



BIOCOM
institute

2020
High School
Inventory of
Practice Survey

Introduction

Beginning this year, Biocom Institute will be surveying educators annually to help collect and report on authentic teaching practices of high school life science/biotech teachers in California. In general, the High School Inventory of Practice Survey serves the following three objectives:



To share teaching practices and resources for the greater Life Science educator community of practitioners in California.



To provide a conduit for the voices in the high school life science teacher community to inform Biocom Institute and partner programs.



To stimulate discussions and action with educational leaders, industry partners, and other Life Science ecosystem stakeholders to support K12 Life Science education.

A total of 61 life science educators completed this survey. Providing feedback from 37 high schools in San Diego County.



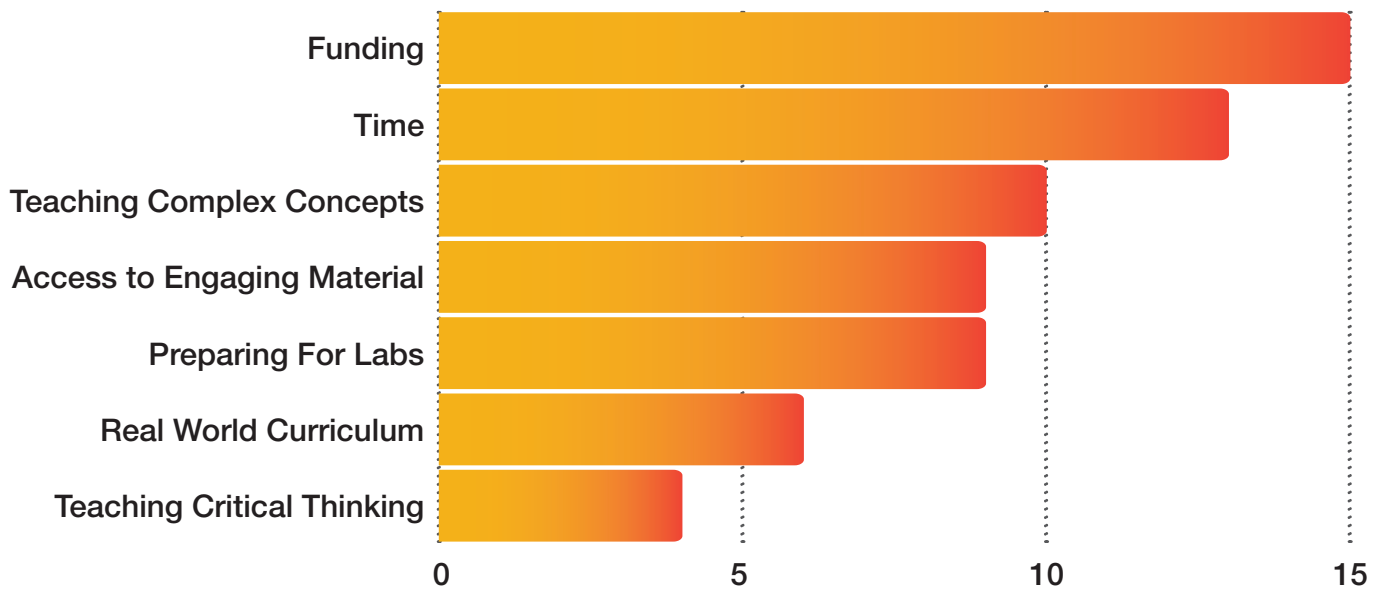
Illumina Genomic Discoveries Program

REPORT SUMMARY

Funding and time pose challenges for providing students with effective and engaging learning experiences. However, what is clear is that educators find professional development, lab experiences, real-world curriculum and exposure to the industry through tours, guest speakers or internships are the most critical and valuable ways to engage and inspire students with the life sciences.

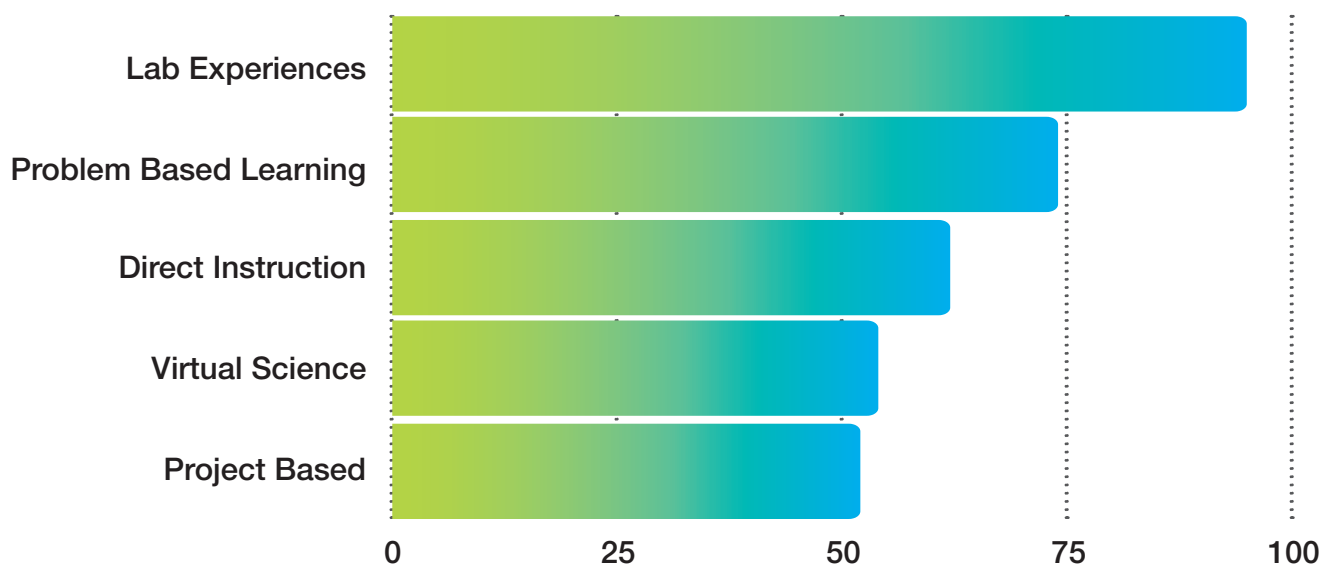
We understand that obtaining educator feedback is critical to creating strategies and solutions that work.

MAJOR THEMES REPORTED BY EDUCATORS ABOUT THE CHALLENGES OF TEACHING SCIENCE CURRICULUM



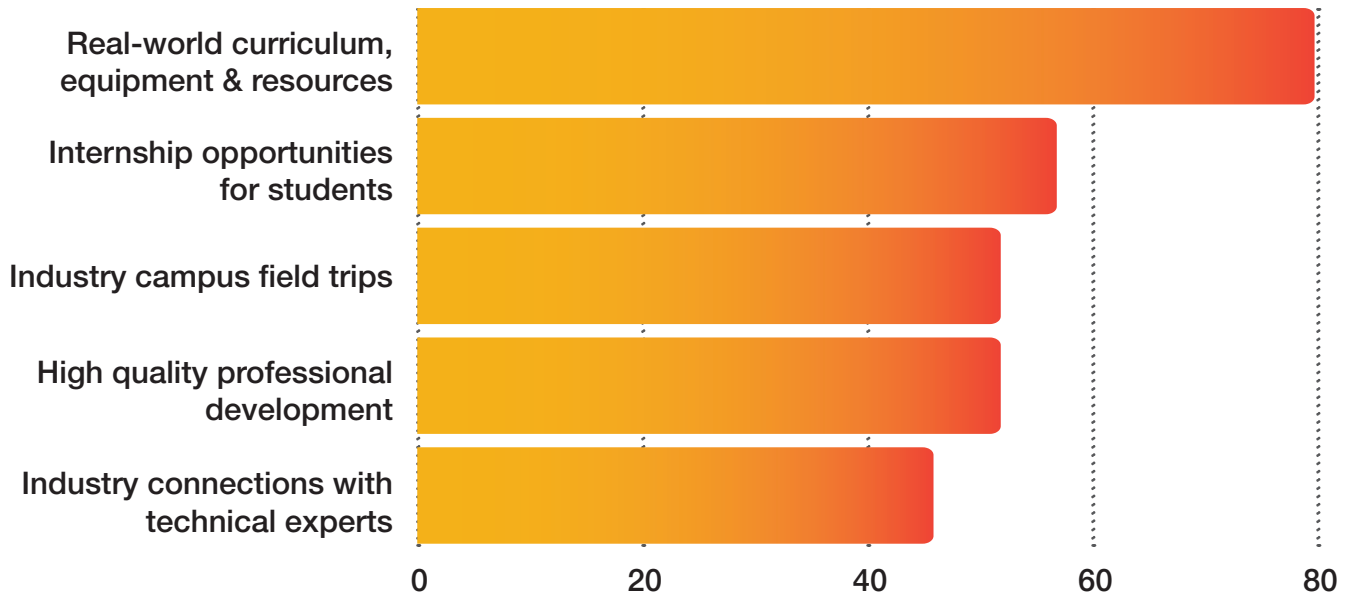
INSIGHTS: Funding and time were the most reported challenges to teaching science curriculum. Educators also reported challenges teaching complex concepts to students of varying levels of understanding. Access to engaging materials that students were interested in and preparing labs also posed challenges. Lastly, there was a desire for real-world topics and experiences.

TOP 5 MOST EFFECTIVE TEACHING PRACTICES TO ENGAGE STUDENTS



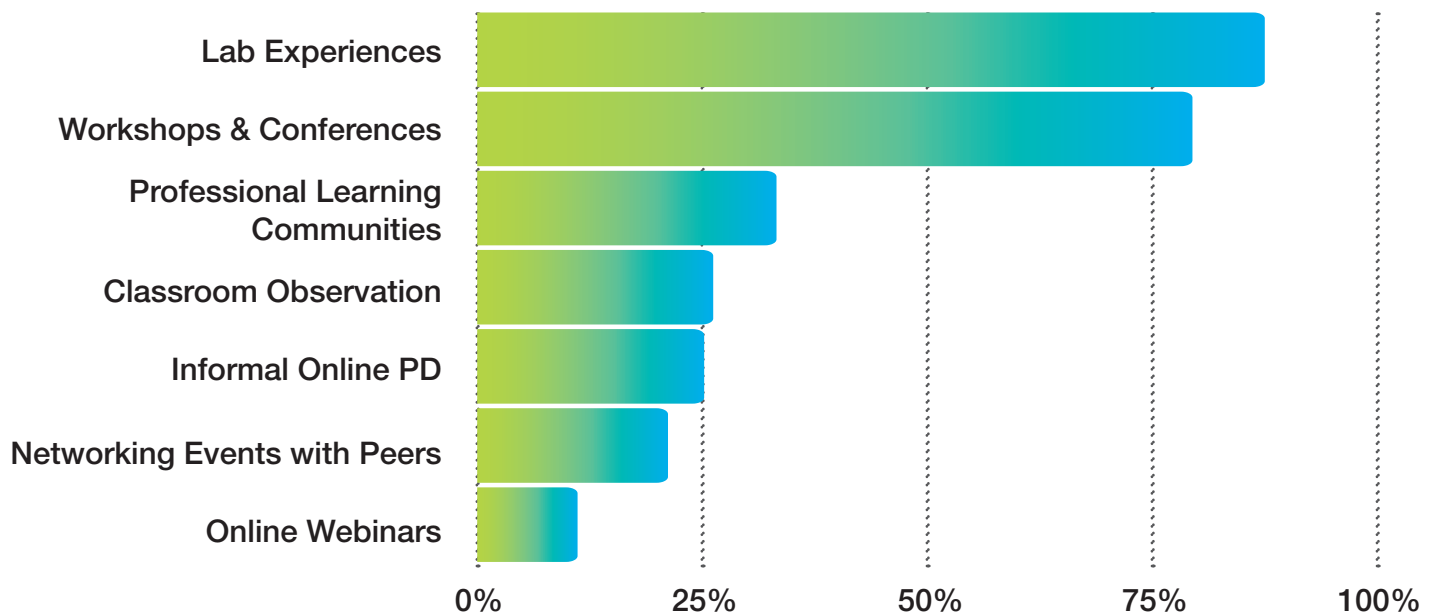
INSIGHTS: Of 10 teaching practices, 95% of educators felt that lab experiences were the most effective teaching practice to engage their students. More than half of educators felt like virtual labs were also effective. Less than 10% selected textbooks as an effective teaching practice.

TOP 5 GROWING NEEDS OF THE SCIENCE TEACHER COMMUNITY



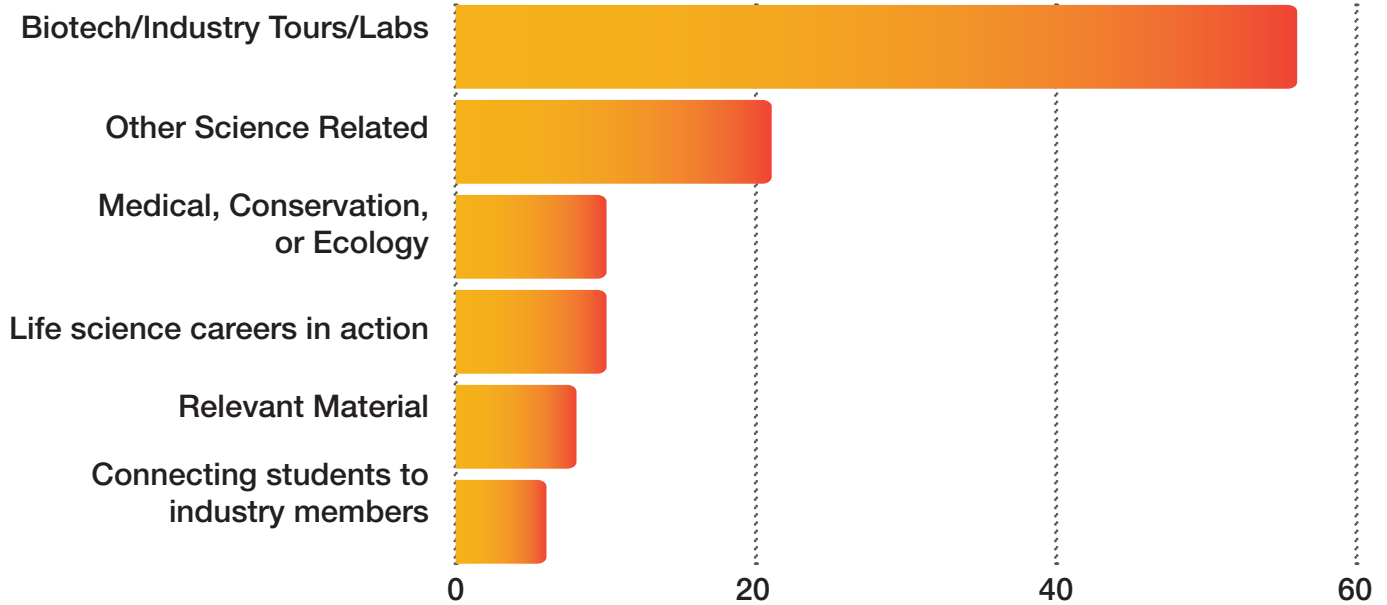
INSIGHTS: The majority of educators reported the need for consistent resources and supplies for labs, and real-world lab experiences. They also mentioned funds to finance technical labs, time and support to plan science activities such as internships, trips, and visits from industry professionals.

MOST EFFECTIVE TYPE OF PROFESSIONAL DEVELOPMENT (PD) SELECTED BY EDUCATORS



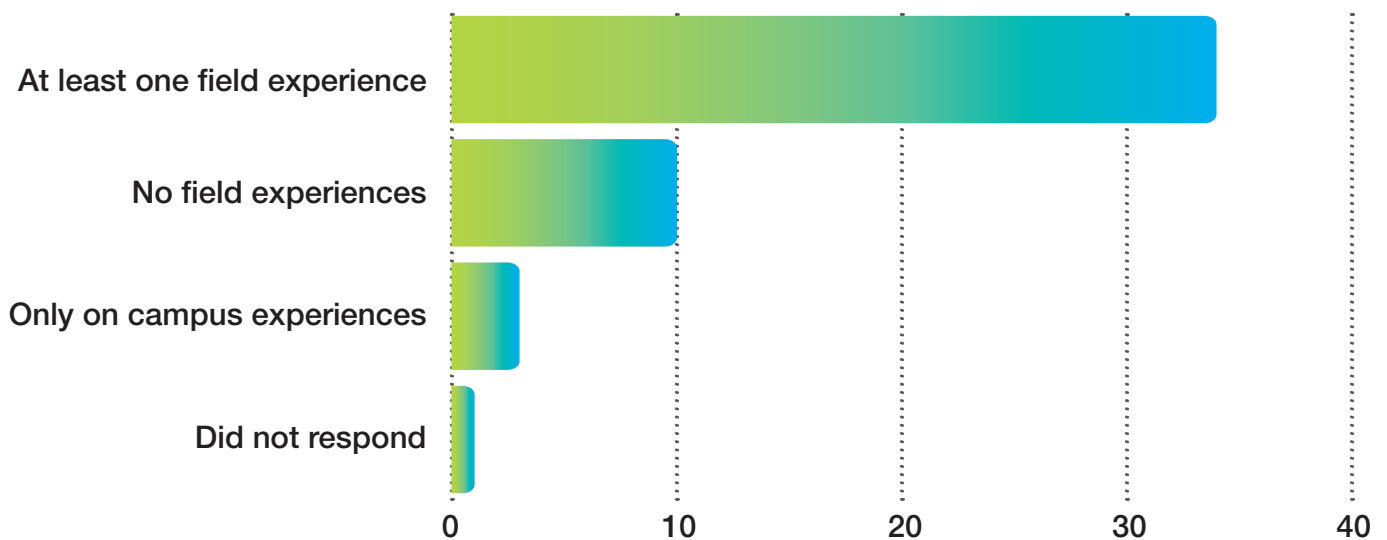
INSIGHTS: Educators reported that lab experiences, attending workshops and conferences were the most effective types of Life Science professional development. Other opportunities such as externships, online college courses and summer programs were mentioned as valuable types of professional development.

TYPES OF FIELD EXPERIENCES EDUCATORS WOULD LIKE TO PROVIDE FOR THEIR STUDENTS:



INSIGHTS: More than half of educators said they'd like to take their students on a biotech industry tour or to a university lab. They felt it was important that students see science in action. They expressed a need for hands-on experiences, relevant material, and connecting students with people working in life science careers.

THE NUMBER OF FIELD EXPERIENCES TEACHERS HAVE PARTICIPATED IN WITH THEIR STUDENTS



INSIGHTS: The majority of educators reported that funding field experiences was challenging. Logistics such as timing, substitutes, liability, transportation, school support and the size of classes prevented educators from planning field experiences. Guest speakers and limiting experiences to the school neighborhood were ways that educators bring experiences to their students.

Biocom Institute is committed to supporting teachers and will be providing additional information and resources to address their needs. We know COVID-19 has many of our Science teachers searching for activities and programs they can utilize online. As a part of conducting this survey, we were able to curate a list of the online resources our Life Science teachers use in their classrooms.

[VIEW RESOURCES](#)

Thank you to all of the educators who responded to the survey.

Would you like to learn more about bringing life science education and biotech industry connection opportunities to your school or district?

[LET'S TALK](#)

www.biocominstitute.org

