

Inspiring Success

Strategies

Implement the following strategies from *Inspiring Success*, NAPE Module 3, to create an environment that supports the success of every student in *FIRST*®.

Super Strategies

Three strategies have been shown to be highly effective in helping students build their own self-efficacy: modeling, implementing short-term goals, and providing feedback. These overarching strategies are supported with research and can be applied in different ways depending on your team and situation.



Modeling



Short-term Goals



Feedback

Modeling

Similarity	Credibility
<ul style="list-style-type: none"> — share characteristics — peers not always best — use successful models — avoid gender stereotypes 	<ul style="list-style-type: none"> — believable — no contradictory behavior
Competence	Enthusiasm
<ul style="list-style-type: none"> — successfully complete tasks — students learn more 	<ul style="list-style-type: none"> — behavior — non-verbal cues — may affect motivation

Simply watching someone else perform a task can give students valuable information about how to perform the task and can increase their self-efficacy. Observing models can increase participants' perceived competence at completing both the observed task and similar tasks.

Four characteristics (as described in the matrix to the left) make role models more effective at increasing self-efficacy:

- perceived similarity with the learner
- credibility
- enthusiasm
- competence

Not every model needs to have every characteristic in the matrix. However, keep these and the characteristics on the following page in mind when you select students or adults to model tasks for your teams.



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Strategies (continued)

- **Use diverse models:** Involving diverse models makes it easier to recruit and retain diverse members on your team. Modeling can be either an obstacle or a pathway to success for inclusion. If a girl sees all the other girls in marketing roles, then her self-efficacy for technical roles will be affected by the current situation. However, you have the power to change these conditions and inspire students to be successful.
- **Improve equity for Coaches, Mentors, and Volunteers:** One strategy for improving equity is involving adults from underrepresented and underserved groups based on gender, race, ethnicity, socioeconomic status, LGBTQ+, ability, and so on. You can actively and deliberately seek out members of these groups. Think about the roles that different Coaches or Mentors play on your team or teams. Do the women provide food while the men support building? Look for ways to encourage each other to defy stereotypes in your own roles. This may mean you or others are pushed outside of your comfort zone. It is OK to ask for help from other Mentors who can teach specific skills.

Short-Term Goals

Researchers have demonstrated that people who set short-term goals, as opposed to long-term goals, are more likely to experience success and improve their self-efficacy (Bandura & Schunk, 1981). This approach provides mastery experiences that build on each other over time.

- **Break down by time:** The essence of using goals to improve self-efficacy is breaking down larger, possibly intimidating goals into smaller, more manageable ones. Instead of setting a semester- or year-long goal for students, set goals for each week or even each day.
- **Break down complex tasks:** Another strategy is to break down complex tasks into smaller parts. Instead of setting a broad goal for students to learn how to program, you might set a smaller goal to learn how to program the controls for one specific type of motion.
- **Track completion and mastery:** You can also support participants by asking them to list or track their completion of tasks and mastery of skills. This effort can help remind them of their past successes.

One way to implement this strategy is by asking every student to try every role on the team for a short period early in the season. Give participants small, manageable tasks to complete so that they experience quick success in each role. Document each success in a spreadsheet or chart like the one below.

Goal 1	Completion Date	Goal 2	Completion Date
Task A		Task A	
Task B		Task B	
Task C		Task C	



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Strategies (continued)

Feedback

In addition to modeling and short-term goals, how you provide feedback can improve self-efficacy.

- **Provide specific feedback tied to goals:** How you provide feedback to your team members can have profound effects on their achievement, attitudes, motivation, and self-efficacy. One way to make your feedback more effective is to provide specific feedback tied to goals. Setting specific short-term goals early helps prepare students for constructive feedback later.
- **Adjust for individuals:** Feedback should also be adjusted for individuals. Statements such as “Good,” “Good job” or “Well done” are not very helpful. Rather, feedback must be specific to a task in order to increase self-efficacy. For example, a Mentor might say, “Great job troubleshooting the programming. Your strategy of breaking it down to test different sections to find the error was very effective.” You might not give that much feedback for each action your team members complete. However, when their self-efficacy is low, specific feedback supports them.
- **Focus on effort and process:** Try to focus your feedback on effort and use of appropriate strategies rather than fixed ability or intelligence. For example, you might provide feedback on how participants used sketching as a tool to design and plan before building or how they adjusted after a prototype did not work as expected.
- **Provide feedback after failure:** If participants fail at a task, provide feedback that encourages them to attribute the failure to things such as a lack of effort or inappropriate strategies. For example, you might provide constructive feedback to a team that rushed into building without spending enough time on a prototype or that did not consider everyone’s ideas before moving ahead. Without constructive feedback, participants may attribute their failure to an unchangeable lack of ability. After they recognize the issues that caused the failure, help your team members find better strategies to increase their self-efficacy.
- **Provide Wise feedback:** Wise feedback goes beyond critical feedback and has two parts: The teacher tells the student that they have high standards for the student and that they believe the student can reach those standards. Supporting students and ensuring they have the necessary resources to reach those standards is also important.

More on Wise Feedback

The powerful effect of wise feedback can be seen in research conducted by David Yeager and his colleagues (Yeager et al., 2014). Yeager and his team studied how middle and high school students responded to critical feedback and found that wise feedback led to greater success for students, particularly African American students and African American students who had low trust of teachers. In their research, Yeager and his team found that 71 percent of African American students revised their essays if they received a wise feedback note on their critiqued essays, while only 17 percent of African American students revised their essays if they did not receive a wise feedback note. African American students who had low trust of their teachers had more startling results: 82 percent of these students who received wise feedback revised their work while zero percent who did not receive wise feedback revised their work. Yeager’s team found that wise feedback also increased the likelihood for essays to be improved (not just revised) and led to increased grades over time.



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Additional Resources

Information on Self-Efficacy | www.uky.edu/~eushe2/Pajares/self-efficacy.html

This comprehensive website on self-efficacy provides extensive links to research and other resources. Created by a professor, the website tends toward an academic tone. If you want to dig deeper into self-efficacy, this site is one of the best available.

Self-Efficacy Tips for Parents | www.forsyth.k12.ga.us/cms/lib3/ga01000373/centricity/domain/31/self-efficacy_helping_children_believe_they_can_succeed.pdf

This PDF provides a brief overview of the four factors that influence self-efficacy. It includes a list of strategies to increase self-efficacy in children.

Self-Efficacy: Helping Students Believe in Themselves | serc.carleton.edu/NAGTWorkshops/affective/efficacy.html

This article on self-efficacy strategies was written for teachers, but the strategies could easily be adapted for use with a *FIRST* team. It also includes research for further reading.



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