Curricula

Education

MATH AND SCIENCE CURRICULUM By 13th, January Different schools adopt varying standards in their curriculum, depending on their location and their goals. The objectives of a school's curriculum are bold and made available to both students and teachers, to ensure a collective participation of both student and teachers in the attainment of these objectives. Additionally, the content of curriculum must also be availed to all the learners and their instructors for an effective learning process. Nonetheless, the standards and objectives of a curriculum are meant to improve the quality of education as well as academic performance of schools; these do not however describe how the teaching process should be conducted, instead, they provide a description of what instructors should teach (State Board of Education). This paper specifically reviews information about PK-12 Math and Science curriculum, including their scope and sequence of objectives, in specific school districts. The San Diego Unified School District is the second largest in California with a diverse population, and serves more than 100, 000 students from pre-school to grade 12. This school district teaches a variety of subjects to its students at different levels. Since the school prides in academic success, it takes seriously its curriculum, which has been primarily set to adhere to the Californian common core standards since 2001. The school therefore, adheres to these core standards by making an annual publication of the district course study, K-12. This is done in collaboration with the curriculum departments, different instructional programs, and the accountability office (" San Diego Unified District School"). At the San Diego School District, Mathematics is regarded as the study of numbers. Therefore, the mathematics department of this school district has its main objective as that of providing important skills in mathematics to its students. Another

object is the provisions of effective education to the students, enabling them reach their optimum level of understanding and applying mathematics (“ San Diego Unified District School”). The content of the Mathematics curriculum varies in this district school, depending on the level of grade. Across grades K-12, the students’ understanding of the curriculum content is built. This includes the concepts in mathematics, number sense, and operations, measurement in mathematics, geometry, data analysis, probability, statistics, and functions and algebra. In addition, the students are expected to develop proficiency in the processes involved in Mathematics. These include literacy in the quantitative aspect of mathematics, problem-solving skills, computational literacy, representational use, making connections, communication skills, and using reason and proof. These processes are important as they serve as the tools and habits, which students can use to effectively solve mathematical problems, as well as other problems (“ San Diego Unified District School”). The San Diego Unified School District defines Science as the study of facts, principles, and theories that describe the world around us. The main objective of the science curriculum in this school district is that, students gain more than just the understanding of basic science concepts. They must also understand the history of scientific theories and their development, as well as the generation and refining of scientific information. Another objective is that students be in a position to differentiate between science and non-science (“ San Diego Unified District School”). The San Diego Unified School District ensures that its students acquire this scientific knowledge as well as scientific skills by exposing them to a variety of science-oriented activities. For instance, students are made to participate in scientific inquiries. This activity introduces diversity in the

science curriculum, as students are not only confined to the traditional method of laboratory. Students also conduct a variety of scientific investigations, experimentations, systematic observations, including field studies, design making, including house models, or inventions. In addition, this practical scientific content includes non-experimental researches. These make use of different sources, including the internet, print media, as well as computer databases. In learning science, this school district encourages the use of different learning strategies, including working in teams, as well as learning individually. This depends on the nature of study topic. By the start of high school, students are expected to help student to be in a position to frame a scientific question, develop a scientific approach and design, collect scientific data, and analyze it, identify and describe sources of error in scientific research, write scientific reports, and address critiques appropriately (“ San Diego Unified District School”). In ensuring that all these objectives and learning outcomes are attained, the San Diego Unified School District has adopted the state academic mathematics and science standards for use in the district. These were adopted at the beginning of 2001, and are still put to use even today. This school district therefore, liaises with the Californian state department of education in the assessment and accountability processes, the curriculum adoption process, as well as in state-sponsored professional development (“ San Diego Unified District School”). To a greater extent, the curriculum of Science and Mathematics of the San Diego Unified School District highly relate with the standards of the Californian State department of education. There is a greater resemblance in the objectives the Mathematics and Science curricula must meet. This is in terms of the content, as well as the general skills the learners should acquire

from these subjects. This therefore, is a sure way that will continue to maintain the school district’s academic excellence, provided these curriculum standards are adhered to, and there is an effective delivery of the subject contents to the students (“ California State Board of Education”).

References “ California State Board of Education.” Science Content Standards for California Public Schools Kindergarten Through Grade Twelve. Retrieved 13 January 2013 http://www. cde. ca. gov/be/st/ss/documents/sciencestnd. pdf California State Board of Education. Retrieved 13 January 2013 http://www. cde. ca. gov/be/st/ss/index. asp “ San Diego Unified District School.” (n. d). Course of Study K-12: 2012-13. Retrieved 13 January 2013 http://www. sandi. net/page/1606