EXECUTIVE SUMMARY

Purpose of Report: To seek Board approval to enter into a five-year contract with Code to the Future for implementation of a Computer Science Immersion program at three elementary schools beginning in the Fall of 2017.

Keeping in the tradition of offering multiple pathways for student success and offering choice within the public school system, the Sioux Falls School District is recommending a Computer Science Immersion program begin at three elementary schools next fall.

The District already offers a wide variety of options for students and parents – including All City Elementary, Eugene Field A+ Elementary and the Spanish Immersion program at Sonia Sotomayor Elementary. However, to provide equitable access to all students, as well as meet the needs of students who will be entering the workforce of the future, the District will begin a Computer Science Immersion program with the help of Code to the Future. The program will continue into two middle schools with the possibility of continuing into the high school level.

The District will enter into a contract with Code to the Future, which includes intense and continuous teacher training to ensure student success. The curriculum will remain the same for all students, with the addition of the tools and skill development as a part of this immersion program.

Administrative Recommendation to School Board: Approve the five-year contract with Code to the Future for implementation of a Computer Science Immersion program at three elementary schools beginning in the Fall of 2017.
Computer Science Immersion:
Code to the Future Report

Purpose of Report: To seek Board approval to enter into a five-year contract with Code to the Future for implementation of a Computer Science Immersion program at three elementary schools beginning in the Fall of 2017.

Priority Area 1: Student Outcomes
Goal/Strategy: SFSD will provide rigorous, effective and engaging curriculum and instruction for all students to emphasize growth and reduce the achievement gap.

Explanation: The Sioux Falls School District has a long history of offering choice within the public school system structure through specialized elementary schools, advanced coursework in middle school and both college and career-focused classes at the high school level. While the District is a leader of developing multiple pathways for student success, organization theorist James March reminds us great organizations are never satisfied.

“The basic problem confronting an organization is to engage in sufficient exploitation to ensure its current viability and, at the same time, devote enough energy to exploration to ensure its future viability.”
- James March

In the Student Outcomes Priority Area of the Strategic Plan, the District commits to: “provide rigorous, effective and engaging curriculum and instruction for all students to emphasize growth and reduce the achievement gap, with special focus on the following areas:
  a. Literacy particularly in early years, to build a strong foundation for academic success across all subject areas and across all grades;
  b. Maximizing time on instruction and learning;
  c. Differentiated and engaging pathways;
  d. Equitable access to highly effective programs;
  e. College readiness and/or career preparedness;
  f. Holding all schools to high expectations for students’ social and emotional growth and development.”

Given the District’s ongoing commitment to multiple pathways and the desire to diversify the population in specialized schools, the District has researched and will implement a Computer Science Immersion option for elementary students. The program, known as Code to the Future, with its intense teacher training model and wrap-around support, offers another pathway for student engagement and success. Coding activities are integrated into the District’s already-established curriculum.
Code to the Future is a growing company with a national presence and expertise in developing critical thinking and computer science skills. CEO Andrew Svehaug built the model that has students learning to code in Kindergarten and by the fourth grade fluently using Java – the same language used by professional software engineers.

(video) https://www.youtube.com/channel/UCseIjPKnCwdxgsAgayj4dnw

The contract between the Sioux Falls School District and Code to the Future ensures significant professional development over five years set to begin in March 2017. The contract includes 568 days of training during those five years. The average cost per year is $252,800 for a total of $1.2 million to be paid for with funding from Title sources.

The District will incrementally launch Code to the Future in three elementary schools starting in the Fall of 2017. Then, in 2019, the program would expand to two middle schools with the intention of making the program available to high school students in the future. Possibilities at the secondary level have not been vetted, but could be included in discussions about long-range facility needs at the high school, connection to the Career and Technical Education Academy or another scenario.

Technology needs in Code to the Future Schools are greater than current District standard, with 1 to 1 devices and a Windows operating system needed in grades first through five.

Schools will be named after Board approval, but they will be geographically located throughout the city and educate populations that will help the District meet its strategic goals.

Costs: $1,264,000 total cost
   $252,800 average per year
   Combination of Title funding sources

Committee Participation: Superintendent, Assistant Superintendent of Administrative Services, Director of Curriculum and Instruction, Elementary Curriculum Coordinator, Director of Information, Technology Services, Business Manager, elementary principals
Summary: The Sioux Falls School District is committed to providing multiple pathways for student success and ensuring specialized schools include diverse student populations as outlined in the Strategic Plan. The District has chosen Code to the Future, a computer science immersion program, to expand the specialized options, increase engagement and, thereby, attendance, while encouraging students on free/reduced lunch, females and other special populations to consider computer science. The program will roll out in three schools in the Fall of 2017 with expansion at two middle schools in 2019 and long-range goals for students when they enter high school.

Administrative Recommendation to School Board: Approve the five-year contract with Code to the Future for implementation of a computer science immersion program at three elementary schools beginning in the Fall of 2017.
Computer Science Immersion
Code to The Future
Computer Science Immersion

- The basic problem confronting an organization is to engage in sufficient exploitation to ensure its current viability and, at the same time, devote enough energy to exploration to ensure its future viability.
  - James March
Computer Science Immersion

- “Books will soon be obsolete in the public schools. ...Our school system will be completely changed inside of ten years.”

  - Thomas Edison (1913)
WHY Computer Science???
Fair Question...let's explore
Why Computer Science?

• We are committed to:
  ◦ “provide rigorous, effective and engaging curriculum and instruction for all students to emphasize growth and reduce the achievement gap, with special focus on the following areas:
Why Computer Science?

• A. Literacy, particularly in early years, to build a strong foundation for academic success across all subject areas and across all grades;
• B. Maximizing time on instruction and learning;
• C. Differentiated and engaging pathways;
• D. Equitable access to highly effective programs;
• E. College readiness and/or career preparedness;
• F. Holding all schools to high expectations for student’s social and emotional growth and development
Why (else) Computer Science?

- **Strategic Plan**
  - Women in Computer Science
    - Hour of Code
    - Industry dominated by men
  - We want schools students want to attend
  - We want schools parents want for their children
Strategic Plan

• Priority Area 1 (First Steps)
• The district will continue to expand and evaluate multiple pathways for students. As a part of this work, the district will explore a partnership with Code to the Future and establish a coding pathway.
• Several Areas!!!!!!! Attendance, engagement, achievement, demographics in specialty schools
Computer Science Immersion

K-5 School Population
SS = Specialized Schools

- SS Enrollment: 1,378
- SS Ethnicity (White): 78% (63.5%) (36.5%)
- Spec School FRPL: 20% (49.5%) (50.5%)
- Spec School ELL: <1% (10%)
Let’s explore
Seek Solutions...

- A. Literacy, particularly in early years, to build a strong foundation for academic success across all subject areas and across all grades;
- B. Maximizing time on instruction and learning;
- C. Differentiated and engaging pathways;

- **D. Equitable access to highly effective programs;**
- E. College readiness and/or career preparedness;
- F. Holding all schools to high expectations for student’s social and emotional growth and development
Code To The Future

- You Tube Andrew Svehaug TedX
Code To The Future

- Professional Development
- 5 year plan
- Elementary and Middle School Plan
- High School Implication
- Contract
Code To The Future

- A company with a growing national presence
- Focus on critical thinking skills and development of computer science skills
- Utilize current curriculum
Professional Development

- Begins in March
- Two day summer training
- On site training
- Demonstrate, assist, advise
- Carries on for five years
- K-5 and 6-8 Plan
High School???

- Several possibilities
  - New School Focus
  - CTE Component
  - Certain HS Curriculum Implication/Overhaul!
Contract

- 568 Days of Professional Development
- 5 years of training
- $252,800 average per year
- $1,264,000 total cost
- Combination of Title funding sources
- We can back away from the project in any year
5 Year Plan

• Year 1 in three elementary schools
• Year 3 in two middle schools
• Professional development at each building
Where are the schools?

- Announced after board approval
- Across the city
- Help us meet strategic goals
What about Equipment?

- 1-1 devices for grades 1-5
- Windows computers
- So – we have some and we need some!
Code To The Future

- Every failure is a failure of a manager
  - Peter Drucker
Leaders of companies are charged with making sure that they can sense new threats and seize new opportunities by reconfiguring existing organizational assets.

- Lead and Disrupt