

Anderson W. Clark Magnet High School – Model Programs and Practices

Name of Model Program/Practice:

STEAM POWER: Integrating Common Core and CTE through Project-based Learning

Length of Model Program/Practice: 20 years

Target Areas:

Career Technical Education
Parent, Family and Community Involvement
Professional Development
Science, Technology, Engineering, and Mathematics
Use of Technology
Visual and Performing Arts

Target Populations:

White
Hispanic
Asian
Socioeconomically Disadvantaged
English Learners
Students with Disabilities

Strategies Used:

Data-Driven Decision Making
Professional Development
Implementation of Academic Standards Basics

Description

The model program is project-based learning with authentic acquisition of knowledge through digital applications and resources, Career Technical Education, and cross-curricular collaboration. This practice has been implemented for all students including English Learners and students with special needs across the entire curriculum in academic core subjects as well as CTE courses. Clark students are accustomed to collaborative teamwork and have developed outstanding presentation skills. Skill sets gained in one subject are easily transferred and utilized in other subject areas. Project-based, authentic, rigorous and relevant learning is now found in all areas of the Clark curriculum.

Clark's model program is an integration of California State Content Standards, Next Generation Science Standards and the 11 Elements of a High-Quality CTE Program standards linked through project-based learning. Clark is a STEAM school because of its emphasis on science, technology, engineering, the digital arts, and mathematics. This model program is aligned with the District's three LCAP Goals: Maximize student achievement; create a culture of learning and increase engagement.

Clark serves a diverse student population that reflects the changing demographics of the Glendale community. Approximately 70% of Clark's students speak a primary language other than English. Since 1998, the percentage of economically disadvantaged students has expanded from 30% to nearly 54%. Also, the school team identified an achievement gap

between disadvantaged students compared to the entire school population. The model program is designed to increase student understanding of core subjects through project-based learning and application of knowledge in science and CTE classes. Research indicates that learners need to do more than respond by feeding back information. They also need to explore data, to synthesize it into usable information, to interpret their findings, and to create and integrate solutions to problems. Students with special needs as well as English Learners find project-based learning to be engaging and report feeling successful in settings where hands-on, practical skills are directly assessed. The block schedule and daily enrichment period allow for intervention and extension activities for all students. This authentic learning takes place in a social context, supported by teacher facilitators who scaffold learning experiences and with projects that build skills relevant to the changing world of careers and technology in the 21st Century. Making deep, lasting connections with faculty, mentors and industry partners through course content and long-term projects enriches the school culture and underscores Clark's commitment to personalized learning for each student.

Resources for the model program include a staff of highly qualified teachers in core subjects and elective classes. Teacher recruitment has led to a staff with diverse work experience in business, architecture, digital arts, design, information technology and engineering. Some core teachers have previous experience in elementary and middle school teaching and are able to transfer their experience with collaborative, project-based learning to the high school environment. Clark's teachers regularly share presented lesson plans and software training, and they have helped the staff to build on the success of the model practice as a foundation for Common Core instruction.

District and grant funding sources have provided students with state of the art equipment for use in classrooms. The rich use of technology enhances the model program and practice. With over seven dedicated computer labs, a near 1:1 Chromebook-to-Student ratio and a robust suite of software applications (Adobe Creative Cloud, Microsoft Office, AutoDesk Revit, Esri ArcGIS, AVID Media Composer, Final Draft Pro, Toon Boom Storyboard Pro, Maya, and ZBrush), teachers translate the work of industry to the classroom. Students apply technology to problem solving across the curriculum.

Implementation and Monitoring

The original foundation for Clark's model program came from educational reform research such as the *SCANS Report*, *Second to None* and *Aiming High*, which inspired many elements of the instructional program at Clark. A task force, which consisted of interested stakeholders including parents, potential students, District administrators, teachers, business leaders and interested members of the community, helped develop the school program. Since establishing the model practice, School Site Council meetings, PTSA meetings, English Learner Advisory Committee meetings, recruitment meetings for parents of potential students, Senior Projects Oral Boards Day, as well as the Clark Expo are venues where stakeholders have a chance engage with Clark's model program. Results from the Recommendations and Assurances survey through the School Plan for Student Achievement (SPSA) guides schoolwide goals and decision-making.

Clark's model program is readily apparent to visitors by stepping into any classroom. An examination of Clark's classrooms reveals small table-like desks that can be moved easily into different configurations to facilitate group work. Student work is on display throughout the school, and students are accustomed to receiving scoring rubrics for group projects in all of

their classes. The products of project-based learning such as videos produced by students in English classes, podcasts produced in Spanish classes, and outreach activities to local elementary schools are readily found at Clark. The program is communicated to stakeholders through the Clark website, PTSA newsletter, local newspapers and recognition of student success at GUSD Board of Education meetings. Clark Magnet has also earned national, state and local recognition: National Blue Ribbon School, California Distinguished School, Gold Ribbon School, Title I Achieving School, CA Green Ribbon School Silver Award, *US News & World Report* Silver Medal, and CA Business for Education Excellence STEM Honor Roll.

In the 12th grade, every Clark student completes a Senior Project that includes a persuasive research paper, fieldwork, internship or volunteer activities, the preparation of a portfolio and a presentation before three judges at the annual Oral Boards Day. This signature example of project-based learning draws a wide variety of stakeholders including parents of younger students, teachers and administrators from throughout the District, members of the business community, and Clark alumni to share best practices. Both certificated and classified staff are trained in various aspects of the Senior Project and these staff members join with other stakeholders as judges at the Senior Project Oral Boards Day. Feedback from stakeholders about the Senior Project experience is used to evaluate and improve various aspects of the process.

Clark's teachers receive ongoing professional development in using technology in the classroom, often with presentations by Clark's own CTE teachers. Teachers have collaborated in curriculum writing, lesson design, and development of common formative assessments. The model practice has expanded over the years to include staff development days that demonstrate the role of elective course teachers in supporting student understanding of key English and math standards. Administrators and counselors across the District meet monthly and participate in a wide range of training and professional development that includes Professional Learning Communities (PLCs), Positive Behavior Intervention and Support (PBIS), restorative practices, CTE articulation and LCAP alignment. For the past two years, all Clark students and staff, including secretaries, custodians and cafeteria employees, have participated in anti-harassment training. This is a critical element of the Clark culture that emphasizes working together on mutual goals.

Time is devoted on banking days for departments to meet and evaluate the effectiveness of instructional learning activities in their academic disciplines. Administrators participate in these department meetings to ensure the model program and practice remains a major focus in the department decision-making process. Over the past several years, Clark has devoted time to the growth of PLCs. These PLCs have provided opportunities for teachers in the same subject areas to evaluate the model practice's effectiveness in improving student achievement. Currently, all English teachers and the Integrated Math I instructors share a common preparation period to review student work, track data trends and share instructional strategies.

Results of the Model Program

The model program supports Clark's Student Learning Outcomes by reinforcing literacy and math skills across the curriculum and by giving students real world, unpredictable, problem solving experiences that apply core subject standards in a variety of settings. Clark's teachers use a variety of assessments as a way to evaluate the project-based learning assignments in their classes. Students receive group and individual grades on projects that often include media presentations and portfolio assessments. Skills from core academic subjects are utilized

in projects that draw on other skills, such as video production, that were acquired in CTE classes. The emphasis on performance tasks on annual CAASPP assessments is compatible with Clark's project-based learning experiences across the curriculum.

Clark has a 100% graduation rate, and a nearly 100% rate of enrollment in post-secondary education. Economically disadvantaged students and English Learners are closely monitored in order to provide appropriate interventions including after school math tutoring sessions. The achievement gap between these subgroups and the school as a whole was closed through efforts such as ALEKS math web-based application available to all Integrated Math I students, and Enrichment Period tutoring sessions for English Learners. This improvement is evident in multiple measures of student achievement including consecutive years of sustained improvement on the CAASPP (2017 to 2018 growth: 91% to 93% meeting/exceeding standards in ELA/Literacy and 72% to 76% meeting/exceeding standards in Mathematics). These results are summarized and reflected in the SPSA and determine goals and how funding is targeted.

Clark's culture encourages students to take three years of math and at least three years of science. As a result, 80% of Clark's students met the "a-g" requirements for college admission. The California School Dashboard's College & Career Indicator, which has a direct correlation to the goals of Clark's model program/practice, indicates that 88% of Clark seniors placed in the "Prepared" level. The school's transition in 2017 to an integrated math curriculum using CPM instructional materials is already showing positive progress in part because it is compatible with the model practice of project-based learning. Many students who might not be able to enroll in an AP class at other high schools are given a chance to experience rigorous, college-level curriculum. All efforts to improve student achievement, including the successful use of the model practice, have resulted in an increase in the number of AP tests being taken from 143 in 2008 to 677 tests in 2018, and the passing rate for these tests in 2018 was 55%.

Clark's staff as a whole regularly looks at data at the beginning of the school year and at department meetings to inform instructional decision-making. The District's Coordinator of Assessment & Accountability meets often with school teams to analyze interim assessment data and other metrics to guide continual program improvement. It is believed that the hands-on, project-based approach to learning at Clark has contributed to the success of Clark's targeted socioeconomically disadvantaged subgroup. Interviews with students and teachers have revealed that students found talents they did not know they had when working on projects in CTE classes, and they were then able to apply these skills in their other classes. This high level of engagement results in higher attendance at school (represented by a drop in chronic absenteeism from 6.0% in 2016 to 2.5% in 2018) and fewer behavior issues (represented by a drop in the suspension rate from 4.0% in 2016 to 1.7% in 2018). Clark is a place where students experience success.

Clark's teachers have Common Core-aligned lessons that will help students to attain high levels of achievement. The science teachers at Clark are similarly preparing instructional materials and assessments that are aligned to the New Generation Science Standards. Students in writing classes write scripts that are made into films in cinematography classes. Marine Science Research students write up and publish research reports. Clark's model program that integrates core subject standards, CTE standards, and project-based learning in a rigorous and relevant STEAM curriculum is a natural progression in this process to help all students prepare for college and the careers of the 21st Century.