

Chapter 24

Lighthouse Creativity Lab

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ABSTRACT

The Lighthouse Creativity Lab, a program of Lighthouse Community Public Schools (LCPS), is a school-based makerspace dedicated to serving the student population of Oakland, California. LCPS is a family of two schools, Lighthouse and Lodestar, which opened in 2002 and 2016 respectively. The schools were founded with the mission to provide a high-quality education to the largely Latino population, following the expeditionary learning framework that emphasizes community and critical thinking skills, both important factors in making. Over the last 5 years, making has moved from a high school course into a school-wide endeavor, with all K–4 classes hosting a mini-maker space in the classroom. Moreover, the Creativity Lab works closely with teachers to incorporate making into learning expeditions as well as offering making as an elective in the middle and high-school grades. Learning communities are created through the social aspect of working on specific projects and through preparation for events like the Maker Faire. This chapter explores the Lighthouse Creativity Lab.

We are a firm believer that the low-tech tools and supplies are just as useful as high-tech supplies. And we are a fan of them because they're accessible, they're cheap. There's not an issue of students feeling like they don't want to mess this thing up. — Amua Camargo

ORGANIZATION BACKGROUND

The Lighthouse Creativity Lab, a program of the Lighthouse Community Public Schools (LCPS) located in East Oakland, California, serves an ethnically diverse population consisting largely of Latino students. Charter schools in the United States operate independently of traditional public schools and usually have flexibility and choice in curriculum and educational approaches. In 2016, Lighthouse enrolled 450 students in grades K–8 and 260 in grades 9–12 (Lighthouse, 2017). The school is diverse: 72% of the student body is Latino, 5% Asian, 11% African-American, 3% white and 9% other. The school actively recruits students from the East Oakland neighborhood, part of Alameda County, which

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includes several adjacent neighborhoods to the north and east of the Lighthouse Community School. Eighty-three percent of students at Lighthouse qualify for the free or reduced lunch federal program and 78% are English language learners (Lighthouse, 2017). As of 2012, the Latino population of East Oakland was 53%, the African American population was 26% and Asian/Pacific Islander population was 15% (Marcelli, & Pastor, 2012). In another study from 2012, 17% of the 90,000 residents living in East Oakland were unauthorized immigrants to the United States (Oakland, 2012). In addition, 18% of residents were unemployed and 5% were low-income (HealthPolicy, 2017).

The Lighthouse school was founded in 2002 with a Charter to serve underrepresented students in the Oakland City area, specifically addressing inequality in education especially as it exists for students in the East Oakland area (Lighthouse, 2017). According to Camargo the school was started in an abandoned storefront in 2002 and after several moves landed at the current location in 2009. The current home of the Lighthouse Community Charter Public School is located in a sprawling two-story building with large atriums throughout to house both the K–8 and 9–12 student populations. Unlike many school buildings, the Lighthouse building, which started out as a carpenter’s union hall, has an abundance of natural light, with plenty of open spaces. According to Camargo the design of the building fits one of the tenets of Expeditionary Learning (LE), which is to create a learning environment that learners feel good in and will enrich their education. Camargo described Expeditionary Learning:

Expeditionary learning is something that came out of Outward Bound. So, we study through expeditions. They’ll study one topic for a really long amount of time and study all of the other curriculum through that lens. For example, one of the expeditions in our middle school is around gun violence, so they’ve used that in their math classes, in their humanities to write opinion pieces. And then another one is sharks. So they looked at that across disciplines as well; actually went out and took photographs and also wrote books about it. So basically, just looking at something really in-depth for a long period of time.

Camargo noted that because the school started out as an Expeditionary Learning school the implementation of making was relatively seamless. According to Ikpeze (2013), the Expeditionary Learning (EL) Outward Bound model pairs real world projects with difficult academic content, which are referred to as academic expeditions. The EL model grew out of a collaboration between the Harvard Graduate School of Education and Outward Bound, USA (DiCamillo, 2015). Learning expeditions “encourage students to engage in original research; develop critical thinking, problem solving, and literacy skills; and build character” (DiCamillo, 2015). Other components of the EL model include a learner-centered focus, an emphasis on knowledge authentic to the learners, assessment that is formative and continual, and a focus on learning that is community-centered. The EL model can be seen in the published instructional stances of LCPS, which includes purposeful understanding that is deep, learning that happens in community, and learning that is personalized and driven by the learner (Lighthouse, n.d.). With Lighthouse’s roots in the EL model, it is not a surprise that in 2009 the school began its foray into integrating making into the classroom and it was relatively seamless.

Making was first introduced by Aaron Vanderwerff, a science classroom teacher who integrated making into his physics classroom and started a robotics course in 2009. The robotics course was expanded in 2010 to include making and was the start of the Lighthouse Creativity Lab, which at the time of my visit was directed by Vanderwerff. Camargo, who recounts the beginnings of Creativity Lab:

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