

Structures and Practices to Support NGSS Implementation

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Introductions

Alicia

Meegan

Participants -- district, position, grade levels under your supervision, where you are in the process of NGSS implementation

Getting Started with NGSS - Holmdel

In-House PD Series:

- Year 1(14-15): **Monthly meeting** of K-12 teachers (2 teachers per grade level K-6, plus 2 middle and 2 high school teachers) to read and discuss the K-12 Frameworks Book.
- Year 2 (15-16): **Monthly meeting** of K-12 teachers to explore the NGSS standards and write lessons/curricula which was based off of the standards.
- **Department** and **Team Meetings** devoted to looking at shifts in NGSS
- K-5 Elementary program was **piloted** (16-17)

Out of District PD:

- Individual teachers went to workshops of their choosing (Science Convention, NJDOE Workshops, etc)

Getting Started with NGSS - New Brunswick

Pre-Implementation Work with MS & HS Science Teachers

- Rider Gap Analysis **Workshop Series** (14 - 15)
- Rider Lesson Planning Workshop Series (15-16)
- **Summer Academy** 2015 to kick off 6 - 12 curriculum writing
 - Collaborated with Rutgers CMSCE
- Highlighted various aspects of NGSS at **department meetings** and **PD days**
- Teachers attended **New Jersey Science Convention & workshops** at Raritan Valley Community College with Wil Van Der Veen (2014, 2015)
- SENCER **Summer Institute** (2015, 2016, 2017) to make connections to civic engagement
- **Release time** for curriculum writers to work together and with me (15-16)

Getting Started with NGSS - New Brunswick

Pre-Implementation Work with K-5 Teachers

- Rider Lesson Planning **Workshop Series** (15-16)
- **Summer Academy** 2016 to kick off K - 5 curriculum writing
 - Collaborated with Liberty Science Center
- Visited all 48 K-5 **Common Planning Time meetings** to introduce NGSS in Spring 2015 & 2016
- **Half Day PD sessions** with each grade level in Spring 2015, 2016 & 2017 where we engaged in hands on experimentation, looked for connections to NGSS
 - Collaborated with Liberty Science Center
- Teachers attended **New Jersey Science Convention** (2016, 2017) & **workshops** at Raritan Valley Community College with Wil Van Der Veen (2014, 2015)
- **Release time** for curriculum writers to work together and with me (16-17)

Getting Started with NGSS - Participants

What steps did you take to get ready for NGSS, pre-implementation?

Where Are We Now? - Holmdel

Strategies to Support Implementation - K-12

- **PD for K-5 teachers** implementing new program
- **Lead teachers** in each grade from pilot to assist grade level teams as needed.
- **All team and department meetings** focused on resources and supports for NGSS (Notebooking, Assessments, Evidence Statements, Phenomena)
- **Release Time** for grade level teachers to collaboratively unit plan and develop assessments
- Beginning 6-12 **vertical articulation** to discuss assessments, labs, and activities.
- Converting **lab and storage space** for teachers in grades 4&5

Where Are We Now? - New Brunswick

Strategies to Support Implementation - 6-12

- **Workshops with Rider** on Assessment (16-17) and Engineering Design (17-18)
- Workshops with Rider/BSCS on Assessment Design (2017)
- **Rutgers MSP** worked with 4 “star” teachers
- Developed a **PD team of teachers** to help me plan appropriate PD for peers
- All **district PD days** for 6-12 science teachers focus on NGSS
- MS **Common Planning Time** & HS **Department Meetings**
- Grant money to pay groups of teachers to come over the **summer** to **work** on improvements to curricula & assessments
- HS physics teacher with an **admin duty** is reviewing MS physical science units and & working with MS teachers during **release time**. Also helping with assessment data analysis.

Where Are We Now? - New Brunswick

Strategies to Support Implementation - K-5

- **Workshops with Rider** on Assessment (16-17) and Engineering Design (17-18)
- Workshops with Rider/BSCS on Assessment Design (2017)
- Used teachers working on an **administrative internship** to review K-5 curricula with me
- K-5 **Science Team**: teachers who come to after school PD and volunteer to share information with peers informally and at **faculty meetings**
- **Science Resource Managers** (stipended position) push out materials to encourage teachers to tackle projects
- **Half Day PD afternoon** with 1st grade, 2nd grade, and 3-5 Math/Science Teachers

Things We've Tried To Do...

- Stay Positive
- Keep an Open Mind
- Encourage Risk Taking
- Try to Learn Along with the Teachers

Where Are You Now? - Participants

What strategies are you using now to facilitate implementation?

What Lies Ahead? - Holmdel

- Continue to work with 6-12 teachers on what we've learned:
 - Reviewing and improving phenomena used to base instruction
 - Exploring how we are evaluating student attainment of concepts (both formatively and summatively)
- Creating smooth transition between schools (Gr. 3 to 4, 6 to 7, 8 to 9)
 - Focusing on SEPs to create a more fluid experience for students
 - Collaboratively designing assessments
- K-5 program support
 - Making modifications/revisions to program, filling in identified gaps
 - Identifying areas of overlap to compact with LA/Math
- Supervisor Collaboration
 - Looking for opportunities to bring Technology/Engineering Program into Science

What Lies Ahead? - New Brunswick

- Continuing to synthesize everything we have been learning from various workshops in order to bring it all together coherently:
 - Continuing to explore what 3-D learning looks like
 - Finding ways to help teachers facilitate student learning within project based or problem based units
 - Assessing student progress formatively to help drive the unit
 - Making phenomenon or problem the explicit driving focus of each unit
- Finding ways to support K-5 teachers:
 - Helping teachers see how science fits into ELA & Math, when appropriate
 - Focusing on writing throughout a series of science lessons
 - Solidifying vocabulary and exploring non-fiction texts *after* hands on investigation

What Lies Ahead? - Participants

Based on what you are seeing in classrooms now,
how do you plan to continue to improve?