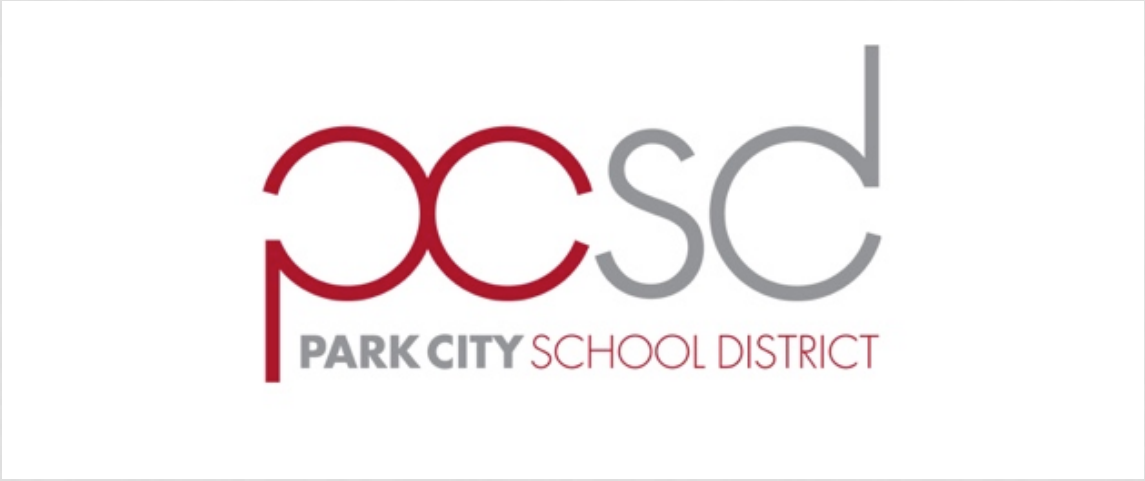

STEM AND NAPE IN THE PARK CITY SCHOOLS

OCTOBER 13, 2015

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Dr. Kathleen Einhorn, Associate Superintendent of Teaching and Learning

KEY GAPS AND ROOT CAUSES IDENTIFIED

- Gap Analysis
  - Need Assessment
  - Team Approach
  - Higher Ed, Businesses, and Public Ed working together

KEY GAPS AND ROOT CAUSES THROUGH GAP ANALYSIS

- **Gaps**
  - Lack of focused CTE/STEM pathways
  - Underrepresentation of females and minorities in STEM and CTE courses
- **Root Causes**
  - Change of work force due to technology revolution
  - Lack of marketing to students and parents by business, higher ed, public education
  - Narrow focus on traditional college prep
  - Course conflicts based on state required credits needed
  - Student fear of course rigor
  - Courses viewed as not applicable for those students
  - Current State CTE requirements do not reflect job expectations

DATA COLLECTION AND ANALYSIS

Course	14/15 % female enrollment	15/16 % female enrollment
Computer Program	0	12
Biotechnology	34	39
Calculus A/B	39	44
Calculus A	20	39
Physics	35	36
Engineering Tech Design	5	17
Pre-engineering	6	16
Architectural Design	0	31
Construction	0	16
Robotics	13	

FOCUS GROUP DATA

- Students like the variety of course offerings, but want to know more about specific careers
- Students like and want an emphasis on critical thinking
- One student commented that he feels challenged and pushes himself to take higher classes, even at the expense of a lower grade
- Two students, one math and one environmental science, wanted to drop the classes but stayed in because teachers recognized their potential
- Students feel like the Caucasian students in Honors classes write papers the night before while Latinos have to work at those

SURVEY DATA

Student Expectations

- All students expect to do very well or pretty well in English
- 10% see themselves not doing very well in Math
- 7% see themselves not doing very well in Science

21st Century Skills

- 82% confident in the ability to produce high-level work
- 80% confident that they can set their own learning goals
- 88% confident that they can work with students from other backgrounds
- 61% confident in managing their own time

SURVEY DATA—CAREER INTERESTS

- **%age of students interested/very interested in:**

- Medicine—58%
- Physics—51%
- Engineering—49%
- Environmental Science—35%
- Chemistry—35%
- Computer Science—32%
- Energy—24%
- Mathematics—17%

WORK PLAN STRATEGIES

1. Created STEM pathways for the 16/17school year and a plan to communicate those to all stakeholders, to include parents, community members, and businesses.
   - Pathways created in Business, Engineering, Digital Media, Health Science

2. Implemented a STEM Career Fair with an emphasis on providing information to female and Hispanic students and their parents.
   - Held April, 2015, 150 students and parents--plans underway for this year's STEM Fest

3. Developed/implemented STEM courses and curriculum for elementary and middle school students to encourage interest in STEM subjects for all students.
   - Engineering is Elementary, Coding, Science Coordinator (focus on 6-8), STEM Endorsement program, CTE STEM grant (7^{th} and 8^{th}), Science A to Z and Engineering Adventures for after-school and summer school programs

MEASUREMENT AND EVALUATION

- Increased enrollment in STEM courses and Pathways at the secondary level—focus on females and minority students
- Increased awareness of STEM careers and opportunities with staff and parents
- Increased focus on STEM in elementary and middle school – Engineering and Coding
- Increased achievement in STEM subjects as measured by SAGE and Galileo -