

PD Partners Focus Group Results

During their participation in a focus group, Professional Development (PD) Partners were asked to reflect on their experience collaborating with the Arizona STEM Acceleration Project (ASAP); this professional relationship usually spanned one to two years. To enhance data validity, focus groups were facilitated by **ASU's University Office of Evaluation and Educational Effectiveness** (UOEEE), and no ASAP project team members were present during their facilitation. PD Partners were gathered for two focus groups each consisting of six focus group participants, one UOEEE facilitator, and one UOEEE notetaker.

Accomplishments Attributable to ASAP

PD Partner participants were asked to describe what their organizations were able to do with the provided ASAP funding that they would not have been able to do without said funding. Participants described the following:

- Ability to reach more Arizona teachers: Many participants across both focus groups noted
 their increased ability to reach more Arizona teachers through their professional development
 programming. One participant described this as, "Personally, I think we were able to reach more
 teachers that would've maybe never seen..."
- Sustained/Continuous programming: One PD Partner commented on how they were able to hold more regular occurrences of their programming over a more sustained period as a result of the funding: "[Our] organization was able to hold some mini workshops that were more sustained than just one Saturday in the summers."
- Expansion of curriculum to additional K-12 grades: Another PD Partner described how they were able to take existing curriculum and expand it to be utilized for additional K-12 grade levels: "So that was a third through sixth grade curriculum, homebased garden-based learning. We were able to then expand it and we now have a ninth through 12th grade sowing scientific seeds program."
- Expansion of the scale in which programming was conducted: Multiple PD partners, across both focus groups, described an ability to conduct programming on a larger scale and, thus, expand beyond their usual operations. One participant described this as: "We were normally putting on maybe five, maybe six things a year, and we were doing two a month with ASAP. So, it was a massive change for us."

- Acquisition of a new learning management system: One of the participating PD organizations shared that they were able to acquire a new learning management system due to the provided ASAP funds. A participant described this as, "...our learning management system, which had our online courses. That was a new thing that was provided by the funding from ASAP."
- Develop more, and deeper, relationships with external partners: The funding enabled one partner to foster new relationships with external partners or deepen existing ones: "I did have the opportunity to build more and deeper relationships with some external partners, like [Organization Name redacted]. Already working with them, but now we have an extensive relationship."
- Ability to try new things beyond their usual programming: Another participant described a general ability to expand and try out new ideas: "We did what we typically do, but we did have opportunities to try something new that we were thinking about. It gave us a chance to try it out. [...] that was something we thought about doing for a while. We didn't really have any reason to take that jump, or the opportunity to, and so ASAP provided an opportunity to try something and do a beta test, if you will, to see how that would work on a larger scale."

Critical Needs for STEM Education

Due to the level of expertise that each PD partner brought to this issue, they were asked to describe what they saw to be the critical needs for STEM education at large. The following themes arose:

- Improved top-down support from the district level to the teachers: Participants described
 lacking district-level support as a barrier to participating in the ASAP program itself, and a need
 to ensure that all teachers are being reached, not just those who have a higher motivation or
 opportunity to engage.
- Opportunity to improve teachers' STEM content knowledge: Two participants highlighted the need for Arizona teachers to not only understand the pedagogy, but the "scientific concepts themselves." Another participant described this as, "Pedagogy is great, but you also have to know."
- High teacher turnover rates: Another participant identified the "system problem" of "the
 constant churn of teachers." In particular, the participant noted that rural communities may be
 seeing particularly high turnover rates.
- Lacking STEM standards and prioritization of Science: One participant noted the particular
 lack of prioritization of the teaching of K-12 Science in Arizona, "There is a hole of 'S' [Science]
 in this state because science isn't prioritized." Another participant described a general lack of
 STEM standards; standards that could be utilized to appropriately guide state curriculum and
 the content's integration through the school day.
- Development and maintenance of a peer support system for Arizona teachers: "I had somebody come up to me today and tell me that the only reason that she remained...[in] teaching, because she was about ready to quit after the first year as a fellow, is that [she] had things she could go to to help her out and to coordinate with other teachers along the way. Yeah, critical needs. Teachers need support."