

Hidden Messages

Strategies

Implement the following strategies from *Hidden Messages*, NAPE Module 2, to create an environment that supports the success of every student in *FIRST*®.

Recruitment Strategies

- **Use diverse representation in publicity and outreach:** Think about who is represented in photos for brochures or social media marketing. Does the public face of your team mirror the diversity of your wider community? Consider aspects of diversity beyond race and gender—especially less visible characteristics. Try to represent all groups in your community in your publicity and outreach.
- **Recruit in multiple classes and places:** Recruiting students from only science and math classes sends a message that those are the students who “belong” in *FIRST*. Recruiting in art, language, Career and Technical Education, and other classes sends a message that *FIRST* welcomes people with a wide range of skills and expertise. Purposefully recruit in places where underserved groups are already present. For example, a library in a high-poverty neighborhood serves different people than does one in a wealthier neighborhood.
- **Talk with everyone about technical and non-technical roles:** Some Coaches and Mentors are more likely to talk to boys about programming and building and to girls about presentations and teamwork. Be aware of how you talk about roles during recruitment.
- **Actively recruit students with disabilities:** Be purposeful about recruiting students with disabilities. Some participants may need accommodations to be successful, such as focusing on a single part of the project or participating in *FIRST*® LEGO® League Jr. or *FIRST*® LEGO® League even if they are older than other participants. Seek out knowledgeable teachers or specialists to help you determine what adaptations might allow students with disabilities to contribute to your team.

Role Strategies

Because the mission of FIRST is to inspire participants, we want to send the message that everyone is capable of learning how to serve in every role on the team.

- **Rotate roles:** One strategy for sending positive micro-messages that reinforce the message of *FIRST* is to ask everyone to try every role in the beginning of the season. This strategy might place some people outside of their comfort zones, but that can be where the most rewarding learning happens. When everyone serves in a variety of roles, unconscious ideas about what roles are possible or appropriate for different types of people can break down. Some teams expose people to different roles during pre-season workshops, while others rotate roles during the season.
- **Avoid isolating students from marginalized groups:** When possible, it is also helpful to keep together at least two members of any marginalized group during rotations. For example, keeping together two Latino students may help them feel less isolated. Researchers have studied what happens when only one student from a marginalized group is on a team. They found that those isolated students can have a negative experience and are more likely to drop out, especially in nontraditional subjects. The “[Isolation of Marginalized Students](#)” section below provides a summary of this research.
- **Rotate roles for adults:** Rotating roles can be a good strategy for Coaches, Mentors, and Volunteers as well. If only female Coaches provide meals for your team, you send a hidden message that women are nurturing but men are not. Even female Mentors who are engineers have reported being prevented from doing technical work by male Mentors.



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Strategies (continued)

Retention Strategies

- **Exit interviews:** Try to follow up with students who leave the team to determine their reasons why. Teams who are more successful at retaining diverse participants often follow up with those who leave, while those who are less successful are less likely to follow up. Exit interviews may reveal challenges you did not know students were facing. Sample exit interview questions are included later in this handout.
- **Remove transportation and location obstacles:** Some students from marginalized groups may face obstacles to participating in *FIRST*. If transportation is an issue, try changing the meeting time or location. Some Coaches and Mentors have found it helpful to coordinate parents to provide rides or start carpools with other parents. Others have found that changing the location from meeting in homes to meeting in schools, as well as near public transportation, works better for inclusion and retention.
- **Communication methods:** Be aware of differences in access to communication methods. A smartphone messaging app might work for some students but not others. Students in rural areas may have limited or no internet access at home.
- **Accessible spaces:** Ensure all meeting and competition spaces are welcoming and accessible to people with disabilities.
- **Be cautious of physical contact:** *FIRST* participants often give high fives at competitions. However, physical contact, especially with students of a different gender, may not be comfortable or appropriate for everyone. If students have a religious or other objection, be sensitive to those differences and look for other ways to include those students in celebrations. See the “[Celebration Ideas](#)” section for more examples.

- **Schedule around holidays:** Different cultures and religions celebrate different holidays. Scheduling around holidays can allow everyone to fully participate. Ask your participants what holidays are important to them. You can also search online for multicultural calendars; the “[Resources](#)” section below offers two examples.
- **Offer inclusive food options:** When you offer options that are halal, kosher, or vegetarian, you make space for everyone on your team. Ask your participants about their food restrictions or preferences. Try to offer options that can accommodate everyone. A pepperoni pizza may be acceptable if a cheese or vegetable pizza is also available.

Exit Interviews

If you are experiencing challenges with retention, conduct exit interviews with students who leave your team to uncover the reasons why. Ask open-ended questions to allow students to express their own feelings and beliefs. A key aspect of a successful exit interview is listening and considering a different perspective. If you disagree with what the student is saying or see things differently, restrain yourself from turning an exit interview into a debate or argument. Trying to understand the perspective of a student who is leaving can lead to great insights into how to better retain future students.

Here are some sample questions to ask in an exit interview.

- **Why did you stop participating in *FIRST*?**
- **What obstacles or challenges are preventing you from continuing to participate?**
- **Would you consider returning to *FIRST*? What would it take to get you to try again?**
- **Is there anything else that would be helpful for me to know as I try to recruit and retain future students for the team?**



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Strategies (continued)

Celebration Ideas

Celebrating student success is a central part of *FIRST* teams. However, some celebration customs may go against the cultural norms of students within the group. Physical contact may be uncomfortable for students with certain disabilities—students with autism, for example, may not want to be touched. Physical contact with students from the opposite gender may be uncomfortable for students from various cultures. Below are some ways to celebrate success on your team(s) without causing discomfort for students who are not used to physical contact. A powerful way to celebrate success is to have recognition come from other students on the team.

- **Jazz hands instead of high fives:** Instead of judges giving high-fives to students during awards ceremonies, have them line up on either side of the awardees and do Jazz Hands (shake their hands) over the students' heads and give praise to create a tunnel of excitement that students can run through. When an all-girls team from Saudi Arabia attended an awards festival, this adjustment allowed them to be celebrated in a way that was comfortable.
- **Give kudos or props:** A practice often used in schools is to give kudos or “props.” Ask the students to reflect on the work of other students that stood out in a positive way. Students then volunteer to give kudos or props about other students. You can add a group recognition by having that student say: “Props, 1-2-3” at the end and have the whole team clap in unison.
- **Write notes of appreciation:** Team members can celebrate success by writing notes of appreciation to each other. The Coaches, Mentors, and Volunteers may choose to write a note to each team member, or each student can reflect quietly and recognize another student by writing a note of appreciation and recognition. A video of how this is done in a classroom to celebrate and recognize student contributions is available at: www.teaching-channel.org/videos/building-student-appreciation-nea
- **Give snaps:** The team can recognize student achievement and contributions in real time by having students snap their fingers when a team member does or says something that they agree with or value.
- **Hold an awards ceremony:** Recognize achievement within your team by holding an awards ceremony. Awards ceremonies can help highlight aspects of team growth that are important to you, such as perseverance, teamwork, *Gracious Professionalism*®, inclusiveness, effort, and other aspects that may be otherwise overlooked. Awards ceremonies do not need to be formal and can be a great opportunity to create team culture. Consider using humorous awards that can be passed down with each ceremony (e.g., the “Rubber Chicken” award). These ceremonies can be a fun time to create team traditions that help unite your team.
- **Five minutes of fame:** Particularly for larger teams, consider recognizing students through on-screen representations. This could mean a streaming video that highlights successful moments of student achievement or using online platforms such as tweets, Facebook posts, or texts to highlight successes. Similar to the awards ceremony, this strategy can recognize actions or behaviors that may otherwise be overlooked.



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Isolation of Marginalized Students in a Group

A Research Summary

Having only one student from a marginalized background on a team can lead to negative experiences for that student (Rosser, 1998), as well as a higher likelihood that the student will leave the team, especially those studying nontraditional subjects (Light, 1990; Treisman, 1992). Researchers recommend that at least two students from a marginalized group participate on the same team (Rosser, 1998).

This more equitable approach contradicts past research, which has promoted forming student groups that represent the demographic of the community or classroom (Oakes et al., 1994; Slavin, 1990). Although having single representation of a marginalized group on a team allows for minority perspectives to be represented within each team, it benefits the majority population and does not consider the drawbacks for the marginalized student (Rosser, 1998). Marginalized students may face stereotype threat, that is, they feel an expectation to perform and behave according to the stereotype of their minority group and not reach their potential (Steele & Aronson, 1995). When marginalized students are not isolated on a team, they can be supported by peers who can share self-doubts or seek help without reinforcing stereotypes about inferiority. Stereotype threat applies to both gender and race. Females in male-dominated environments, particularly fields such as science, mathematics, and engineering, are more likely to drop out if they are the only female in their group (Light, 1990). Non-white students also are more likely to fail or drop out if they are isolated in their environment (Allen, 1980, 1992; Miller, 1995; Treisman, 1992).

Richard Light's studies of students and faculty at Harvard have revealed the importance of small group work for women, particularly in STEM (science, technology, engineering, and mathematics) fields. In particular, female students perform worse when they are isolated in their group (Light, 1990). Etzkowitz et al. (1994) reported similar findings from an evaluation of women in science fields—when there is a critical mass (at least 15 percent) of women in a department, female participation in that science field is more likely to increase. More women in a group allows for more female role models (and, therefore, increased participation of other women) and a reduction in negative behavior by men toward women (e.g., sexual harassment, stereotyping).

Uri Treisman compared the study habits of 20 Black and 20 Chinese freshman calculus students at University of California Berkeley and discovered that the Black students typically worked in an isolated manner, resulting in higher failure rates. However, when Treisman organized a program in which marginalized students (Black and Latino) represented the majority on teams and were taught important team skills, they were more comfortable, found it easier to form cross-ethnic friendships, and succeeded in the course. This intervention was reproduced at the University of Texas at Austin by Efraim Armendariz with similar results; once group work was built into the course and scaffolded, minority students earned a 3.53 GPA while others earned a 1.66 GPA (Treisman, 1992).

Walter Allen analyzed questionnaire responses from 229 Black undergraduate students at the University of Michigan in Ann Arbor. The responses indicated that 30 percent of the students considered dropping out, identified feeling isolated, and experienced difficulty adjusting to the social climate as reasons for attrition. Greater than 90 percent of the students reported a need for more Black students on campus (Allen, 1980). Later, Allen continued his research by comparing questionnaire responses from Black undergraduate students at predominately Black institutions with those at predominately White institutions and found that Black students who were the majority race on campus felt more engaged, connected, and supported while those who were the minority race on campus reported more feelings of isolation and other negative feelings (Allen, 1992).



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Additional Resources

Diversity Holidays and Heritage Months | www.diversitybestpractices.com/diversity-holidays-and-heritage-months

This site provides an annual list of holidays for a range of cultures and religious, with brief descriptions of each. It also provides resources for U.S. Heritage Months.

Diversity and Inclusion: Cultural and Religious Observances | www.diversity.missouristate.edu/observances.htm

Missouri State University shares a month-by-month guide to major holidays from multiple cultures and religions.

5 Ways Americans Celebrate That British People Find Awkward | www.bbcamerica.com/anglophenia/2014/01/5-ways-americans-celebrate-british-people-find-awkward

A light-hearted article with observations from a British man living in the United States. America will gain insight into how high fives, fist bumps, and other celebrations are viewed by people from a culture that is less physical.

Why Don't Muslim Men Shake Hands with Women? | www.talktoislam.com/14/why-dont-muslim-men-shake-hands-with-women

The "Talk to Islam" site aims to educate non-Muslims about Islam, including this thorough explanation of the restrictions on physical contact with people of the opposite gender.

Learning How to Care, Part 1: Celebrating Student Successes | www.edutopia.org/student-accomplishment-part-one

This article focuses on the community-building aspects of celebrating successes.

5 Ways to Celebrate Student Success in the Classroom | www.sadlier.com/school/core-literacy/5-ways-to-celebrate-student-success

Although this list was created for classroom teachers, the ideas could be used or adapted with *FIRST* teams

Are You Culturally Competent? | www.cta.org/en/Professional-Development/Publications/2012/06/June-Educator-2012/culcomp.aspx

Four teachers share thoughts on what makes one a culturally competent educator.

International Body Language: A Language with No Words | www.telegraph.co.uk/education/educationadvice/10055769/International-body-language-a-language-with-no-words.html

This website provides a brief introduction to cultural differences in body language.

Video: Micromessages in the STEM Classroom | www.teachingchannel.org/videos/using-micromessages

This 4-minute video includes interviews with teachers who use positive micromessages to help students succeed.

Robots in the Outback | www.facebook.com/Robots-in-the-Outback-1544995949151306/ | sites.google.com/site/robotsintheoutback/

Learn more about the Robots in the Outback outreach program mentioned in the module from its Facebook page and website



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References for Additional Reading

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