



Some PIs discussed the impact the program has had on their own lives, both professionally and personally. One PI in particular talked about the program as having infused her teaching with a new level of excitement and meaning and having helped her remember what she loves about working in Education.

- There is a real change in the way PIs talk about sustainability in contrast to the interviews conducted five years ago. More and more **PIs understand the nuances of sustainability** – a deeper understanding that not everything needs to be sustained and that there is no one “right” answer to how to go about sustaining project and center deliverables. Several PIs were comfortable admitting that they had needed to modify their approach to sustainability from when they wrote the proposal originally, but seemed confident about the options they were exploring.
- Many PIs enjoy **ATE as a community** and feel real pride and ownership in that sense of community. But many PIs also expressed **concern about a lack of inclusiveness** – that the centers were a sort of exclusive club to which projects were not always invited. Project PIs and some center PIs feel that there need to be more ways for the centers and projects to connect between PI meetings and that the centers should take a more active role in bringing projects into the ATE fold.
- While PIs all agreed that outreach is a critical component of their project or center work, most seemed to feel that **they do not need to have a formal outreach plan**. In fact, of all the PIs interviewed almost nobody had a formal outreach plan in place.
- There is quite a bit of concern about the **next generation of ATE leaders**; many commented that there do not seem to be new PIs who are coming back repeatedly and moving from project to center status. There is a fear about ATE “institutional knowledge” being lost as senior PIs retire.
- **Project PIs report a sense of frustration with feeling isolated**, sometimes discussing that they do not have a cohort on their campus who understand what it is like to have a grant-funded project. These PIs only meet with other ATE colleagues once a year at the PI conference and want more opportunities to talk about the day-to-day work with others who understand the successes and challenges of running an ATE project.
- If there was one constant during the interviews, it was a **deep frustration with a lack of support from administrators and institutions**.
- Most PIs are **very happy to get a chance to talk** to someone who is part of the community and to share frustrations and challenges as well as successes.

The interviews were useful in understanding both the strengths of the ATE community and the challenges it faces. The information gleaned from these types of interviews will help drive ATE Central forward and provide direction and feedback as the project continues to grow and mature.

## The Details

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### **1. What do you think is most important to get across to educators about the ATE program? What are the program’s strengths?**

As in the prior set of interviews five years ago, PIs answers to this question varied based on whether they were talking about engaging faculty who were thinking about writing an ATE proposal or discussing faculty who were looking to use the deliverables from an ATE project or center in the classroom or as a source of professional development. Some of those interviewed focused mostly on the strengths, philosophical underpinnings, or direction of the ATE program itself and why it would

appeal to educators. Others thought the best way to promote ATE to STEM educators was to concentrate on the appeal of the deliverables from the actual projects and centers.

### ATE IS INNOVATION

PIs talked about the innovative work being done in the program and that they were grateful to be part of a program that **encourages and supports innovation**, both in terms of pedagogical approaches and in terms of the cutting edge STEM topics that grantees focus on in their project and center work. They felt that the innovative nature of the program was a real strength and made the program attractive to community college educators who might want to apply for funding but also made grantee deliverables more unique and useful to others outside of ATE who might want to integrate them into classroom settings.

### ATE IS KNOWLEDGE

Grantees see the ATE community as repository for **knowledge at many levels**, not only because there are long-term efforts by projects and centers to collect, catalog, preserve, and showcase the collective knowledge of the community, but also because the PIs and staff themselves are a real source of knowledge for each other and for others outside the program. Projects like EvaluATE, ATE Central, Mentor-Connect, and MentorLinks were mentioned in referring to both the collective knowledge of the community and the knowledge transfer that goes on between grantees. The National ATE PI Conference was also mentioned as a source for gaining a deeper understanding of the work being done by other grantees and an opportunity for information sharing and collaboration.

### ATE IS TRANSFORMATIVE

Another dimension that was stressed over and over was the **transformative nature of ATE**; whether discussing the impacts that their programs had on students or the potential they felt the program had to fundamentally change the nature of educational programs, grantees were excited about the deep impacts of the ATE program. Several PIs discussed how ATE funding had helped them transform their institutions coursework and programs in innovative and exciting ways. Another PI talked about the transformative nature of the program on her own work and that being part of ATE had brought a new sense of excitement and innovation back to her after many years of teaching. From a personal level to an institutional level, grantees discussed the ability of the ATE program to support change and improve programs and, most importantly, how these changes led to **better outcomes and opportunities for students**.

### ATE IS COMMUNITY

This theme of community came up over and over during interviews, with PIs agreeing that **building and maintaining a community must continue to be a high priority for the program**. There was agreement that this feeling of community makes ATE unique as a federally-funded program, and that the amount of support and collaboration makes the program very attractive to educators at community colleges not only because it provides formal and informal mentoring and support to new grantees, but also because there is a sense that grantees are very interested in sharing results and knowledge with others outside of the community.

## 2. What areas of your own project or center do you feel are strongest, or are having the most impact?

### DELIVERABLES AND ACTIVITIES

In considering the strengths and impacts of their project or center work, most discussions with PIs naturally gravitated towards deliverables and activities. These key components are at the core of transforming programs, providing exciting opportunities for professional development, and ultimately enriching educational environments for students and supporting their successful transition into the workforce.

- **Curriculum and other education resources** (e.g. kits) were mentioned often in the interviews, and while PIs acknowledged that development of this sort is time-consuming and expensive, they also thought it was “totally worth it” to put their energy into this important area.
- **Student recruitment, student competitions, internship programs, and other activities** were mentioned over and over as having high impact and valuable outcomes. Several PIs were especially pleased with the fact that they were receiving institutional or industry support to sustain at least portions of these activities, in part because it represents recognition by key stakeholders of the perceived impact and value of this work.
- **Outreach and dissemination efforts, including websites**, were mentioned often as a strength throughout the interviews. Whether it was presenting about their work at conferences, providing information to key audiences through webinars or making deliverables accessible online via their website, grantees agreed that their outreach efforts added value, connected them with their stakeholders, and helped broaden the impact of their ATE funded work.
- **Professional development including summer institutes** – PIs were excited about the opportunities ATE funding gave them to help support colleagues on their own campuses and across the country through a variety of approaches to professional development, including summer institutes, which seemed especially exciting in terms of outcomes. Some PIs also mentioned that they felt they had grown professionally and personally by having an ATE project or center; in effect, that the ATE program itself can serve as a sort of professional development opportunity for PIs.

### INNOVATIVE APPROACHES

PIs were excited about innovation – whether it was related to the work of their own project or center or to the changes they saw in students as a result of their grant-funded efforts. Several PIs mentioned that part of that **innovation came about as a result of changes in their approach to the proposed work**. For example, one PI moved from a four-year institution to a community college because they felt that was where they could have the most impact. Another PI mentioned that they ended up expanding the focus of their center work to include other fields as they saw the economy shifting, which resulted in growing the scope of their work and increasing their impact on a larger pool of stakeholders and students.

Another PI talked about the fact that their project excelled at **mentoring** and providing good customer service. They pride themselves on supporting both community members and others outside of ATE, and are building an expanding network of colleagues within ATE and beyond.

Lastly, PIs brought up the value of **innovative pedagogical approaches**. Whether cross-disciplinary teaching with colleagues from across campus or from other institutions, or unique approaches to

blended online/classroom learning, ATE grantees are excited about integrating innovation into the classroom, both in terms of the content and their teaching methods.

## AUDIENCE IMPACTS

It is not surprising that PIs talked about their **positive impact on a variety of audiences** throughout the interviews, whether they were discussing impacts on industry partners or students, or sharing stories that highlighted the strength of their work in making a difference with other stakeholders.

As might be expected, **students were mentioned most often** as having benefitted directly from grantee work. Some examples provided by grantees include:

- Helping increase students' soft skills,
- Increasing the numbers of students who find employment,
- Recruiting growing numbers of women into their programs,
- Helping first-generation students gain confidence,
- Supporting students who wanted to transfer to four-year programs, and
- Creating programs that encourage students do undergraduate research.

Other audience-related impacts discussed included professional development and the positive impact it has on **STEM educators**, both on their own campus and at other institutions. One PI mentioned that the cross-campus collaboration that was part of their work was proving especially meaningful for faculty, providing higher levels of support and innovation for those involved.

Several other audiences were mentioned in relation to positive impacts:

- **High school counselors** – helping them learn more about diverse fields of study for students and also getting their help in recruiting female students into STEM fields;
- **Industry partners** – working on curriculum development, getting help in sustaining program elements, and sharing or obtaining equipment; and
- **Professional associations** – helping to connect with to new audiences, supporting dissemination activities through association conferences, webinars, and newsletters.

## UNEXPECTED OUTCOMES

Interestingly, one of the areas that was brought up by PIs several times in discussions around the impact of their work were unexpected outcomes – things that were not part of the planned work of the grant but that **organically emerged as a high-impact or positive outcome** of their ATE grant. One example was a situation where part of the work of the project was a series of summer camps that helped encourage girls to consider pursuing STEM careers. The PI and staff had planned to use female college students to help with the camps but the college students wanted to be more involved. By the end of the project the **college students were taking a leadership role in the ATE project** and the deep impact on the college students themselves was seen as an unexpected outcome of the project.

Another example is a project that was going to use off-the-shelf games to help support learning of a specific subject. When the PIs and students realized that the existing commercial games did not meet the needs of their project, they decided to **start their own company** and are currently pursuing that path. This was not a deliverable in the grant, but an unexpected (and exciting) outcome.

### **3. What challenges are you and your project facing?**

ATE grantees face a host of challenges, balancing responsibilities at their home institution with those of their center or project work, learning about a host of new policies and procedures related to grants management, fiscal responsibilities, and reporting requirements, and of course dealing with a variety of more specific challenges encountered in carrying out the work outlined in their proposal. Interview participants were eager to talk about challenges and also seemed interested in working with others in the community to find solutions, instances of best practices, and resources that would help them juggle and manage their responsibilities.

#### **INSTITUTION-BASED ISSUES**

Far and away the biggest set of issues mentioned by grantees as a challenge were related to **problems on their own campus** (or on a collaborator's campus): unsupportive mid-level administrators, little campus support in areas like financial management, tensions around issues like sexism of a department chair, and much more. Several PIs talked about **ongoing administrative changes on their campus** as a source of stress; that is, the set of administrators in place when the grant was funded understood and supported their work but **as administrative changes happened they had to "sell" the work all over again to the new hires**. For some grantees this was an ongoing issue, happening several times during the life of their grant and stealing precious energy away from the actual work of the project or center.

PIs also complained that many mid-level managers fundamentally do not understand that when faculty receive a grant they cannot teach as many classes and that these same **administrators feel resentful that they have to do more work to support the grantees**. Some even went so far as to put up roadblocks and make things more difficult for the grantees on campus. One PI mentioned that their college was not happy about anything that was considered "out of the ordinary" (in this case it was getting credits to transfer between institutions) and they made this process very challenging and frustrating, creating a great deal of extra work for the PI.

#### **STAFFING AND FACULTY ISSUES**

PIs struggled with issues around **finding and retaining staff** and they talked a lot about the toll this took on the work of their projects and centers. One PI spoke about the issues of moving from a national center to a support center and that the accompanying budget decrease had meant moving from a larger team to a very small team of the PI and one or two staff members. They often found themselves in a tricky position in working with others who still thought of them as a national center with more capacity and staff, and they found themselves stretched as they tried to help and support community members without sufficient personnel.

Another PI mentioned that because they were small and staff all wore several hats, that when someone left it could be very difficult to find a replacement and get them up to speed, and that these kinds of **staffing issues had a negative impact on their ability to deliver on the promises of their proposal**.

One PI said that he felt that **community college faculty are overwhelmed** with what he called "initiative fatigue," which occurs when there are too many programmatic changes, expectations, and commitments on campuses. He reported that they are having a **hard time getting faculty to attend professional development activities** as a result.

Another challenge often cited by those interviewed related to the well-known problem of having **too many adjuncts and not enough faculty** on community college campuses. For PIs this can mean

having different faculty teaching courses each semester, difficulty with continuity at other campuses during collaborative efforts, and difficulty assessing the impact of their professional development efforts because those who participate in the activities may no longer be around the next semester.

## SCALING AND SUSTAINING ISSUES

Some faculty directly addressed **concerns about sustainability**, providing examples of **little or no institutional or industry support**, or difficulty getting impact data to help them better understand which project or center components to sustain. Others touched on issues that related to sustainability without directly making the correlation; they talked, for example, about the various ways they felt a lack of buy-in from their institution or peers. Another way that the issue of sustainability arose was in relation to **sustaining the ATE community** as a whole. **Project PIs reported feeling isolated** and several said they would not reapply for another grant because it was too much work and they felt unsupported by either their institution or the ATE community. Center PIs felt concerned that there is a lack of **new leaders emerging in the ATE community** and that there was a huge need to mentor and encourage leadership in a new generation of ATE PIs. Two experienced project PIs noted that while ATE is a true community, they felt it is getting **harder to recruit new, diverse faculty** and that they are stretched thin on campuses and do not have the time or energy to commit to grant-funded projects. Other PIs felt concerned that the retirement of current senior members of the ATE community will lead to **a loss of knowledge and ATE organizational memory**.

Issues of scale were also raised by PIs. Examples shared included concerns about whether to reapply for funding and transition from a small project to a larger one, feeling pushed by their campus or project partners to go for center funding before they were ready, and wanting to grow a program but not having enough physical space on their campus to make that growth feasible.

## METHOD OR COMPONENT ISSUES

Several PIs discussed concerns in this area, particularly as it related to **implementing new teaching methods**. One PI discussed a lack of support at their institution to their proposed methodological shift. Another discussed the difficulty of integrating a research component into classrooms, a stumbling block for both faculty and the institution. Some struggled with developing key components, finding that what they had proposed was more complex or time-intensive than they had realized. Another PI mentioned that the costs of developing a proposed technology was much higher than anticipated and, while not insurmountable, caused problems as they figured out how to proceed.

### **4. What avenues do you use for outreach (presentations, booths, email, newsletters, etc.)?**

PIs agreed that **outreach is a key component of their ATE project and center work** and while almost none of those interviewed had a formal outreach plan, they reported **feeling confident about their efforts in this area**. Most PIs reported that their outreach efforts yielded positive impacts and resulted in connecting with, and building up, a diverse network of key stakeholders and audience members. There was **very little mention of direct physical mailings** as an outreach mechanism in the interviews; most grantees have turned to digital communication as their primary dissemination pathway with a lot of their efforts focused on **the web and email**. Centers continue to rely on websites as a way to share results, activities, and materials, and email are a way to connect with partners and colleagues.

Most PIs mentioned **conferences (including booths), workshops, and meetings** as a venue to present and share out project results. **Open houses**, particularly in working with K-12 audience, were also mentioned as a great way to connect with stakeholders. PIs seemed very aware of marketing to

their target audience (for everyone from faculty to home schoolers) and talked about use of **social media, webinars, videos, newsletters, project/center websites, and blog posts** as useful pathways. Other less-mentioned methods used to get the word out included grant-writing workshops, scholarly writing, and reports.

Several PIs mentioned the usefulness of **collaborating with key stakeholders for outreach and dissemination activities**. Whether it was professional associations, industry partners, or their own institutions, PIs reported that working with others was a key part of creating successful outreach pathways, resources, and activities.

### **5. What are you interested in learning about other projects and centers?**

PIs had a lot to say about what they could learn from others in the community. Several PIs mentioned that they felt the centers should be taking a more active role in various ways; one mentioned that they felt the centers needed to work on recruiting new community members and do more to bring new grantees into the fold. Several others felt centers needed to help mentor project PIs and groom them to become leaders in the community. There was concern that there was not enough communication between center and project PIs and, in some cases, those grantees with projects reported that they felt isolated – that the centers were at the core of the community and the projects on the outskirts.

That said, there was also a lot of positive discussion about what grantees felt they could learn from more contact with other ATE community members. Overall, grantees were excited about many of the existing pathways and eager to connect and collaborate more deeply with colleagues.

## **PRAISE FOR EXISTING PATHWAYS**

Many PIs mentioned that while there was more to learn from each other, they wanted to make sure to note their positive feelings about the PI conference, HI-TEC, the *ATE Centers Impact* book, ATE Central, EvaluATE, Mentor-Connect, MentorLinks and various other projects and centers or activities that provide venues for learning more about what others are doing in the community and connecting. Several PIs also mentioned that they felt, as a whole, the ATE community did a very good job of sharing strategies and information and was more of a true community in this way than other NSF programs. One PI noted that she was very happy with the communication pathways in ATE, both to share information out and to get information from others in the grantee community.

## **LEARNING AND MENTORING**

Many PIs discussed the need to learn more from their ATE peers, and this interest seemed to fall into several areas:

- **Learning from others in the same field** – PIs wanted to find ways to connect with other ATE PIs in the same field (nano, bio, etc.) to share insights about industry needs, discuss technology changes, or better understand national trends.
- **Learning how to deal with specific challenges** – bureaucratic and administrative challenges, staffing and personnel issues, fiscal management, and sustainability challenges.
- **Connect with others in same geographic region** – some PIs felt it would be of real benefit to bring together projects and centers from all disciplines who live and work in the same region. They felt that they could learn a lot from other PIs, but given travel and budget restrictions, it would be easier to connect if it was done locally rather than nationally.



- **Learning from others working on the same type of deliverables** – not surprisingly, several PIs wanted more contact with others who were working on the same types of deliverables. Whether curriculum or professional development materials, competitions, or kits, they felt their work could be strengthened by access to others’ expertise, mentoring, and experience.

## ACTIVE COLLABORATION

PIs were very interested in more active collaboration with others in the ATE community, and this issue came up often during discussions. One PI noted that they felt that it was important to communicate and collaborate with others in the community to **ensure that project or center work filled gaps rather than reinventing the wheel**, particularly in terms of deliverables like curriculum.

Project PIs in particular seemed to **crave more face-to-face interaction with colleagues**, mentioning that they only saw others from the community once a year at the PI conference, and that their institution would not support much travel, so they did not attend events like the American Association of Community Colleges annual convention or the HI-TEC conference. They liked the idea of multi-day workshops or regional gatherings to help them connect with, learn from, and interact more regularly with other PIs from the community.

### **6. How satisfied are you with your sustainability plan?**

Sustainability is a topic brought up often by PIs, both within these interviews and during discussions at meetings and conferences. As noted in the highlights section at the beginning of this report, there seems to have been **a shift in the way sustainability is being talked about in the ATE community**. PIs seem more secure about the National Science Foundation’s definition of sustainability, more conscious of the relationship between evaluation and sustainability, and **surer of their sense of what they should sustain**. That is not to say that they are always confident about their ability to actually sustain deliverables, but even that seems less pressing to them. They seem to accept that they may not be able to sustain everything, but also seem more confident that there are tools available to help them make decisions and prioritize which activities and deliverables they should concentrate on sustaining. Several PIs mentioned the ATE Central sustainability webinars as a helpful source of information in this context.

## SATISFIED WITH SUSTAINABILITY

Some PIs reported that they were **quite happy with their sustainability plan** and where they were in general with the topic. Many who fell into this camp cited strong institutional support. Others talked about the fact that they had limited set of deliverables and therefore sustaining them was not terribly difficulty (e.g. a course that had been absorbed by their institution and was going to be continued).

A few PIs mentioned that the sustainability plan they had included in their proposal was boiler plate or simplistic, and that they had had to work out what they were really going to do as the project evolved, but it also seemed they were comfortable with the more detailed plan they then created. Some PIs talked about **monetization**: one had a system in place and found it was at least contributing to sustaining the work; several others mentioned that this was something they were pursuing. Another PI mentioned that they had begun a non-profit that they hoped would eventually continue the work of the project when NSF funding ended.

Several PIs admitted that they assumed they would be going **back to NSF to apply for further funding** to expand or continue the work being done. Some discussed pursuing other federal or philanthropic funding to supplement their NSF ATE funds.

## STRUGGLING WITH SUSTAINABILITY

While some PIs felt comfortable with where they were on their pathway to sustainability, others were struggling. Some of the issues mentioned were clearly linked to **a lack of institutional support combined with staffing changes** – support from the institution when the grant was written but then, because of administrative or staffing changes, a lack of support under the new administration. This not only left the PI feeling isolated and nervous about sustaining their work but in some cases made them feel strongly that they did not want to pursue another grant or try to scale the work of their current project or center.

There were also some PIs who were still unsure about which deliverables and/or activities were appropriate choices to sustain and confused about how to go about using evaluation or other metrics and data to make the sometimes difficult decisions around which components to sustain.

### **7. Given what you know at this point about ATE Central is there anything specific that we can do to help support your project or center?**

Discussion around how ATE Central could provide more support to projects and centers ranged from suggestions related to very specific services (e.g. “I still need more help understanding sustainability” or “I wish you could provide me with a template to do posters”) to generalized needs (“Is there any way you could help foster more collaboration between projects and centers?” or “I wish ATE Central could help figure out a way to help me spend more time with other PIs in-between each annual conference”). While the ideas ranged from small and relatively easy-to-fill requests to large and sometimes very difficult and complex ideas, they all fell into one of the following buckets.

## SUPPORTING DISSEMINATION AND OUTREACH

There was a lot of discussion about the various ways that ATE Central already supports the projects and centers in the areas of outreach and dissemination, but several PIs indicated that they could use more help with this component of their work. One seasoned PI suggested that ATE Central might **support ongoing workshops or webinars focused on outreach planning and strategies**. A new PI wondered about ATE Central providing help to new grantees and their outreach efforts at their initial PI conference by creating templates for posters or one page flyers that PIs could use for initial outreach efforts. Several PIs discussed the need for the projects to get more of the ATE programmatic spotlight and felt that maybe **ATE Central should work on specific strategies to support promoting the projects** and the work they do to the larger education community.

The concept of branding also arose during discussions along with the idea that the ATE community could use more help in learning how to tell its individual and collective stories. ATE Central was encouraged to think about ways to **help the community integrate marketing practices related to branding and messaging** into their outreach efforts.

PIs also felt that ATE Central should consider **spearheading efforts that help promote ATE as a community to key stakeholders**, including professional associations and educational institutions that are not currently involved with the ATE program.

## ESTABLISHING COLLABORATION AND COMMUNICATION PATHWAYS

PIs expressed deep interest in ATE Central creating new pathways and services to facilitate collaboration and communication opportunities. Several PIs specifically suggested that NSF or ATE Central might help facilitate multi-day workshops that could bring PIs together between annual PI conferences. **Project PIs in particular expressed a real desire to connect more often with peers**

**and experts from the ATE community on a regular basis** to help them with everything from project management and fiscal issues to institutional challenges and sustainability strategies, as well as a host of other topics.

PIs reported that it was **helpful to have one-on-one discussions with someone about the work they were doing**, particularly someone who knew the community but was not part of their own project or center and was outside their institution. Several hoped it could be done more often and one PI mentioned that they wished they had had a discussion with someone from ATE Central earlier in their project. Another PI suggested that it would be ideal to have it be a requirement to connect with ATE Central just like you have to have an evaluator.

Another suggestion from a grantee was to have **ATE Central host monthly online meetings** where ATE project and center staff and PIs could discuss a variety of issues and connect and meet others from the community.

## **CREATING SPECIFIC TOOLS, SERVICES, OR RESOURCES**

Many of the PIs interviewed are already familiar with the tools and services that ATE Central provides for the ATE community; for those that were less familiar, the interviews provided an opportunity to discuss the topic. Not surprisingly, PIs were happy to share their thoughts on the efficacy of the current suite of services and tools, as well as their ideas about new and innovative mechanisms and resources ATE Central might develop.

Several PIs expressed **interest in learning more about the archiving service**; they understood that it was a requirement but felt they would like more information about what was specifically involved or pointers about how to make sure they were prepared to archive when the time came. They were pleased that ATE Central was offering ongoing communication about archiving including emails and yearly webinars as well as in-person contact at the PI conference, but some still felt they needed more guidance or information.

Multiple PIs mentioned that **the sustainability webinars were a valuable addition to the ATE community**, providing useful information as they explored sustainability options for their project/ or center deliverables. They expressed interest in ATE Central continuing to provide information and support in this critical programmatic area.

Other services and tools discussed included the **PI conference app**, the **events calendar**, the **ATE Activity Reports**, and the **monthly ATE Central Connection newsletter**.

Several PIs expressed **a need for a pool of resources that could be used to support creation of outreach materials, posters, and presentations**, including templates for flyers and posters, logos, PowerPoint slides and a database or collection of freely available STEM photographs.

One PI raised a very innovative idea for a tool: **a collection or database of “unexpected outcomes”** that PIs and others educators could have access to when writing proposals or scaling projects or centers. They felt that by collecting unexpected outcomes and impacts and sharing them, other PIs and educators might be able to consider these approaches or strategies and integrate them into proposals or existing project or center work.

## Conclusions

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The information gleaned from these interviews will help shape the course of the ATE Central project as it grows, and will make it an even more useful and usable resource for the ATE community, STEM educators, and other stakeholders. Many of these interviews led to follow-up emails and conversations; for example, any PI who asked for more information about a particular service like archiving was connected with the appropriate ATE Central staff after the interview.

There are a variety of items mentioned in this report that ATE Central and other crosscutting projects and centers can learn from and use as fodder to enhance or strengthen support for grantees. Clearly grantees want to spend more time together and interact with peers and leaders in the community, as the topic of workshops came up often. Many grantees also seemed to just want more communication; they wished that ATE Central had time to reach out every year for a one-on-one conversation. Given that many project PIs feel somewhat isolated, many without a cohort on their own campus or other grantees, it is worth considering how we can work together as a community to create more opportunities beyond the annual PI conference (which was praised enthusiastically during the interviews) to connect, collaborate, share information, and generally support each other's efforts.

There also seemed to be real concern amongst the community about the next set of ATE leaders and the community's ability to retain and grow existing PIs into leadership positions. Several project PIs felt reluctant to re-apply for funding and scale up their work, in part because they felt they did not have support on their campus. This is another area for the community to consider: how do we build, maintain, and grow our pool of grantees? How can we support project PIs who feel isolated? None of these are easy questions to answer, but awareness and greater understanding of the issues will help us be better prepared to meet the challenges to come.

**Many thanks to the ATE PIs** who were willing to take the time to share their thoughts, stories, triumphs, and challenges during this set of interviews. It is our hope that this report will help the ATE community, the National Science Foundation and, of course, our own project ATE Central, find better ways to work together and ultimately continue to strengthen the education of STEM students, and enhance professional development opportunities for STEM educators, in community and technical colleges across the United States.

*Ultimately, the goal of this set of interviews is to help the ATE community and the National Science Foundation better understand the landscape of the community, adding a more qualitative element to the valuable quantitative data gathered from sources like the annual EvaluATE survey. While the interviews were conducted with assurances of individual anonymity, ATE Central welcomes inquiries and discussion about the aggregate information gathered in this report. Please do not hesitate to get in touch by emailing [info@atecentral.net](mailto:info@atecentral.net) if you have questions or comments.*

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