STEM Saratoga 4.0 Plan

Spring 2013
WSA STEM 4.0…Meeting the needs of every learner!

ENGAGE * THINK * COLLABORATE * INNOVATE * CREATE

WSA Mission Statement:
“Engage, inspire, and empower a community of learners in thinking, collaborating, innovating, and creating the future.”
Who We Are:

- Charter School
- Choice School
- Innovative
Why We Continue to Innovate

• To meet the needs of today’s learners.
Our Journey to 4.0

STEM 1.0
- Project Based Learning (PBL)
- Everyday Math
- CMP II
- EiE
- SEPUP
- PLTW
- GTT

STEM 2.0
- Hybrid Courses
- Google Apps
- Student Email
- iA
- Connect
- ALEKS
- IXL.com

STEM 3.0
- Proficiency Based Structure
- Multi-Aged Learning
- Flexible Hybrid Courses
- Rosetta Stone
- HS Math Courses

STEM 4.0
- Personalized Learning Development
- Creation of Learner Profiles
- Proficiency Based Learning Options
- Creative/Innovative Elective format
- Goal Setting and Student Led Conferencing
Why Multiage?

• Multiage and proficiency based learning support one another.
• Student readiness is not tied to age.
• Each grade level has a wide range of learner needs.
• Needs within each grade level overlap.

• Teachers are best able to support individual student learning when groups are based on student learning needs, not age.
Things to learn about Saratoga

- Multiage Instruction continued
- Expeditions Format
- Learning Coaching
  - Learner Profiles
  - Flexibility in schedule
- Project Based Learning (PBL) through STEaM integration
Multi-age Approach

“In a multi-age classroom children learn in a continuum; they move from easier to more difficult material and from simple to more complex strategies at their own pace, making continuous progress...”

-Gaustad, 1992; Katz, 1992
“Life is a multi-age experience”

- http://www.mnsd.k12.wi.us/
Why Personalize?
Our focus this year starts at...

Developing Learner Profiles – every student has a profile

Creating Customized Learning Pathways – Blended Learning- ALEKS, Rosetta, etc.

Proficiency Based Progress – each student is evaluated using the Common Core Standards- Student Led Conferences held
Each student will develop a learning profile

• Used for goal setting
• Indicating how they learn best
• Helps inform choice and voice in learning
• Serves as a reflection tool throughout the year

• LEARNING PROFILE SAMPLE
Customized Learning Pathways

- The role of the teacher is evolving... in class, online, virtual, peer to peer work, collaboration... all part of the model.
  - IXL
  - ALEKS
  - Rosetta Stone (Languages)
  - STEMfolio
  - Khan Academy
  - Blackboard 9 (Bb9)
Core Classes

• Staff have specialized into content teams
• Math, Literacy, and Science Core
• Integration of Social Studies into cores and projects
• Literacy to teach writing and carry over writing into all cores classes
• Blocks of time… however, students may be meeting online, virtually, small group, peer to peer throughout a given time.
During an Expedition ... learning looks different

LEARNING MODEL

All of our technologies are also designed to deliver **personalization**: multi-modal, adaptive, customized approaches to facilitating learning in ways that match individual learner goals and profiles.
What does this mean?

- We have a multi-age approach to our instructional model
  - Clusters of students meeting in expedition classes
  - Students will have choice/coaching in the selection of expeditions
  - Students need to exhibit proficiency of skills/content
  - Students’ access multiple teachers throughout their time in a given school year
Expeditions in Sci, Math, and Literacy

- Expeditions are based off of Common Core and current programs in the school
- Assessments for proficiency can be summative, formative, or project based
- Students exhibit/apply proficiencies in an expedition to be able to move on to new learning option
Why Coaching?

• Relationship development
• Clear learning communications
• Learning is the constant here at STEM
• Accountability for students and staff
• Communication with parents/families
• Guide on the side, facilitation of choices/options for learning
Learning Coaches

• Every student has a 3 year learning coach... a matching process will occur prior to next year.
  • Guide and facilitate reflection
  • Set goals, develop learner profile
  • Primary contact for parent
  • Still have access to all teachers
  • No fault, opt out change is allowed once
  • Conferences will be student led
How might it look?

• STEM Coaching Session (as often as needed, minimum of 2 per month)
• STEM Learner Profile Discussed
• STEMfolio is shared, feedback given on progress
• Reflection on Essential 8 Skills
• Student Expedition Schedule reviewed
• Connect Reflection time
Current Experience to 4.0 Experience

Multi-aged / Proficiency Based
Core Content Areas of Math, Literacy, Science set-up over 3 years in an Expedition Format
STEM Inc OR Electives (90 Minutes)
Connect 60 minutes
STEaM FLEX days per week as needed

6th grade (A Typical Day)
Core classes (3.5 hours)
STEaM (90 minutes)
STEM Inc (90 minutes) OR Electives (90 minutes)
Connect (60 minutes)

7th grade (A Typical Day)
Core classes (3.5 hours)
STEaM (90 minutes)
STEM Inc (90 minutes) OR Electives (90 minutes)
Connect (60 minutes)

8th grade (A Typical Day)
Core classes (4.5 hours)/Embedded STEaM
STEM Inc (90 minutes) OR Electives (90 minutes)
Connect (60 minutes)
Flexible Electives (STEM Style)

FLEX PE and Legacy PE

FLEX Spanish - Rosetta

FLEX Language – ind. study – Rosetta

Spanish, Choir, Orchestra, Band

STEM Inc - 90 minutes

Business, GTT, Art, World Cultures
What do Electives look like in 2013/2014? Darcy

Music: Scheduled
- Band: M/W
- Orchestra/Choir: T/

PE/Health Club:
- Level 1-Scheduled
- Level 1 and 2--Choice
- Level 3--Choice

Spanish:
- Levels 1 and 2--Embedded in STEM, Inc.
- Advanced: Scheduled 2 classes--90 min/week

Engineering / Art & Design / Business / World Cultures:
- Integrated in STEM Inc. -->

Sample Student Schedule
Level 2 PE, Band, No Spanish

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<th>90 minutes</th>
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<th>Tuesday</th>
<th>Wednesday</th>
<th>Thursday</th>
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STEaM 4.0

• Projects all have different timelines and work patterns required to complete them
• Every student, every day STEaM is not what each project requires
• We are still honoring the intent of application without time as constant... learning is the constant.
STEaM 4.0 Positives

- Partnerships expand by creating connections across content areas, age-bands of students, and professional staff
- We create that time for the project needs
- FLEX Options promote more options for kids
FLEX Time Daily AND Weekly

• A day of application – doing the WORK of application
• A day of coordination, collaboration, connection for students and staff - meeting with mentors/feedback
• Learning Coaching Sessions – setting up learning
• Personalized opportunities – ALEKS, IXL, Rosetta
• Extension work – chance to connect with peers
• Make up work – chance to catch up on work
• Processing/Application time – project based work
Questions?