Educating For Authentic Performance
The Essence of Future-Readiness
Today’s Presenters

Jay McTighe
Award-winning and best-selling co-author, The Understanding by Design Framework

Michael Pflug
K-12 STEAM curriculum designer, Prosper Independent School District, Texas
Agenda

• Jay McTighe will explain why rich authentic performance tasks help students to apply and transfer knowledge
• Michael Plfug will discuss how Prosper ISD incorporates authentic performance tasks into their K-12 curriculum
• Curriculum tools to help teachers effectively implement performance tasks
A performance task is any learning activity or assessment that asks students to perform to demonstrate their knowledge, skills, and understanding. Performance tasks yield a tangible product/performance that serves as evidence of learning.
Commonalities Among the Practices in Science, Mathematics and English Language Arts

Based on work by Tina Chuek ell.stanford.edu
Focus on “doing” science

“As in all inquiry-based approaches to science teaching, our expectation is that students will themselves engage in the practices and not merely learn about them secondhand. Students cannot comprehend scientific practices, nor fully appreciate the nature of scientific knowledge itself, without directly experiencing those practices for themselves.”

Next Generation Science Standards
## Attributes Employers Seek in Job Candidates

<table>
<thead>
<tr>
<th>Skill</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Leadership Skills</td>
<td>80.1%</td>
</tr>
<tr>
<td>Ability to work in a team</td>
<td>78.9%</td>
</tr>
<tr>
<td>Communication skills (written)</td>
<td>70.2%</td>
</tr>
<tr>
<td>Problem-Solving skills</td>
<td>70.2%</td>
</tr>
<tr>
<td>Strong work ethic</td>
<td>68.9%</td>
</tr>
<tr>
<td>Communication skills (verbal)</td>
<td>67.2%</td>
</tr>
<tr>
<td>Initiative</td>
<td>65.8%</td>
</tr>
<tr>
<td>Analytical /quantitative skills</td>
<td>62.7%</td>
</tr>
<tr>
<td>Flexibility/adaptability</td>
<td>60.9%</td>
</tr>
<tr>
<td>Technical skills</td>
<td>59.6%</td>
</tr>
<tr>
<td>Interpersonal skills</td>
<td>58.4%</td>
</tr>
<tr>
<td>Computer skills</td>
<td>55.3%</td>
</tr>
<tr>
<td>Detail oriented</td>
<td>52.8%</td>
</tr>
<tr>
<td>Organizational ability</td>
<td>48.4%</td>
</tr>
<tr>
<td>Friendly/outgoing personality</td>
<td>35.4%</td>
</tr>
<tr>
<td>Strategic planning skills</td>
<td>26.7%</td>
</tr>
<tr>
<td>Creativity</td>
<td>33.3%</td>
</tr>
<tr>
<td>Tactfulness</td>
<td>18.6%</td>
</tr>
<tr>
<td>Entrepreneurial skills/risk-taker</td>
<td>18.6%</td>
</tr>
</tbody>
</table>

Picture the Graduate

Try to envision the type of person we wish to develop as a result of 12+ years of schooling....

What capabilities and qualities do we seek in our graduates?
Portrait of a Graduate

- Critical Thinker
- Creative Innovator
- Effective Collaborator
- Skilled Communicator
What are the features of performance tasks?
The State Department of Tourism has asked your help in planning a four-day tour of (your state) for a group of visitors. Plan the tour to help the visitors understand the state’s history, geography and its key economic assets.

You should prepare a written itinerary, including an explanation of why each site was included on the tour.
You have recently analyzed the narrative work of Faith Ringgold to identify ways she communicated ideas about her world. Think about your own world – your family, friends, hobbies and interests, daily experiences, and the things that are important to you.

Select a drawing or painting medium, or use mixed media to create your own narrative work that visually communicates personal ideas about your world.
Example: Making the Grade

Your math teacher will allow you to select the measure of central tendency – mean, median or mode – by which your quarterly grade will be calculated.

Review your grades for quizzes, tests, and homework to decide which measure of central tendency will be best for your situation. Write a note to your teacher explaining why you selected that method.
5th Grade Student TED TALKS

Example:

Classroom of the Future

Our school has identified the 4C’s of Critical Thinking, Communication, Creativity, and Collaboration as key learning goals. You have been asked to design a classroom to support the development of these skills.

Provide a drawing of a classroom design with explanations of how your room will help students learn these skills.
Adding It Up...

- application of learning
- meaningful context
- genuine purpose
- target audience
- realistic constraints
- product/performance

= Authentic Task
Playing the Game
Practice vs. The Game

Learning and practicing
• knowledge
• skills
• strategies

Requires transfer
• autonomous application
Deep learning is a “process through which an individual becomes capable of taking what was learned in one situation and applying it to a new situation.”

National Research Council
It’s Time for Curriculum Mapping 3.0
First generation = Diary Mapping
First generation = Diary Mapping

# Prioritizing and Mapping Course Map Template

## Year-Long Course Map
### Sixth Grade – Social Studies

<table>
<thead>
<tr>
<th>1st 9 Weeks</th>
<th>2nd 9 Weeks</th>
<th>3rd 9 Weeks</th>
<th>4th 9 Weeks</th>
</tr>
</thead>
<tbody>
<tr>
<td>August</td>
<td>September</td>
<td>October</td>
<td>November</td>
</tr>
<tr>
<td>October</td>
<td>November</td>
<td>December</td>
<td>January</td>
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<td>November</td>
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<td>December</td>
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<td>February</td>
<td>March</td>
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<tr>
<td>January</td>
<td>February</td>
<td>March</td>
<td>April</td>
</tr>
<tr>
<td>February</td>
<td>March</td>
<td>April</td>
<td>May</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Economics Preview</th>
<th>Europe</th>
<th>Latin America</th>
<th>Canada</th>
<th>Australia &amp; Oceania</th>
<th>Preview 7th Grade Curriculum</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Social Studies Skills Matrix</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
</tbody>
</table>

Notes
Second generation = Consensus Mapping from Standards
<table>
<thead>
<tr>
<th>Title</th>
<th>Time</th>
<th>Performance Task</th>
<th>Big Idea</th>
<th>Essential Questions</th>
<th>Core Texts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unit 1: Whole Numbers and Decimals (Number &amp; Operations Base Ten)</td>
<td>1 week</td>
<td>Compare populations of state capitals by converting them to millions with decimal notation.</td>
<td>Different values can be represented in many ways.</td>
<td>• What patterns can we identify in the base ten system?</td>
<td>HM Chapter 3</td>
</tr>
<tr>
<td></td>
<td>Sept</td>
<td></td>
<td></td>
<td>• How does the position of a number determine its value?</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• How can we simplify the problem solving process?</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• What kinds of models can be used to represent decimals?</td>
<td></td>
</tr>
<tr>
<td>Unit 2: Addition &amp; Subtraction of Decimals (Operations &amp; Algebraic Thinking/ Number &amp; Operations Base Ten)</td>
<td>3 weeks</td>
<td>Plan a trip for your family, adding the mileage between cities, using decimal notation.</td>
<td>Real-world problems can be solved by combining or separating groups.</td>
<td>• How can addition and subtraction of decimals be represented by objects, pictures, words, and numbers?</td>
<td>HM Chapter 5, 12</td>
</tr>
<tr>
<td></td>
<td>Sept</td>
<td></td>
<td></td>
<td>• What are some ways that decimals can be combined or separated?</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• How are decimals used to represent numbers in real world situations?</td>
<td></td>
</tr>
<tr>
<td>Unit 3: Addition and Subtraction of Fractions (Number &amp; Operations–Fractions)</td>
<td>5 weeks</td>
<td>Choose the items you would take with you as an immigrant from Europe where each person is allotted a certain weight for all their belongings.</td>
<td>Real-world problems can be solved by combining or separating groups.</td>
<td>• How are fractions related to decimals?</td>
<td>HM Chapters 2, 4, 7, 8, 9</td>
</tr>
<tr>
<td></td>
<td>Oct/Nov</td>
<td></td>
<td></td>
<td>• How are common denominators used to compare fractions?</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• What are some ways that fractions can be combined or separated?</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• How are fractions used to represent numbers in real world situations?</td>
<td></td>
</tr>
<tr>
<td>Unit 4: Multiplication and Division of Whole Numbers (Number &amp; Operations Base Ten)</td>
<td>4 weeks</td>
<td>Compare the areas of various states in square miles.</td>
<td>Real-world problems can be solved by combining or separating groups.</td>
<td>• What patterns do you notice when multiplying or dividing by the powers of ten?</td>
<td>HM Chapters 1, 6, 21</td>
</tr>
<tr>
<td></td>
<td>Nov/Dec</td>
<td></td>
<td></td>
<td>• How does using the algorithm help you to multiply efficiently?</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• Compare and explain how the size of factors is related to the size of products.</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• How can you apply the conversion of measurement units to real-life problems?</td>
<td></td>
</tr>
<tr>
<td>Unit 5: Volume (Measurement &amp; Data)</td>
<td>3 weeks</td>
<td>Estimate the number of linking cubes that will fill a classroom.</td>
<td>Objects can be measured and compared by their attributes.</td>
<td>• What is volume?</td>
<td>Getting to the Core Volume Unit</td>
</tr>
<tr>
<td></td>
<td>January</td>
<td></td>
<td></td>
<td>• How are area and volume alike and different?</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• How do you measure volume?</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• Why is volume represented with cubic units?</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• Does volume change when you change the measurement material? Why or why not?</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• How can you find the volume of cubes and rectangular prisms?</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• Why is it important to know how to measure volume?</td>
<td></td>
</tr>
</tbody>
</table>
Curriculum Mapping: Three Generations

- First generation = Diary mapping
- Second generation = Consensus mapping against standards
- Third generation = Mapping performance backward from *desired performances* based on long-term transfer goals.
# K-12 Cornerstone Task May for Writing

<table>
<thead>
<tr>
<th>Grade</th>
<th>Informative/Explanatory</th>
<th>Narrative</th>
<th>Opinion/Persuasion/Argumentative</th>
</tr>
</thead>
<tbody>
<tr>
<td>K</td>
<td>Science Observation Picture Book</td>
<td>All About Me Picture Book</td>
<td>XXX</td>
</tr>
<tr>
<td>1</td>
<td>My Favorite Animal Book</td>
<td>Imaginary Character Story</td>
<td>XXX</td>
</tr>
<tr>
<td>2</td>
<td>How-to Book (illustrated)</td>
<td>Modern-day Fairy Tale</td>
<td>XXX</td>
</tr>
<tr>
<td>3</td>
<td>Friendly Letter</td>
<td>Personal Narrative</td>
<td>Opinion Letter</td>
</tr>
<tr>
<td>4</td>
<td>Feature Article</td>
<td>Poetry Collection</td>
<td>Issue Analysis</td>
</tr>
<tr>
<td>5</td>
<td>Research Project</td>
<td>Descriptive Narrative</td>
<td>Argumentation Essay</td>
</tr>
<tr>
<td>6</td>
<td>How-to Guide</td>
<td>Autobiography</td>
<td>Editorial</td>
</tr>
<tr>
<td>7</td>
<td>Cause–Effect Essay</td>
<td>Myth, Fable, Fairy Tale, Folktale or Legend</td>
<td>Position Paper</td>
</tr>
<tr>
<td>8</td>
<td>Research Project</td>
<td>Narrative/Historical Fiction</td>
<td>Social Issue Essay</td>
</tr>
<tr>
<td>9</td>
<td>Problem–Solution Essay</td>
<td>Poetry, Song/Lyrics</td>
<td>Editorial</td>
</tr>
<tr>
<td>10</td>
<td>News Article</td>
<td>Memoir</td>
<td>Policy Evaluation</td>
</tr>
<tr>
<td>12</td>
<td>Independent Research with Written Product and a Presentation</td>
<td>Parody, Satire, Irony</td>
<td>Position Paper on Issue chosen by student</td>
</tr>
</tbody>
</table>
Example:

A “How To” Guide

Since you have learned about __________, you have been asked to develop a guide to help other students learn this. Offer specific tips and suggestions to help them be successful.
I am going to show you how to brake.
HOW TO SURVIVE MIDDLE SCHOOL
For Chinese Students
High School students create a Voters Guide
Ransom Everglades H.S.

MARCH 08, 2016 04:30 PM, UPDATED MARCH 08, 2016 08:07 PM

dlima@MiamiHerald.com

MARCH 08, 2016 04:30 PM, UPDATED MARCH 08, 2016 08:07 PM

Gregory Cooper, center, stands with his Ransom Everglades students on Tuesday February 23, 2016. The students worked to create an online voter guide to provide objective, comprehensive information on Republican and Democratic candidates vying for their respective parties' nominations in the 2016 presidential election. PATRICK FARRELL PFRANIEL@MIAMIHERALD.COM
Task Frames
After reading __________ (literature or informational texts), write __________ (essay or substitute) that compares __________ (content) and argues __________ (content). Be sure to support your position with evidence from the texts.

Example:

What’s Your Position?
Should drones be regulated?

After researching possible commercial uses of drones and examining various opinions on the issue, develop your own position and develop a (policy brief, editorial, blog) that argues for your position.

Support your position with evidence from your research, while acknowledging competing views.

Example:

What’s Your Position?
What makes something funny? After reading selections from Mark Twain and Dave Barry, write a review that compares their humor and argues which type of humor works for a contemporary audience and why. Be sure to support your position with evidence from the texts.
Example:

What’s the Pattern?

Interpret the data on _______ for the past _______ (time period).

Communicate your findings for _______ (audience) to help them understand:

• what the data shows
• what patterns or trends are evident
• what might happen in the future
Interpret the data on **our changing heights in 3rd grade** for the past **school year**.

Prepare a **chart** for the **2nd graders** to help them understand:

- how our class grew this year
- their predictable growth pattern next year in **3rd grade**
Locate and analyze the data on incidents of the Coronavirus on each continent for the past 4 weeks.

Review and evaluate the effectiveness of various actions to constrain the spread of the disease.

Prepare a graphic, Podcast, or newspaper article to help the public understand the pattern.
You have an idea that you believe will make your school better, and you want to convince school leaders that they should act on your idea.

Identify your audience (e.g., principal, PTSA Board, students) and:

1. Describe your idea.
2. Explain why and how it will improve the school.
3. Develop a plan for acting on your idea.

Your idea and plan can be communicated to your target audience in a letter, e-mail, or presentation.
After investigating a current political issue, prepare a position paper or presentation for a public policy maker (e.g., Congress person) or group (e.g., school board, legislative committee). Your proposal should provide an analysis of the issue, consider options, present your position, rebut opposing positions, and attempt to persuade the public policy maker or group to vote accordingly.

Your proposal can be communicated in a written report, via a web blog, or as a presentation.
Incorporating Performance Tasks Into K-12 Curriculum at Prosper ISD, TX
About Prosper ISD

- Enrollment is 16,969 students
- 15 schools
  - 11 elementary schools and 1 opening in 2020-2021 school year
  - 3 middle schools with 1 opening in 2020-2021 school year
  - 1 high school with 1 opening in 2020-2021 school year
- Prosper ISD Demographics
  - 57% white
  - 19% Hispanic/ Latino
  - 12% Asian/ Pacific Islander
  - 9% African American
  - 7% two or more races
- Prosper is the fastest growing district in Texas
  - By 2026 enrollment is expected to double to about 33,000 students
  - In 2018 there were more than 3,000 new homes built in the district's boundaries and 5,500 vacant lots that are being developed for new homes
Alignment Matters

• PISD has been committed to Understanding by Design as a district for over 6 years
• Transfer is at the forefront of what we do
• In CTE we focus building 3 key skills in all students K-12
  ➢ Soft skills
  ➢ Technical skills
  ➢ Academic Knowledge
Pathways

- Our K-12 pathways in CTE advance student learning through focusing on transfer at each level.
  - K-5th exposure to post secondary options (Defined Learning)
  - 6-8th grade are exploratory pathways
  - 9-12th grade are more specific to a discipline
- Regardless, all of the pathways focus on the same transfer goals

Click here to see full document
All Pathways

- All our pathways led to at least one certification and set students up for multiple entry and exit points.
- These pathways were identified by our community and local industry as a need in our metroplex area.
- Industry professionals meet two to three times a year with our teachers to make sure our content is aligned and still relevant for our area.

Animal Science
Applied Agricultural Engineering
Plant Science
Architectural Design
Digital Communications
Graphic Design and Multimedia
Gaming
Accounting and Financial Services
Business Management
Advanced Manufacturing and Machinery Mechanics
Engineering
Programing and Software Development

Teaching and Training
Entrepreneurship
Marketing and Sales
Culinary Arts
Family and Community Services
Networking Systems
Web Development
Law Enforcement
Legal Studies
Biomedical Science
Cyber Security
Automotive
Health care: therapeutic
Scope of Impact

• Texas’ College, Career, Military Readiness (CCMR) standards
  ➢ Complete a full CTE sequence aligned to an industry-based certification
  ➢ Take and pass an industry-based certification
• Our engineering pathways take the Autodesk Inventor user certification
  ➢ In the 17-18 school year we had 4% of our total eligible students pass the exam
  ➢ In the 18-19 school year we had 87% of our total eligible students pass the exam
• We have also seen enrollment number begin to rise

<table>
<thead>
<tr>
<th>Enrollment growth</th>
<th>From 17-18 to 18-19</th>
<th>From 18-19 to 19-20</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engineering Design and presentation 1</td>
<td>22%</td>
<td>3%</td>
</tr>
<tr>
<td>Engineering Design and presentation 2</td>
<td>64%</td>
<td>186%</td>
</tr>
</tbody>
</table>
Building Transfer and Teachers

- We made the transition from focusing on what they (teachers) will do to what knowledge and skills the learners need to accomplish.
- This transition happened because of curriculum collaborations:
  - 1-2 teachers per campus per content area and curriculum personal
  - 1 full day- multi-year process

**Year 1**
- Teachers focus on the why we have curriculum.
- The teachers build stage one and outline the things students will understand and be able to do regardless of activities.

**Year 2**
- Teachers focus on building transfer and keystone performance tasks for each unit.
- Teachers build the keystone performance tasks for stage 2 and the aligned activities of stage three.

**All subsequent years**
- Teachers revisit each keystone performance task and aligned activities of stage three.
- Bring in new teachers to build capacity.
What They Are Saying

"We are seeing a higher caliber of student enter in the program which has caused us to really up our game and expectations for what is possible from our students." - Engineering Teacher at Prosper High School

"Students get to work with actual tools and software used in the industry. Which allows them to perform tasks like the professionals." - Engineering Teacher at Rogers Middle School
Teachers have had to have a mind shift in order to understand this way of teaching.

This change happens through Professional Learning Communities, Collaborations, and Professional Learning.
Changing The Day to Day

Traditional linear unit design

Cornerstone Performance Task Based Units
More on Defined Learning
Providing educators with the resources they need to accelerate future-readiness through project-based learning.

- **Career-Focused Projects**: Engaging standards aligned projects complete with engaging videos, editable rubrics, research resources, and more.

- **Project & Portfolio Manager**: Online student project and portfolio manager to assign and assess growth over time.

- **PD Resources**: Effective in-person and online PD opportunities.
Empowering students with career-focused performance tasks

Career Exposure
Real World Video

Solve a Real-world Problem
Performance Tasks

Collaborate and Think Critically
Product Creation

Student Portfolio & Reflection
Student Portfolio
Thank you!

For more information visit our website at www_DEFINEDLearning.com