



Impact of Participating for Two Years

Overview

There were three fellow cohorts within ASAP based on the time the fellow participated in the program: Cohort A consisted of fellows who only completed Year 1 (n=135), Cohort B consisted of fellows who participated in both Years 1 and 2¹ (n=272), and Cohort C (n=135) consisted of fellows who only completed Year 2. **Note:** the sample sizes reported represent survey completion, not the total number of participants.

The analyses included in this brief focused on estimating the impact of **the second year** in the program for **continuing Y1 to Y2 fellows, i.e., the experience of Cohort B**. Analyses were planned based on answering this question as well as when data were available because some questions were added in later surveys. A note on causal language: throughout this brief, the term “effects of Year #” and similar phrasing are used for simplicity, but with the understanding that causal effects cannot be estimated from the study design and data.

Findings

Fellows who participated in a second year of the program benefitted in many ways. **In terms of preparedness to engage in STEM (Science, Technology, Engineering, Math) teaching and the subsequent impacts on students**, findings indicated the following benefits for which there was a statistically significant change over time:

- Increased fellows’ STEM teaching self-efficacy and identity.
- Greater ASAP fellows’ confidence in effectively teaching STEM concepts/incorporating STEM concepts into a lesson plan; understanding what the necessary elements are of a successful STEM lesson plan; skills for effectively teaching STEM concepts/incorporating STEM concepts into a lesson plan; ability to overcome common challenges in teaching STEM concepts to their students; and comfort in integrating STEM (Science, Technology, Engineering, Math) in teaching.
- Positive student impacts include ASAP fellows’ reports that students were more interested in studying STEM; understood STEM content more deeply; were more interested in pursuing STEM degrees or majors in college and STEM careers; and scored better on quizzes, tests, or assignments related to STEM content. In addition, ASAP fellows reported even further improvement in student engagement, focus during activities, and excitement about STEM.

¹ Fellows who did not adequately complete all first-year requirements were not invited to participate again. Of those who were invited, not all were able to accept the invitation to participate again for various reasons.

Although data suggest the first year of participation resulted in improvements, the impact of the second year did not reach statistical significance for these outcomes related to STEM teaching and student impacts:

- Fellows' reports of being helped to include more STEM in their classroom.
- Fellows' reports of increased awareness of STEM in daily life, understanding of how they use STEM in their daily life, and placing greater value on STEM education as an important part of their professional identity.
- Student impacts related to participating in more applied or hands-on learning, being more attentive, having better class attendance, and reading/working ahead on STEM activities.

In regard to the impact of a second year of ASAP participation on ASAP fellows' **sense of a community of practice**, findings were mixed overall. There were clear benefits for some outcomes, such as fellows feeling understood by other teachers and feeling connected to the ASAP network. For other outcomes, there was not statistically significant growth beyond the impact of the first year. For example, there was not statistically significant growth in the second year for these items: "I have (strong) PROFESSIONAL connections with teachers at other schools," "I know people with whom I can discuss challenges in teaching STEM," "I know people with whom I can discuss teaching ideas related to STEM," and "I have (concrete) plans to collaborate with teachers outside of my school." Again, data indicate the first year was helpful, but that the second year did not further improve these select outcomes (see Table 2 for details). For other outcomes, as outlined in the table below, there was no impact of participation either year, such as for support from ASAP fellows' administrators. **Of note, a significant increase beyond Year 1 pre-program assessment was only achieved after two years of participation for one outcome: "I have (strong) PERSONAL connections with teachers at other schools."**

In terms of fellows' **implementation of professional development experiences and materials**, the data clearly show that **a second year of participation led to a greater proportion of ASAP fellows' implementing knowledge and materials**. One area where **there was not greater implementation than in the first year was the use of the ASAP lesson plan template**.

Conclusion

Participation in a second year of ASAP was beneficial in many different ways. Although some areas related to developing communities of practice would benefit from efforts to make them more effective for second-year participants, a second year was still helpful for this and other target areas.