IPSWICH

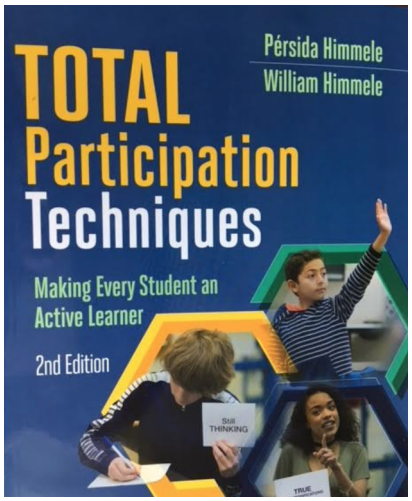
CREATIVITY, CRITICAL THINKING AND MORE.

SUMMER PROFESSIONAL DEVELOPMENT COURSE 2018

BLUE SKIES

AUGUST 2018

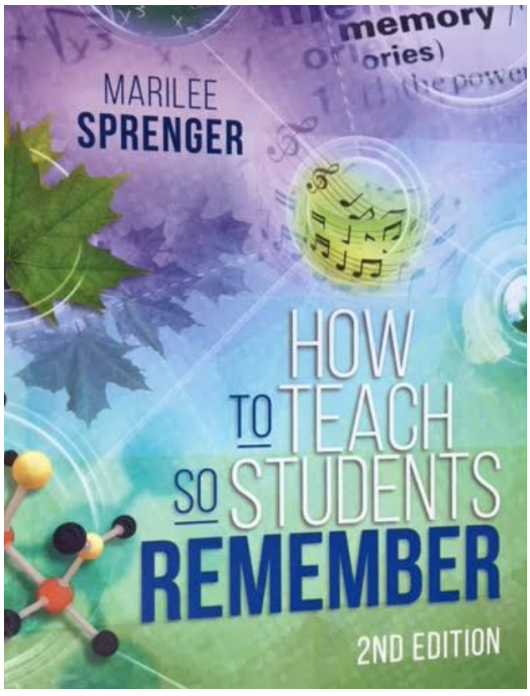
Course Overview



"Blue Skies: Standards-Based Curriculum and Instruction" is the shiny star of the IPS Summer Professional Development universe. Here, educators of all grades and content areas are invited to bring their "Understanding by Design"-style curriculum units, collaborate to learn (and refresh) new instructional techniques, and apply this learning to their curriculum units through reflection, curriculum integration and "Learning Cycles" feedback from their colleagues and facilitator. In all, this popular curriculum writing course is perfect for educators seeking a designated time, place and support for composing Massachusetts standards and local Habits of Mind-based curriculum.

Course Overview

Educators in the course completed work in July and early August in reading the courses texts and submitting working drafts of curriculum units. The facilitator provided a round of feedback, with an eye to places in the curriculum where the educators could apply instructional strategies from the course texts. Then, the group met together for three days in August 2018. These class sessions were grounded in learning and applying the instructional strategies shared in the course texts and resources. The class sessions also included refreshers in the most current Massachusetts standards as well as independent and collaborative curriculum development time. Each class session then culminated in Learning Cycles rounds where participants met in small groups to share curriculum and receive feedback for enhancement and revision. Final products of the course were "Understanding by Design"-style curriculum units with integrated use of the instructional strategies from the course texts. This course was open to all teachers, Kindergarten through grade 12.



Course Teachers

Tracy Wagner

Tracy Wagner is the Director of Teaching and Learning for Ipswich Public Schools. She has served as a teacher, administrator and educational leader for the past twenty plus years, including at Harvard University, Boston Public Schools and the Madison Metropolitan School District in Madison, Wisconsin. In Ipswich Public Schools, Tracy is proud to support and guide faculty in standards-based curriculum development, assessment, instructional techniques and pedagogy as she builds learner-centered professional development for the district. Originally a farm girl from northern Wisconsin, Tracy now holds a Masters in Education from the Harvard Graduate School of Education and a B.A. in English and teaching certification from the University of Wisconsin-Madison. Tracy is especially interested in STEAM education, literacy development, trans-disciplinary learning and strategies to support students and educators in practicing creativity and critical thinking. She lives in Medford, Massachusetts with her partner Kris, son Grant and a whole lot of gears, gadgets and D.C. superhero accessories.

Blue Skies

Elementary School Teachers

Dee Dee Bates

Tradition!

Name and Title: Tradition

School and Grade Level: Doyon Kindergarten

Essential Questions: Why are civic holidays and national symbols special?

Do we all have the same cultural backgrounds?

Why is it important to learn about other cultures?

Instructional Strategies: The Total Participation Techniques that I am using in my unit are Quick Draw and Gallery Walk, Think-Pair-Share, Thumb-Up, and Hold-Up.

Description of Unit: In this unit the Kindergartners explore American civic holidays and what makes them special. They will also share family traditions and begin to establish new traditions at the Paul F. Doyon Memorial School. These new traditions include writing in their special "Black Journals", the Holiday Sing-Along, the Doyonathon, the Memorial Day Assembly, Field Day, and Beach Day.

How did your curriculum grow and change during this course? And what are your next steps for your unit?:

Blue Skies is an opportunity for us to share and brainstorm ideas with our colleagues. As a result the learning plan in my unit better reflects the desired results. This is a yearlong unit so I will continue to add, delete and edit various components as I teach them.

Blue Skies

Elementary School Teachers

Camela Leigh & Linda Blum

Drawing From Observation/Georgia O'Keeffe

Name and Title: Drawing From Observation/Georgia O'Keeffe

School and Grade Level: Winthrop and Doyon, Fine Arts, K-5

Essential Questions: How can we draw what we see and not what we know? How can my knowledge of Georgia O'Keeffe influence the way in which I look at things in my environment? How can I express the way I feel through line and color in my artwork?

Instructional Strategies: Reflection, visual thinking strategies, Hierarchy Diagram graphic organizer

Description of Unit: This unit explores the concept of drawing what we actually see and not what we think that we know. It also introduces young students to the work and life of the artist, Georgia O'Keeffe. Drawing upon her approach to her subject matter, it explores looking at things closely; using a viewfinder and choosing a unique point of view; identifying simple, organic shapes; investigating and using complementary colors; and identifying a feeling or "emotional connection" that the students' work might elicit for them.

How did your curriculum grow and change during this course? And what are your next steps for your unit?:

This course allowed us to reexamine our instructional methods in the context of retaining valuable information. Our next step is to implement this unit and make changes as needed.

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Elementary School Teachers

Whitney Cardew

Name and Title: Community Building - Grade 1

School and Grade Level: Doyon - Grade 1 - Community Building

Essential Questions: How do our actions affect what other people think?
Why do others' feelings matter?
Others that are specific to lesson

Instructional Strategies: Minfulness Techniques
Total Participation Techniques used:
Think-Pair-Share
Turn and Talk
Ripple
Exit Talk
Whisper it to Your Neighbor
Acting Out/Charades
Line Ups
True/Not True
The Biggest Ahas Quick Share

[Community Building - Grade 1]

Description of Unit:This curriculum unit contains lessons for the first half of the year in Community Building. Every other week, first graders meet to learn and participate in activities that focus on their social-emotional learning.

How did your curriculum grow and change during this course? And what are your next steps for your unit?:

The text provided, "TOTAL Participation Techniques," gave me several lesson-enhancing strategies. I have inserted some of their ideas into each of my lessons and am confident that this will inspire more engagement with our students.

Blue Skies

Elementary School Teachers

Betsy Castonguay & Jennifer Vickery

[Heredity: Inheritance and Variation of Traits]

Name and Title: Heredity: Inheritance and Variation of Traits

School and Grade Level: Paul F. Doyon School, Grade 3

Essential Questions: Why do organisms have different and similar traits?
How do I analyze data to make a scientific prediction?

Instructional Strategies: True/Not True Hold-Ups
Appointment Agendas
Picture Notes
Anticipatory Guides
Debate Team Carousel
Ripple

Description of Unit: In this science unit, students will learn about plant and animal characteristics and life cycles. They will analyze data to understand how inherited and environmental traits impact a species. Students will participate in a wide variety of activities to help them understand these concepts.

How did your curriculum grow and change during this course? And what are your next steps for your unit?: During this course, we created a science unit based on the MA Standards and developed individual lessons incorporating newly learned strategies, such as Total Participation Techniques. As we implement this unit, we will continually revise lessons and strategies to ensure a deeper understanding.

Blue Skies

Elementary School Teachers

Carrie Clasby, Toni Mannette, & Kimberly Meaney

Regions: Expansion of the United States Over Time and Regions Today

Name and Title: Regions: Expansion of the United States Over Time and Regions Today

School and Grade Level: Paul F. Doyon/Grade 4/Social Studies

Essential Questions: How has the environment shaped the development of each region?
What makes places unique and different?
How does where we live influence how we live?

Instructional Strategies: TELL, Coding, Mind Mapping, Biggest 'Aha' Moment Quick Write, Multiple Choice Hold ups

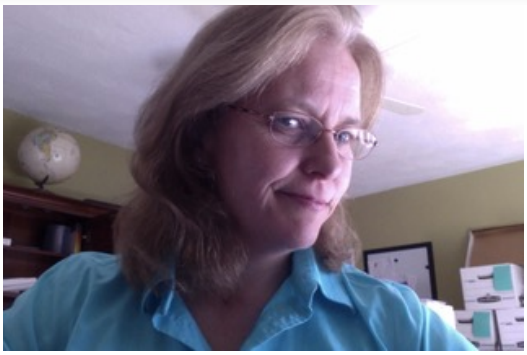
Description of Unit: Students will learn about the diverse cultural nature as well as the physical features, natural resources, and industries of each of the five regions of the United States. Students will develop questions, conduct research, and analyze information through a series of "Amazing Race" hyperdocs.

How did your curriculum grow and change during this course? And what are your next steps for your unit?: With the adoption of the 2018 Massachusetts History and Social Science Curriculum Frameworks, we rewrote our regions unit to incorporate more innovative practices, TPT strategies, and rigor. Additionally, we incorporated student choice, differentiation, and habits of mind to meet the needs of all students.

Blue Skies

Elementary School Teachers

Michelle Garvey, Susan Merrill, Andrea Welch



Name and Title: Math Practices Throughout the Year Grade 1

School and Grade Level: Paul F. Doyon Memorial School Grade 1

Essential Questions: What specific strategies, tools and skills help mathematicians make sense of problems?

How do mathematicians use mathematical language to explain their thinking to others?

How do mathematicians use what they know about rules and patterns to solve new problems accurately?

Instructional Strategies: Total Participation Techniques:
Think Pair Share
Chalkboard Splash
Whiteboard Responses
Quick Writes / Quick Draws
Bounce Cards
Bow Tie Buddies

Student Remembering Techniques:
Wait Time
Novel Approaches
Modeling of Interactions

Math Practices Throughout the Year Grade 1

Description of Unit: Throughout the year for one day a week we will be focusing on explicitly teaching the Standards for Mathematical Practice. These standards include skills like problem solving, reasoning and proving, communicating, representing, making connections, conceptualizing, and strategizing in mathematics. These skills will help our students become mathematically proficient.

How did your curriculum grow and change during this course? And what are your next steps for your unit?: Over the course of this week we have received valuable feedback from colleagues that helped us add assessments for the mathematical practices. In addition, we compiled materials and resources to support our instruction. Our next steps will include implementation of this new model. We will learn through our experiences, assess our success, and modify as necessary.

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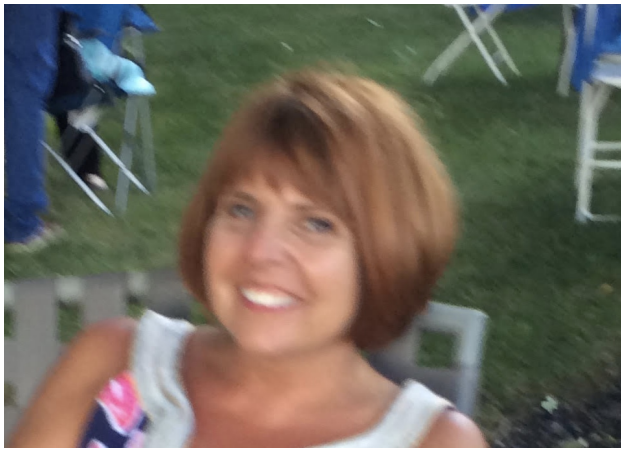
Elementary School Teachers

Cheryl Hill



Being a Responsible Citizen

Name and Title: Being a Responsible Citizen

School and Grade Level: Paul F Doyon School - Kindergarten

Essential Questions: Why is showing respect to all people important?
How are all families different?
Why are honesty, responsibility, and respect important qualities?
Why is following rules an important responsibility when you are at home or at school?

Instructional Strategies: The Total Participation Techniques that I will be using in this unit include:
Turn and Talk
Thumbs Up/ Thumbs Down
White Board Talks
Think Pair Share

Description of Unit: Making sure students are happy and feel safe is the most important part of my job. As a Kindergarten teacher, I set the foundation. I want students to love school! Teaching respect both in and out of school is important. Students need to be explicitly taught how to resolve conflicts on their own. This unit will help them with conflict resolution throughout their lives.

How did your curriculum grow and change during this course? And what are your next steps for your unit?: I was able to collaborate with the specialists from the Doyon school and intergrate the Social Science and Digital Citizenship curriculums.

Blue Skies

Elementary School Teachers

Teresa Hohenstein

Digital Citizenship for Kindergarten

Name and Title: Digital Citizenship for Kindergarten

School and Grade Level: Doyon, Pre-K-5, Library

Essential Questions: What is a community? A citizen?
How do we take care of each other in a community?
Why is it important to take care of our technology and each other?

Instructional Strategies: Think Pair Share, Picture Notes, Chalkboard Splash

Description of Unit: This unit introduces the concepts of digital citizenship to kindergarten students. As a class, we will explore how we use technology in and out of school. We will think about ways we can take care of ourselves and each other when using technology.

How did your curriculum grow and change during this course? And what are your next steps for your unit?: During this course I was able meet with the kindergarten team to line up our units on citizenship and community. In addition, I was also able to add instructional strategies from the course reading to enhance my unit. Moving forward, I will work on the scope and sequence of all digital citizenship lessons for grades K-5.

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Elementary School Teachers

Jena Woodworth

Name and Title: Community Helpers

School and Grade Level: Paul F. Doyon Memorial School - Kindergarten

Essential Questions: What kinds of work do women, men, and children do?
Why do people work?
Why do we need community helpers?

Instructional Strategies: Turn and Talk
Thumbs Up/Thumbs Down
Quick Draw
Chalkboard Splash
Think-Pair-Share

Community Helpers

Description of Unit: Students will learn about community helpers, and why they are important to have in our town. The students will go on a walking field trip of downtown Ipswich, where they will meet our own community helpers and learn about their jobs. This unit will conclude by creating a digital book about a community helper of the student's choice.

How did your curriculum grow and change during this course? And what are your next steps for your unit?: I received some wonderful ideas and feedback from my colleagues that allowed me to incorporate additional activities and learning strategies into my unit. Next steps for my unit, are to further develop the individual lessons, and create an example of the Community Helper Book the students will be making.

Blue Skies

Elementary School Teachers

Heather Chaharyn & Melissa D'Andrea

Everyday Mathematics Revamp

Name and Title: EDM Revamp

School and Grade Level: Winthrop Second Grade

Essential Questions: How do mathematicians make sense of problems and persevere in solving them? How do mathematicians choose models?

Instructional Strategies: Think-Pair-Share, Gallery Walk, Act it Out, Confer, Reflection Logs

Description of Unit: Open ended performance tasks create opportunities for all students to access a common problem using individual strengths. We took the time to infuse three meaningful performance tasks into each math unit. In addition each unit now asks students to visually notice and wonder, thoughtfully estimate, and think critically using number sense.

How did your curriculum grow and change during this course? And what are your next steps for your unit?: We determined the big ideas of each EDM unit and thoughtfully created performance tasks to support those main ideas. We then looked for activities and exemplars as additional resources for each unit. We created resource banks for notice and wonders, estimation and number sense experiences to become part of our daily math routines. We are eager to begin using these components in our math classroom and want to create meaningful rubrics to assess the performance tasks. As we put these components into practice we will reflect and adjust our instruction accordingly.

Blue Skies

Elementary School Teachers

Lauren Gouzie

Place Value and Measurement

Name and Title: Place Value and Measurement

School and Grade Level: Winthrop Grade 3

Essential Questions: Why do we measure time?

Why do we measure weight and volume?

Why is estimation an important math tool?

Instructional Strategies: Quick Write, Quick Draw, Reflection, Individual Response Formats

Description of Unit: This unit combines number sense in base ten and metric measurement. Students explore the concepts of continuous time, the decomposition of liters and kilograms, and solve word problems related to these areas.

How did your curriculum grow and change during this course? And what are your next steps for your unit?: When I first began, I felt that my unit needed a trajectory of lessons, which I created during this course. I also thought carefully about ways to engage all students at all levels while respecting many different learning styles. Next, I'd like to match TPTs to the major lessons in this unit.

Blue Skies

Elementary School Teachers

Lina Lopez-Ryan

What Do Mathematicians Do?

Name and Title: First Weeks of Math Workshop

School and Grade Level: Winthrop School, Grade 3

Essential Questions: What does it mean to be good in math? What do mathematicians do?

Instructional Strategies: Reflection Techniques: Questioning, Journaling, Using Thinking Directives, Collaboration

Description of Unit: Students have an established working definition of what it means to be "good at math," which usually comprises of answering teacher's questions quickly, correctly, and easily. These series of lessons serve to explore habits of mind that are authentic to mathematical learning: Noticing, wondering, imagining, asking, investigating, figuring, reasoning, connecting, and proving.

How did your curriculum grow and change during this course? And what are your next steps for your unit?: I first drafted a unit that focused on assessing students through performance tasks as a means to establish benchmarks on mathematical practices. Through discussions, readings, and reflections, this unit has merged towards creating a foundation built on growth mindset concepts that will frame our third grade math workshop model.

Blue Skies

Elementary School Teachers

Gretchen Marinopoulos

Interpretation Book Clubs

Name and Title: Interpretation Book Clubs

School and Grade Level: Winthrop, 5th grade

Essential Questions: Winthrop, 5th grade

Instructional Strategies: Think-Pair-Share, Quick-Writes/Draws, Gallery Walks, Chalkboard Splash, Ranking, Numbered Heads Together, Thumbs Up/Down Vote, Networking Sessions, Appointment Agendas, Bounce Cards,Whisper It, Confer, Compare and Clarify, Pause, Star, Rank, Debate Team Carousel, IQ Cards, "What's It Really About?" Carousel, A Better Table Summary, The Biggest Aha Quick-Write, 1,2,3 O'Clock

Description of Unit: The Lucy Calkins Reader's Workshop units rely heavily on the use of the same 2 or 3 Total Participation Techniques. A wider variety of research-based Total Participation Techniques have been intentionally added to this unit to improve student engagement as well as be mindful to the variety of comfort levels of students in regards to classroom participation. In addition, for struggling readers, possible support strategy group lessons have been added to each lesson.

How did your curriculum grow and change during this course? And what are your next steps for your unit?:

The Lucy Calkins lessons have been mapped out with fidelity to the nature of Reader's Workshop, as well as the inclusion of thoughtfully placed Total Participation Techniques and ideas for strategy group lessons to support struggling readers.

Blue Skies

Elementary School Teachers

Kate Norris & Jennifer Spencer

Get In Shape: Geometry Explorations in Grades 2-4

Name and Title: Get In Shape: Geometry Explorations Grades 2-4

School and Grade Level: Winthrop School grades 2, 3, 4

Essential Questions: Why can a shape have many different names?
How can shapes be grouped?
How can shapes relate to fractions?

Instructional Strategies: Question Formulation Technique
Journaling for Reflection
Reviewing Techniques
Bow Tie Buddies

Description of Unit: This unit provides opportunities for students to explore shapes and attributes, while building fluency with vocabulary and language used in geometry. The focus is on naming, categorizing, and partitioning shapes. Lessons are created to be used in classrooms, or in Winthrop's Math Lab, where students of many different grades come to learn.

How did your curriculum grow and change during this course? And what are your next steps for your unit?:

During this course, we were given opportunities to explore resources recommended by our colleagues from other schools. We also read and discussed strategies from the course recommended texts. We incorporated some new strategies and on-line lessons into our unit. For next steps, we will continue our lesson planning, including slideshows and rubrics, and incorporate tiered vocabulary.

Blue Skies

Elementary School Teachers

Courtney Segee

Name and Title: Phonics

School and Grade Level: Winthrop grade 3

Essential Questions: How do phonics and fluency help us become better learners?

Why is learning phonics important?

Phonics

Instructional Strategies: Total Participation Techniques-
Mouth it
Air-write it
Whisper it to your neighbor
Write it on the carpet
Show me with your fingers
Act it out/role play
Cut and paste

Description of Unit: This unit was designed to help bring more fun and engaging activities to kids while learning phonics. Total Participation Techniques were included to help make sure all students get an opportunity to express what they have learned. These techniques provide different and engaging ways to practice what is being learned.

How did your curriculum grow and change during this course? And what are your next steps for your unit?:

I added resources and made materials to help engage students. Also, formative assessments were added to track student progress.

Blue Skies

Elementary School Teachers

Meg Smith

Name and Title: Fractions

School and Grade Level: Winthrop Elementary,

Third Grade

Essential Questions: What do fractions tell us?
In what ways are fractions useful in everyday life?
Why do we compare fractions?

[Fractions]

Instructional Strategies: Journaling
Visualizing
Mind Mapping
Recoding

Description of Unit: This unit provides students and teachers with a broad and deep experience with fractions! Students will work through the EM lessons, lessons from the Engage New York trajectory, fraction games, low entry high ceiling tasks, and will also reflect on their learning by writing about fractions in their math notebooks.

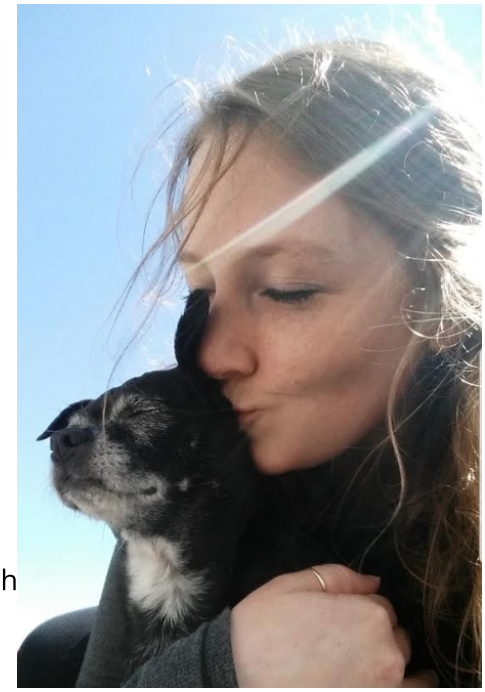
How did your curriculum grow and change during this course? And what are your next steps for your unit?:

My curriculum took shape through talking with my peers and making changes in my own thinking as a result. The skills and strategies learned through our reading assignments were great and easy to incorporate in meaningful ways into my unit. My next step is to use this unit to teach fractions this year and to make changes to it as necessary.

Blue Skies

Middle School Teachers

Gena Bevilacqua



Coping Strategies for Middle School

Name and Title: Coping Strategies for Middle School

School and Grade Level: IMS, Grades 6-8

Essential Questions: 1. What does stress look and feel like to me?
2. How can coping strategies be beneficial to me?
3. Why does maintaining self-regulation improve my relationships with

Instructional Strategies: Visuals
Advance organizers (agree/disagree chart)
Think - Ink - Pair - Share
Exit tickets
Wait time
Classifying & comparing
Motivational feedback
Homework & practice
Check for accuracy of memory
Mind mapping

Description of Unit: Coping Strategies for Middle School is an introduction to understanding and building beneficial skills to improve self-management for students in grades 6-8.
Everyone feels stress and frustration at times, and learning to appropriately and effectively manage these feelings is important for self-regulation and maintaining healthy relationships with peers. Through these lessons, students will learn about their brains and how coping strategies work, why and when it would be beneficial to use them, and what strategies work best for them as they practice a range of coping strategies each week.

How did your curriculum grow and change during this course? And what are your next steps for your unit?:

Over the course of Blue Skies, my curriculum unit changed from a wide array of various ideas to focused lessons on coping strategies for students. The readings and the collaboration time with colleagues helped me a great deal in finding techniques to best support my students' learning and enhance my essential questions and assessments. My next steps include finalizing details of lesson activities, including exit tickets and homework assignments.

Blue Skies

Middle School Teachers

Deb Davidson & Erica Mitchell

Modified 7th Grade Puberty

Name and Title: Modified 7th Grade Puberty

School and Grade Level: IMS - Special Education & Health

Essential Questions: What is puberty?
What are these changes my body is going through?
Is _____ a normal body change?
Why have I felt so emotional?
Why do I smell/have acne if I am regularly showering??
All my friends friends seem so different, is it something I've done?

Instructional Strategies: KWL (modified from KWHLU)
Response Hold Up Cards
Using a teacher with an existing relationship to teach an especially sensitive subject
Taking increased time to Reflect and Review

Description of Unit: Students of all learning levels go through puberty! We have developed a modified puberty curriculum, focusing on grade 7 students. The curriculum has been modified to the appropriate level of learning, and will be presented in groups of 2-3 students. The unit will focus on social/emotional and physical changes they may be experiencing during the middle school years.

How did your curriculum grow and change during this course? And what are your next steps for your unit?:

We found new and engaging strategies which can be used by any level learner. These will help engage and provide us with essential feedback and an understanding of content learned.

To finalize wording within our slideshow and create our Response Hold Up cards

Blue Skies

Middle School Teachers

Color Theory and our National Parks

Virginia Eaton

Name and Title: Color Theory and our National Parks

School and Grade Level: Ipswich Middle School, Visual Arts, 6-8

Essential Questions: 1-How does color theory science change the way we perceive the natural world?
2-Why do certain hues and color palettes work well together?
3. Do our National Parks face environmental challenges regarding sustainability?
4.Why is preservation of our national parks important?
5.How has artist's interpretation of Nature and National Parks evolved over time?

Instructional Strategies: Strategy 1. Reach and Teach- Engage student w/ personal choices throughout every aspect of project including; NP selection, aspect or detail from NP, media/ material to be used for creating artwork.
Strategy 2. Reflect- Each aspect of a final product relies of reflection. (As indicated through improvements in the craftsmanship throughout the creation of student's artwork.)
Strategy 3. Recode- as indicated in how students choose to interpret their vision of a National Park in their artwork (2D, 3D, mixed media, etc.)
Strategy 4. Review- Students will circle back, review content through their written Artist Statements, NP plaques or Haikus providing understanding of most important concepts from unit.
Strategy 5. Graphic Organizer B.11 (pg. 200) Used to help students brainstorm how to develop their idea for artwork concept.

Description of Unit: 7th Grade students will be taking a "nation-wide field trip" to learn about our amazing U.S. National Parks and their incredible geological wonders.
Students will revisit basic concepts of Color Theory, going deeper into the physics of color theory thru the study of "spectroscopy".
Students will research a national park and using the natural palette of that area create a work of art that symbolizes (communicates) that park as either a sculpture, mixed- media painting, poster, etc.

Students experience the two anchors of art-making; Process and Product.
Process (the formative aspect of the Visual Arts). Process is concept; the ability to envision an idea, to find a personal voice, to discover, play and practice with technique.
Product (the summative aspect of the Visual Arts) is demonstrated through a comprehensive, completed, product. It displays craftsmanship (quality workmanship). It demonstrates originality or innovation. It represents genuine personal meaning to the artist. It has the potential to evoke a profound impact on the artist themselves or the viewer experiencing the artwork for the first time.

How did your curriculum grow and change during this course? And what are your next steps for your unit?:

Working with my 8th grade colleagues, Kelly Scott and Megan Scarborough, I was able to understand more fully and thus articulate in my unit the in depth concepts of color physics and spectroscopy.

Blue Skies

Middle School Teachers

Kelly Scott & Megan Scarbrough

Name and Title: Waves and Energy Transfer

School and Grade Level: Ipswich Middle School, 8th Grade Science

Essential Questions: Holistic:
How does energy move?
What is a wave?
How do waves impact life on Earth?

Topical:
How do waves affect matter and Energy Transfer?
How do the measurable aspects of waves relate to the wave characteristics?
How do different waves behave when they encounter different matter?
What kinds of materials prevent the absorption of heat and UV radiation?

Genetics, Heredity, and Me, Waves and Energy Transfer

Instructional Strategies: We will be implementing Reflecting, Recoding, and Reinforcing strategies suggested by Marilee Sprenger. For example, we are trying to add more reflection time, both for students and as teachers. We will use journaling as a daily reflection utilizing many of the suggested Reflection prompts. We also plan to add more Recoding of informational texts. This dovetails nicely with SEI strategies and will be utilized, for example, in having the students generate their own definitions for content vocabulary words. We will practice Reinforcing techniques such as asking Socratic Questions to allow students that have misconceptions to have time to reframe their ideas and come to their own conclusions which will increase the chance of students' remembering correct information.

Description of Unit: This unit is an exploration of waves and how waves transfer energy. It highlights the predictable and measurable common traits of all waves and allows discovery opportunities to explore different types of waves, with differing characteristics, and the various roles they play in our lives here on Earth. The Capstone Project is a Design Challenge where students create products to protect children from harmful Ultraviolet light waves, from the sun, on Beach Day.

How did your curriculum grow and change during this course? And what are your next steps for your unit?:

We gained a deeper understanding of the physics behind the nature of electromagnetic waves and the Enduring Understandings middle school students should have, by talking to High School Science teachers. This helped us focus our activities and lessons to make the scope of this unit a bit narrower and the sequence of the lessons more coherent. New lab activities were developed, Information texts were differentiated by reading level, and assessments were better aligned to the standards we identified. Collaboration with the art teacher was also a new addition to this unit, that had already included collaboration with the music teacher.

High School Teachers

Emily Allman

[The Letter of the Law: Truth, Virtue, Policy, & Convention in Algebra1H]

Name and Title: The Letter of the Law

School and Grade Level: Ipswich High School, Algebra 1H

Essential Questions: How can we discern between truth, convention, virtue, policy, and law?

Instructional Strategies: I have incorporated several student reflection pieces, using a Flipgrid videocast project, daily reflection questions with Google Forms, sketchnotes with Rocketbook, MARS assessment tasks, and DESMOS inquiry activities.

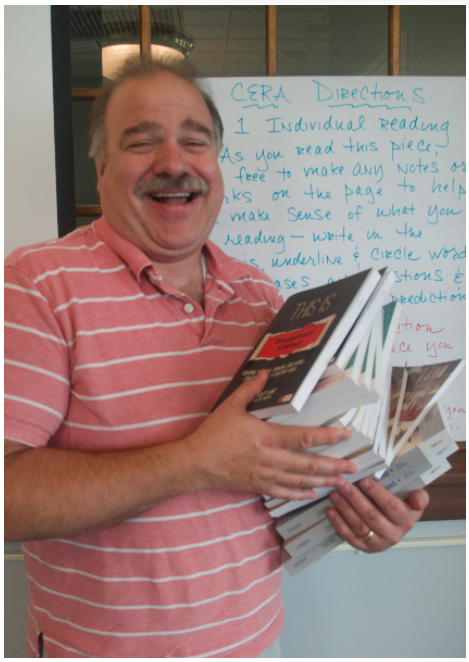
Description of Unit: It is common to think that there are too many rules in mathematics. But upon inspection we find that actually, instead of rules (or laws) about what we MUST do, mathematics consists mostly of truths about the properties of numbers and policies about methods of manipulation. A good mathematician is flexible and creative and can use these powers to describe and understand the world around them.

How did your curriculum grow and change during this course? And what are your next steps for your unit?:

The Blue Skies community provided me with a feedback network that challenged me to dig deeper into my essential question and how it relates to the content in this unit. My own process of reflection and recoding helped me to develop the student reflection pieces more fully.

Blue Skies

High School Teachers



Scott Ames

[AP US History: The Progressives, Unit 12]

Name and Title: The Progressives

School and Grade Level: Ipswich High School; Grades 11-12

Essential Questions: What conditions are necessary to allow popular movements to succeed?

What is the proper role of government in a modern nation-state?

Is it better use of power for one branch of government to lead?

Instructional Strategies: Reflection as Assessment; Four Corner Reflection; CATAPULT

Description of Unit: The unit explores the motivations, goals, and achievements of the Progressive movement of the 1890s-1920. Students will assess the "progressive" nature of the movement through a debate at the end of the unit which will attempt to answer the question "How progressive were the Progressives?" Students will review the movement through the words of the era through extensive primary source analysis, using the reading strategies listed above and various sharing strategies, including jigsaws.

How did your curriculum grow and change during this course? And what are your next steps for your unit?:

The reading and memory strategies that the course explored allowed me to place more of the unit into an experiential setting. In order to complete the debate, students will have to master the material in order to have meaningful discussions and argue with their classmates.

Blue Skies

High School Teachers

Emily Chandler

[Mendelian Inheritance, DNA structure, Mitosis & Meiosis]

Name and Title: Unit 1: Mendelian Inheritance, DNA structure, Mitosis & Meiosis

School and Grade Level: High School, 11th & 12th grades, Molecular Genetics

Essential Questions: Course:
How does understanding the structure of DNA impact your ability to make informed decisions?
How will society be impacted as we learn more about our DNA in the future?
What is scientific evidence and how can you use it to defend claims?

Unit
How is genetic material passed from one generation to the next?
How does the structure of DNA determine phenotypic traits?
What can Mendelian inheritance explain?
What are the limits to Mendelian inheritance?

Instructional Strategies: Guided Notes; Confer, Compare, and Clarify; Picture Notes; Ripple Discussion; Anticipatory Guide Statement; Quick Draw

Description of Unit: This year I am teaching a new Molecular Genetics semester elective for juniors and seniors. As part of the class, I built an introductory unit that reviews students' knowledge of the structure of DNA, Mendelian inheritance, mitosis, and meiosis. These concepts are the basic building blocks for our class understanding of how DNA determines traits and how traits are inherited.

How did your curriculum grow and change during this course? And what are your next steps for your unit?:

Through the course, I worked with Tracy and with my Learning Cycle Group to rethink essential questions for content heavy classes.
My next steps for the unit are to continue to add detail and links to my Stage 3 Student Learning Experiences.

Blue Skies

High School Teachers

Greg Chmura

Evolution Unit

Name and Title: Evolution

School and Grade Level: High School, Grades 11-12, AP Biology

Essential Questions: How can you explain why all living things have characteristics in common and at the same time are so diverse?

Instructional Strategies: I will use a graphic organizer boards(Frayer model) to help student understand key vocabulary with each chapter in this unit. Student will evaluate the vocabulary in terms of its importance to understanding key concepts. Students will use the vocabulary to make concept maps to help them understand the connections between ideas. I also plan on using exit ticket strategies to help students write deeply about aspects of the classroom learning experience and to provide me with more feedback about student formative understanding.

Description of Unit: This unit is focused on the concept of evolution. This is also one of the four thematic big ideas.

How did your curriculum grow and change during this course? And what are your next steps for your unit?:

I spent a significant amount of time reading the AP standards related to this unit which helps me to focus my instruction and design relevant learning experiences. I also have added a new vocabulary strategy that is aimed at helping students understand key vocabulary and work with that vocabulary to understand important connections between the concepts.

Blue Skies

High School Teachers

Justine May

Junior School Counseling Seminar

Name and Title: Junior School Counseling Seminar

School and Grade Level: Ipswich High School, Grade 11

Essential Questions: Why is it important to me to learn about post-secondary options?
How can I explore careers and/or colleges?
How do I research post-secondary plans?
What are my options after high school?
What if I don't know what I want to do?
How can learning what I want to do after high school impact my class choices?

Instructional Strategies: Graphic organizer (KWHLU chart)
Powerpoint presentation
Discussion
Interactive activities on laptops
Naviance assessments
Scattergrams
Journaling

Description of Unit: The Junior Counseling Seminar will be delivered to each junior English class in January. The seminar is designed to provide students with the knowledge and tools to explore post-secondary options.

How did your curriculum grow and change during this course? And what are your next steps for your unit?:

This course helped me revise my essential questions. I also created, and altered, the student learning experiences and formative assessments.

Blue Skies

High School Teachers

Gail Pepe

Integrated Study of Bony Fish

Name and Title: Integrated Study of Bony Fish

School and Grade Level: 11 and 12 grades

Essential Questions: Lesson I: V.A. What is the relevance of shape and form when analyzing something for the first time?

Instructional Strategies: Compare and Contrast Graphic Organizer, Tiered Vocabulary, Visual and Media Literacy, Socratic Question: Assumption Probe

Description of Unit: The Integrated Collaborative Study of Bony Fish is a course designed to increase the observational skills of the natural scientist in all of us. Assumptions are made when we establish our reasoning, based on the facts available to us. This hands-on lesson will question how we gather source materials, increase visual literacy, and enhance drawing skills. A series of experiential exercises will elevate student examination and analysis methods and establish a connection with the scientific and creative problem solving questions.

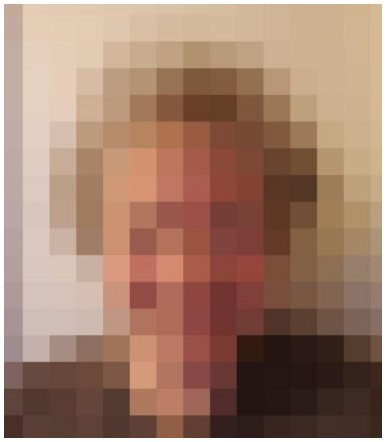
How did your curriculum grow and change during this course? And what are your next steps for your unit?:

This course gave me direct access to other professionals who were kind enough to share their feedback and expertise. I appreciated the time to organize my UBD template with guidance from our curriculum director. After putting the final touches on this lesson, I hope to link a second lesson on this same topic and explore problem-solving, service based learning.

Blue Skies

High School Teachers

Christine Reif



[Web Design]

Name and Title: Unit 2 Web Development

School and Grade Level: IHS - CS DISCOVERIES (Grades 9-12)

Essential Questions: Chapter 1
Why do people create websites?
How can text communicate content and structure on a web page?
How can I incorporate content I find online into my own webpage?
What strategies can I use when coding to find and fix issues?

Chapter 2
How do I modify the appearance and style of my web pages?
How do I safely and appropriately make use of the content published on the Internet (what are my responsibilities toward myself and others?)

Instructional Strategies: Parts/Function/Complexity analysis to introduce software work environment
Driver/Navigator programming pairs with timed swap
Web page gallery walks for peer feedback/learning
Social Sleuth and Scavenger Hunt "games" to reveal digital footprint, IP concerns and credibility of references
Homework: Three sentence summaries to respond to essential questions
Insight/Question cards for final reflection

Description of Unit: Students will be learning web page design and appropriate use of the internet in this unit, ultimately designing a real, publishable website for a customer. They will gain their first exposure to coding using HTML and CSS markup languages. They will develop technical skills and understanding of: 1) the importance of sequence of operations and syntax toward achieving an end result, 2) how code is used to provide structure and design style – levels of specification, assumptions, and 3) what's happening "behind the scenes"on different websites. They will also develop a socio/political/economic understanding of: 4) the importance of digital footprint and controlling information sharing, 5) the legal ramifications and requirements surrounding intellectual property, and 6) how to verify/ensure the credibility of reference sources (and thus their own credibility).

How did your curriculum grow and change during this course? And what are your next steps for your unit?:

This is the first time this course is being offered in Ipswich. Most of the lessons and exercises have been leveraged through Code.org. However, in order to fit the high school student population and timeframe, the material has been compressed with more of a focus on developing the deeper technical skills while preserving and expanding on presentation of the web as social and informational media, which will be important to all students regardless of career path.

Blue Skies

High School Teachers

Andrew Sargent

Transcendentalism: Nature and the American Mind

Name and Title: Transcendentalism: Nature and the American Mind

School and Grade Level: Ipswich High School, American Literature (11th Grade)

Essential Questions: Course Core Questions:
What does it mean to be an American?
What is the relationship between the individual and society?
What factors influence our understanding of "America" and ourselves as "Americans"?

Unit-Specific Questions:
Are humans inherently good?
What role does nature play in our lives?
How has the natural world influenced our understanding of ourselves as Americans?
How do writers communicate complex ideas?

Instructional Strategies: Quick-Writes, Think-Pair-Share, Debate Carousel, Chalkboard Splash, Bounce Cards

Description of Unit: This revised unit on Transcendentalism, America's homegrown philosophy, focuses on nature's role in both our individual lives and American cultural identity. Students read selections from Ralph Waldo Emerson's and Henry David Thoreau's essays, as well as contemporary texts that incorporate and build on these authors' ideas. Using the units' texts as models, student write their own personal essay on an aspect of nature important to them.

How did your curriculum grow and change during this course? And what are your next steps for your unit?:

Based on feedback from my colleagues and my reading in Total Participation Techniques, I fine-tuned my essential questions and built out the learning plan for the unit. From here, I'll continue to develop the new activities and summative assessment, implement the unit during the second quarter, then revise and refine as necessary.

Blue Skies

High School Teachers

Molly Smith

Name and Title: Global Citizens and the World

School and Grade Level: Ipswich High School, 11th grade, Global Studies

Essential Questions: What does a global citizen look like?
What organizations connect the global village?
How should decisions among nations be made?
How do we influence and how are we influenced by the global economy?
What is my place in the world?

Global Citizens and the World

Instructional Strategies: Notebook for Quick Writes & Think/Pair/Share
Globalization Readings with Rank Quote Activity
What does Globalization look like Quick Draw
Globalization Pros/Cons Research Poster with class Ranking of pros and cons
If the World were 100 People Video Prompt with Chalkboard Splash
Comparative Government: Who Rules True/False & Multiple Choice Paddles
Anticipatory T/F Guide on Dictatorships
Could Totalitarianism happen in America Research activity followed by Debate team carousel
Sovereign State Paddle Multiple Choice responses.
Security Council Numbered Heads Jigsaw
NGO MIllion $ Donation Ranking Activity
Nike Sweatshops: Behind the Swoosh Viewing and Ripple Discussion

Description of Unit: This introductory unit teaches students about global citizenship through a study of geography, demographics, comparative governments, global organizations and the world economy. The final project will require students complete in-depth research into a country and then design and match a useful product or service for the citizens of that country. They will then compete for a grant from an NGO to implement that product or service. The class will serve as the grant committee and determine how to distribute the funding.

How did your curriculum grow and change during this course? And what are your next steps for your unit?:

Global Studies is a class that will revolve around a great deal of learning activities, projects and participation. The Total Participation book provided me with numerous suggestions for improvements for already existing lessons and activities. Getting more students to participate has been a goal of mine for next year so I'm now looking to incorporate these strategies into my other classes.

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IPS School Committee

The IPS Leadership Team

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