contributed?

This component will be used to describe ways in which the work, findings, and specific products of the project have had an impact during this reporting period.

Include, where appropriate, discussion of data resources and the acquisition of data skills. Include the emergence of new career paths, such as data scientists, or new disciplines.

If there is nothing significant to report during this reporting period, please check "Nothing to Report" if applicable.

i Over the years, this base of knowledge, techniques, people, and infrastructure is drawn upon again and again for application to commercial technology and the economy, to health and safety, to cost-efficient environmental protection, to the solution of social problems, to numerous other aspects of the public welfare, and to other fields of endeavor.

The taxpaying public and its representatives deserve a periodic assessment to show them how the investments they make benefit the nation. Through this reporting format, and especially this section, recipients provide that assessment and make the case for Federal funding of research and education.

Agencies use this information to assess how their research programs:

- increase the body of knowledge and techniques;
- enlarge the pool of people trained to develop that knowledge and techniques or put it to use; and
- improve the physical, institutional, and information resources that enable those people to get their training and perform their functions.

What is the impact on the development of the principal discipline(s) of the project? (8,000 characters)

Describe how findings, results, techniques that were developed or extended, or other products from the project made an impact or are likely to make an impact on the base of knowledge, theory, and research and/or pedagogical methods in the principal disciplinary field(s) of the project.

i Summarize using language that an intelligent lay audience can understand (Scientific American style).

How the fields or disciplines are defined is not as important as covering the impact the work has had on knowledge and technique. Make the best distinction possible, for example, by using a "field" or "discipline", if appropriate, that corresponds with a single academic department (i.e., physics rather than nuclear physics).

What is the impact on other disciplines? (8,000 characters)

Describe how the findings, results, or techniques that were developed or improved, or other products from the project made an impact or are likely to make an impact on other disciplines.

What is the impact on the development of human resources? (8,000 characters)

Describe how the project made an impact or is likely to make an impact on human resource development in science, engineering, and technology.

i For example, how has the project:

- provided opportunities for research, teaching and mentoring in science and engineering areas.
- improved the performance, skills, or attitudes of members of underrepresented groups that will improve their access to or retention in research, teaching, or other related professions;
- developed and disseminated new educational materials or provided scholarships; or
- provided exposure to science and technology for practitioners, teachers, young people, or other members of the public?

What is the impact on physical resources that form infrastructure?

Describe ways, if any, in which the project made an impact, or is likely to make an impact, on physical resources that form infrastructure, including physical resources such as facilities, laboratories, or instruments.

What is the impact on institutional resources that form infrastructure?

Describe ways, if any, in which the project made an impact, or is likely to make an impact, on institutional resources that form infrastructure (such as policies, practices, programs, or establishment or sustenance of societies or organizations).

What is the impact on information resources that form infrastructure?

Describe ways, if any, in which the project made an impact, or is likely to make an impact, on information resources that form infrastructure (such as policies, practices, programs, or establishment or sustenance of societies or organizations).

What is the impact on technology transfer?

Describe ways in which the project made an impact, or is likely to make an impact, on commercial technology or public use.

i Including:

- transfer of results to entities in government or industry;
- instances where the research has led to the initiation of a start-up company; or
- adoption of new practices.

What is the impact on society beyond science and technology?

Describe how results from the project made an impact, or are likely to make an impact, beyond the bounds of science, engineering, and the academic world.

i For example, in areas such as:

- improving public knowledge, attitudes, skills, and abilities;
- changing behavior, practices, decision making, policies (including regulatory policies), or social actions; or
- improving social, economic, civic, or environmental conditions.

CHANGES/ PROBLEMS

The PI is reminded that the grantee is required to obtain prior written approval from the awarding agency grants official whenever there are significant changes in the project or its direction. See agency specific instructions for submission of these requests.

If not previously reported in writing to the agency through other mechanisms, provide the following additional information or state, "Nothing to Report", if applicable:

For more information on Grantee Notifications to and Requests for approval from the National Science Foundation, please visit the Notifications and Requests section in FastLane or refer to Exhibit II-1 of the Award and Administration Guide (AAG).

Changes in approach and reasons for change (8,000 characters)

i Remember that significant changes in objectives and scope require prior approval of the agency.

Actual or Anticipated problems or delays and actions or plans to resolve them (8,000 characters)

Changes that have significant impact on expenditures (8,000 characters)

i For example, delays in hiring staff or favorable developments that enable meeting objectives at less cost than anticipated.

Significant changes in use or care of human subjects (8,000 characters)

Significant changes in use or care of vertebrate animals (8,000 characters)

Significant changes in use or care of biohazards (8,000 characters)

i REGARDING CHANGES IN USE OR CARE OF HUMAN SUBJECTS, VERTEBRATE ANIMALS, AND BIOHAZARDS: Describe significant deviations, unexpected outcomes, or changes in approved protocols for the use or care of human subjects during the reporting period. If required, were these changes approved by the applicable institution committee and reported to the agency? Also specify the applicable Institutional Review Board/Institutional Animal Care and Use Committee approval dates.

SPECIAL REQUIREMENTS

Respond to any special reporting requirements specified in the award terms and conditions, as well as any award specific reporting requirements (8,000 characters)

Supporting Files

You may upload pdf files with images, tables, charts, or other graphics in support of this section. You may upload up to 4 pdf files with a maximum file size of 5 MB each.

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