



### Context

We are addressing overlooked eye care deficits of Alameda & Contra Costa County students. The goal of our project, "Oakland in Focus," is to uncover undiagnosed vision problems that affect a child's learning potential. Symptoms of vision related learning differences might not be regularly diagnosed in typical vision screenings due to the ratio a students to time allotted. **In elementary school, roughly 80% of a child's learning is through vision.** (COVD)

Imagine if your child is one of the 5 million children, in the U.S alone, who have vision problems that impact their learning. **"20/20" actually only tells us how a child performs at distance and ignores the child's vision at near.** It goes without saying that near work is where skills like focusing, coordinating, and tracking (basic motor eye movements) are crucial for learning and normal neurological development. With an astonishing **50% of vision problems missed during typical school vision screenings**, our lifetime goal is to refine the typical screening routine by providing adequate education on visual related issues. (COVD)

**For our project**, we partnered with Alameda Contra Costa County Optometric Society (ACCCOS) to provide educational vision workshops for our target population. As well as developing and providing a "draw-with-me" type video illustrating notable signs of commonly missed ocular pathologies to the Oakland Unified School District (OUSD) board with the intention of their distribution to school nurses, parents, teachers and students. We also assisted in the installation of a community service requirement and a community health lecture in the UC Berkeley School of Optometry first-year curriculum.

### Goals & Objectives

Our target population is 2nd and 3rd grade students of marginalized classrooms within Alameda County and Contra Costa County.

#### Our project is designed to

- Increase awareness about missed binocular vision, ocular conditions, and refractive errors in children
- Increase awareness to students, teachers, and school district nurses on common symptoms of **learning related vision disabilities**
- Increase awareness and importance of community health to Berkeley Optometry Students

#### Objectives

- Collaborate with ACCCOS and UC Berkeley's Academic Talent Development Program to assist in the **Exploring Light & Vision program** to 2nd graders
- Provide educational materials for teachers and school district nurses illustrating common signs and symptoms of learning related vision differences in students
- Consult and help implement a community health lecture and community service requirement in the University of California, Berkeley School of Optometry's (UCBSO) first year optometry student curriculum

### Implementation

#### Workshops

In our partnership with ACCCOS, we are providing a workshop aimed at 2nd-3rd graders that introduce different types of vision loss to the students. Our workshop is worked in to the Exploring Light & Vision Course with UC Berkeley's Academic Talent Development Program (ATDP). It involves a general introduction about the eye and visual system, a talk on vision deficiencies, as well as small group demonstrations where 5-6 students rotate through "disease" stations. At each station, the students get to design and try on glasses mimicking the effects of cataracts, blurry vision or uncorrected refractive error, glaucoma, macular degeneration, and diabetic retinopathy.

#### Exploring Light & Vision with UC Berkeley's ATDP

In this course, we will investigate the amazing properties of light, how our eyes function, and how our minds perceive visual information. Through hands-on activities, projects, and fun investigations we will study rainbows, the human eye, invisibility, shadows, light waves, and optical illusions. We will also build kaleidoscopes, beautiful light reflective boxes, animation flip books, and pinhole scopes. Students will become light and vision experts and will fill their scientific journal with notes, illustrations and observations of their light experiments. Throughout the course our focus will be on exploring and understanding the relationship between light, vision, and how we perceive the world. You won't believe your eyes!



#### Educational Program

In our partnership with OUSD, we are designing and providing an educational video for their dispersal to school nurses, teachers, parents, and students. The video highlights commonly overlooked symptoms of vision related learning deficits in children. Focusing on:

- Headaches
- Eye strain
- Double vision
- Swimming words
- Skipping lines
- Burning, itchy, watery eyes
- Head tilt or closing one eye to read
- & for those rambunctious students who just "hate" reading



#### Community Health Developments

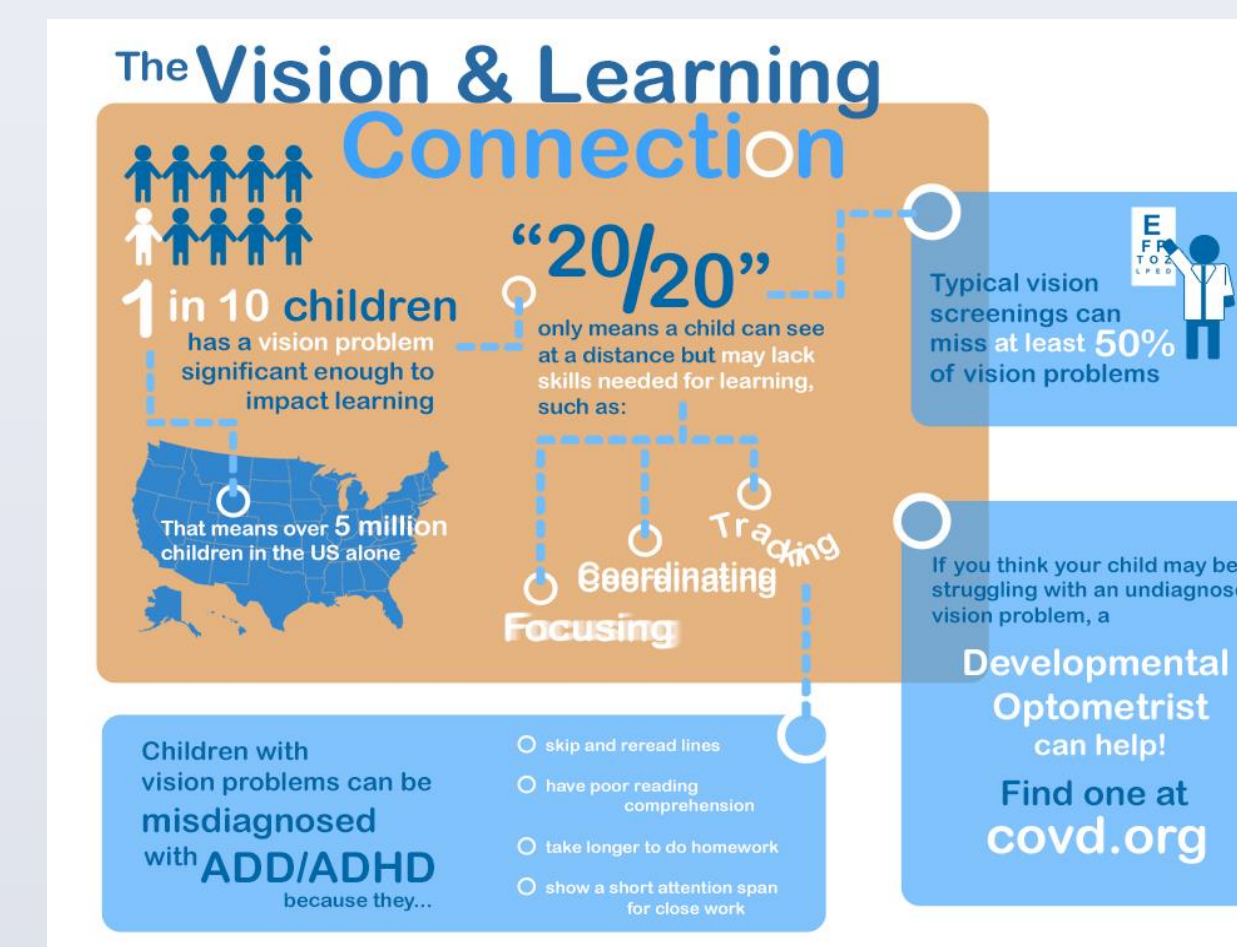
Lastly, in our partnership with UCBSO, we worked with the Admission and Student Affairs Office to:

- Develop a community health lecture in the first year Career Management Course
  - This year's lecturer was Schweitzer for Life and former UCBSO Community Health Resident, Dr. Angela Shahbazian
- Implement a community outreach requirement as part of the first year curriculum

### Evaluation & Lessons Learned

We hypothesized that visual deficit education would have a greater impact in improving vision referrals than vision screenings. In our conversations with OUSD, it became apparent that the educational materials were actually preferred and needed. In alignment with OUSD's request and our long term goal of significantly improving student vision referrals we realized that properly educating teachers and nurses on common symptomology of learning related vision deficits was key. Our educational plan allows school nurses and teachers to observe their students and refer them to optometrists **year-round**, and not just when the basic school screenings occur.

With the Schweitzer Fellowship, we were able to impact sixty 2<sup>nd</sup> and 3<sup>rd</sup> grade students. This was completed through our participation in the Exploring Light & Vision course via ATDP and vision screenings with UCBSO students and faculty. During the school screenings we accentuated: refractive error, ocular disease, as well as symptoms of vision related learning differences through near cover test and near point of accommodation.

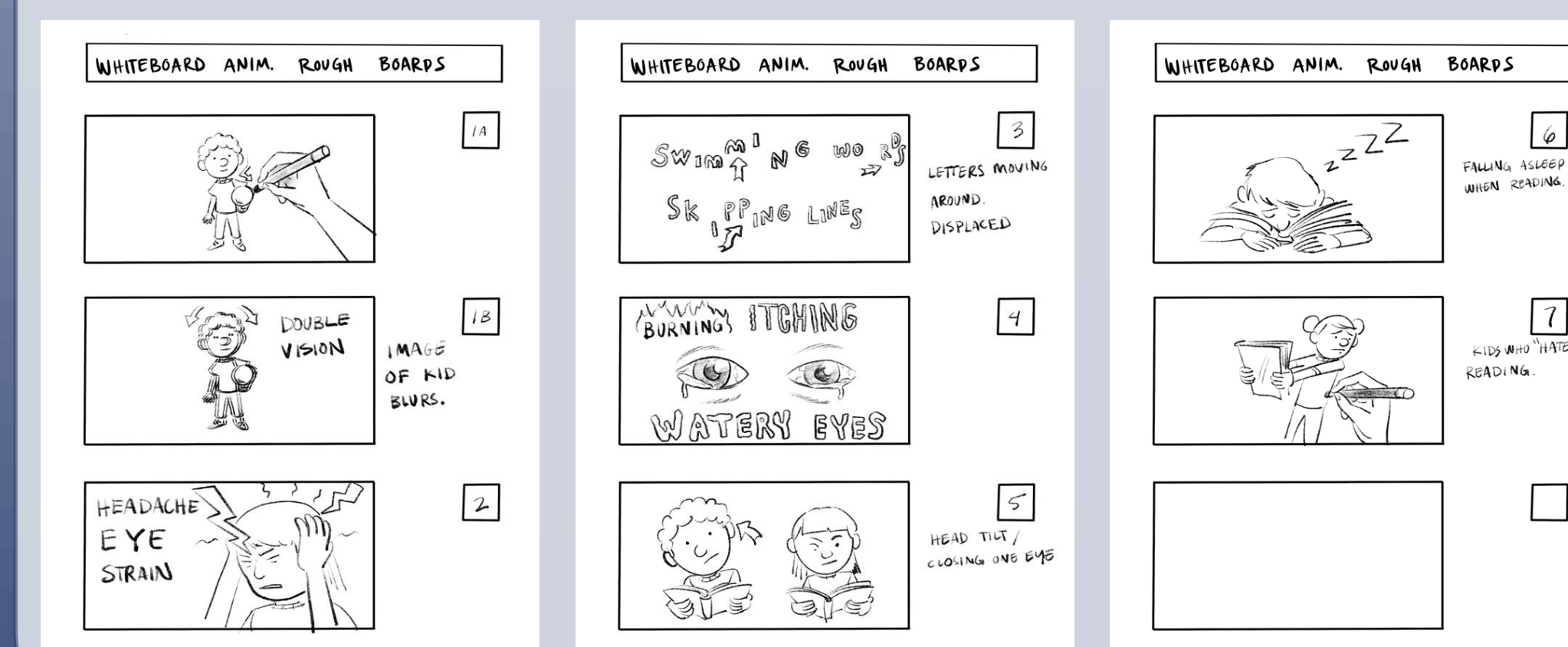


### Continuing Services

When designing our project, we strove to incorporate sustainability as an underlying thread. We believe sustainability creates the opportunity for the strongest impact in our community. As a result, each aspect of our project is able to continue beyond the Schweitzer Fellowship year.

1. UCBSO's presence at the Exploring Light and Vision course is annual
2. OUSD educational video will be dispersed starting the academic year 2019 and beyond
3. The Community Health lecture is now a regular part of the first year curriculum as well as mandatory community volunteer hours

Our ongoing relationship with ACCCOS will allow us to multiply the number of students impacted over the next few years.



### Community Partners

- **COA**
  - California Optometric Association is an organized community that provides a voice for the optometrists of this state. COA currently represents over 2,600 member optometrists in California, setting the standard of eye care.
- **ACCCOS**
  - Alameda Contra Costa County Optometric Society is a local affiliate of the California Optometric Association serving the East Bay's Alameda and Contra Costa Counties.
- **OUSD**
  - Oakland Unified School District (OUSD) will build a full service community District focused on high academic achievement while serving the whole child, eliminating inequity, and providing each child with excellent teachers, every day.
- **UCBSO**
  - UC Berkeley School of Optometry's mission is to further the frontiers of primary vision care practice, specialized optometric practice and vision science research.
- **COVD**
  - The College of Optometrists in Vision Development provides board certification for optometrists and vision therapists who are prepared to offer state-of-the-art services in:
    - Behavioral & developmental vision care
    - Vision therapy
    - Neuro-optometric rehabilitation



### Acknowledgements

We thank our academic mentors at the UC Berkeley School of Optometry for all of their guidance and support throughout our Schweitzer Project. First, Dr. Elise Harb and Dr. Shahbazian for jump starting this project with us. Dr. Scott Gee for allowing us to participate in local school screenings. Dr. Fisher for training and sharing her pediatric wisdom with us. Dr. Christine Wildsoet for guiding us through the boulders we encountered along the way.

We'd also like to acknowledge Dr. Kochik for introducing us to ACCCOS and collaborating with us on the vision workshops.

We would like to thank our site mentors at OUSD, Barbara Parker and Paris Prior for allowing us to get a foot in the door with the school district and enlightening us on the many ways we could help out community with optometry.

Lastly, we would like to show HUGE appreciation to Dale Ogar & Melody Cibock for being incredibly supportive during this entire fellowship.