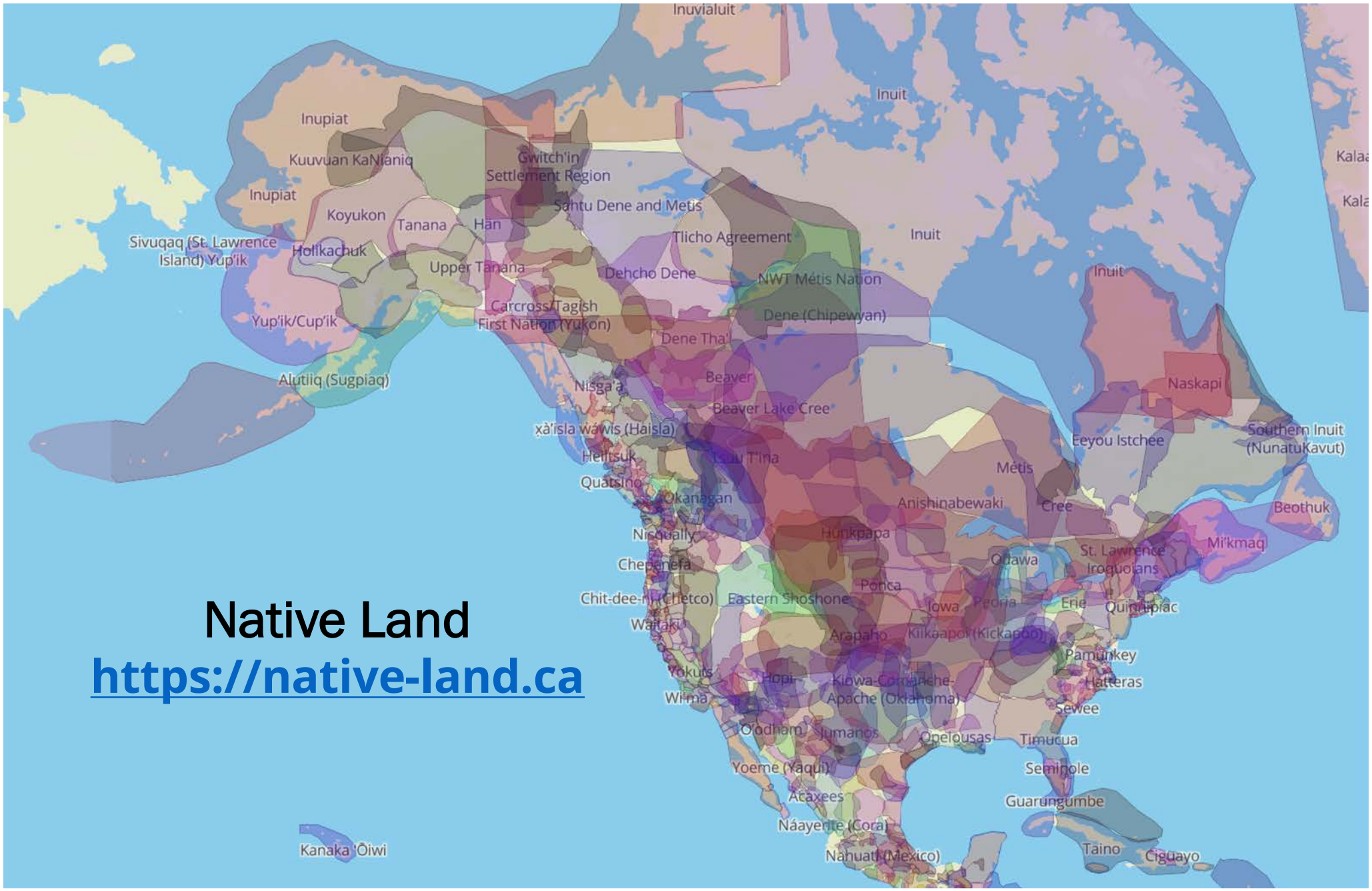

NSF DRK-12 Dissemination Session
Philip Bell & Jinfa Cai

Over chat…

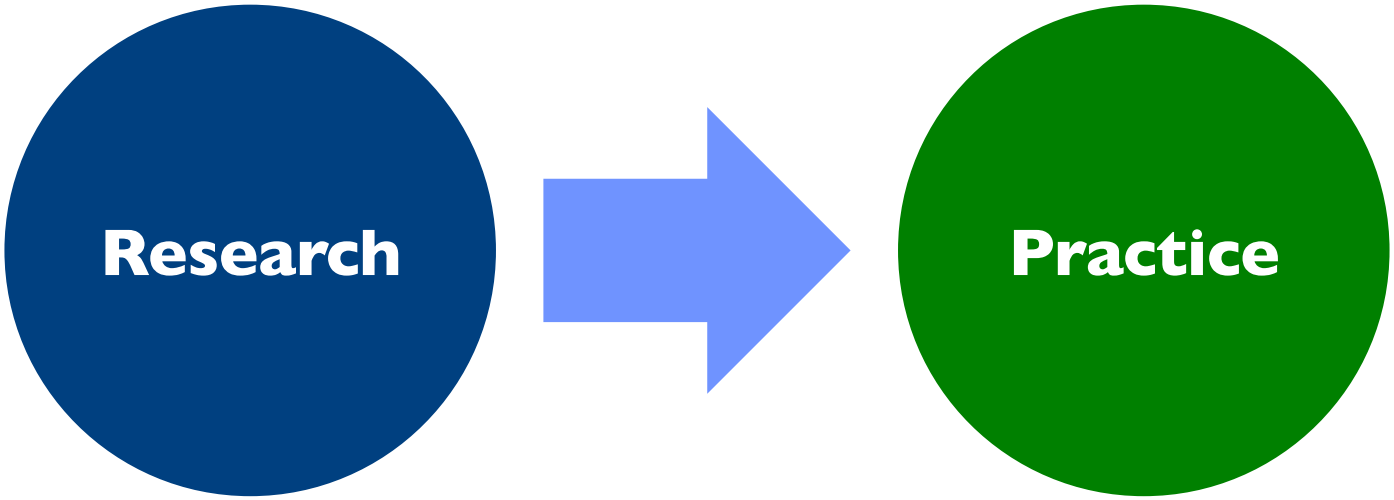
Briefly name some your key project dissemination strategies

Tribal Land Acknowledgement



PERSISTENT PROBLEM

CLASSIC MODEL



Knowledge Exchange (Translation)

Community is typically absent

Transformation is about relationships all the way down…

Community Guided Approaches to Research *with* Practice

Cultural Exchange, Collaboration & Infrastructuring (Solidarity)

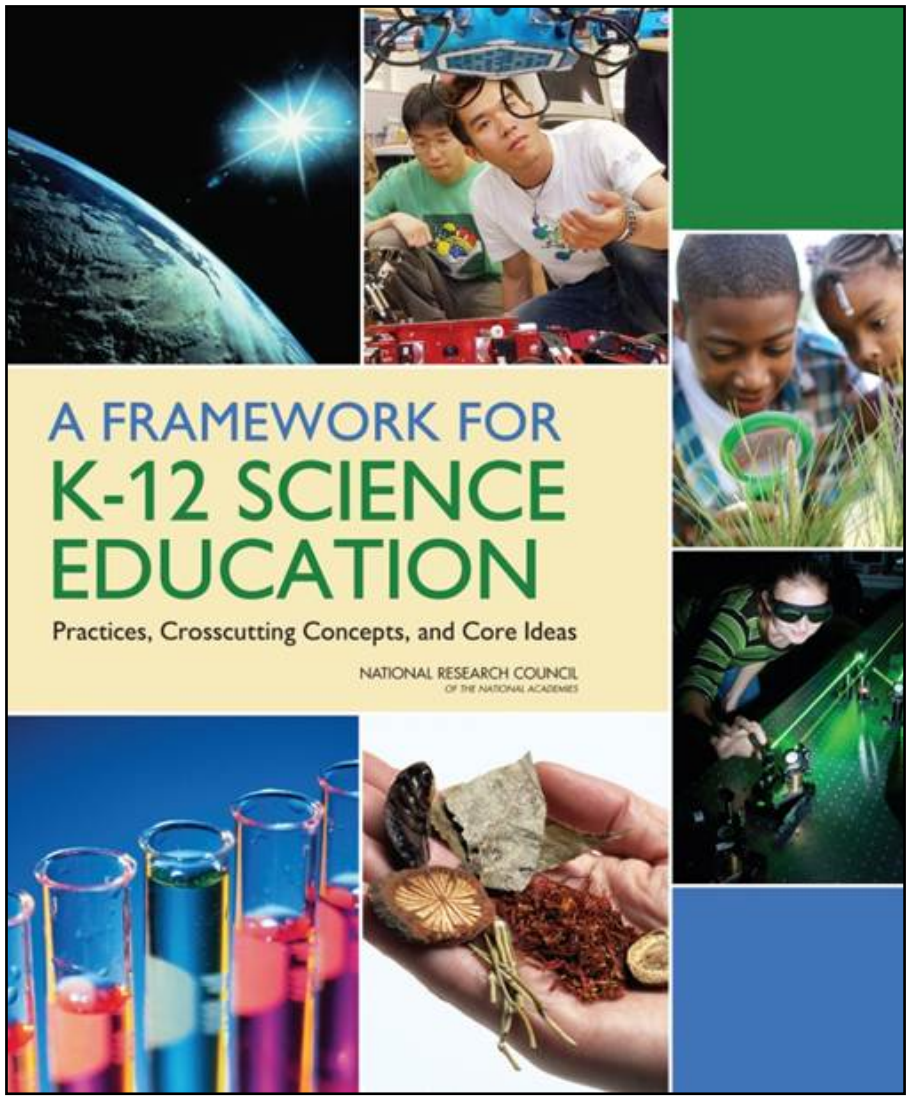
Shift from stakeholder frame to accountability-to-whom frame

Resources for Developing & Managing Research-Practice Partnerships

http://researchandpractice.org/toolkit
http://learnDBIR.org/

Overview of Dissemination Approaches
by Dr. Jinfa Cai

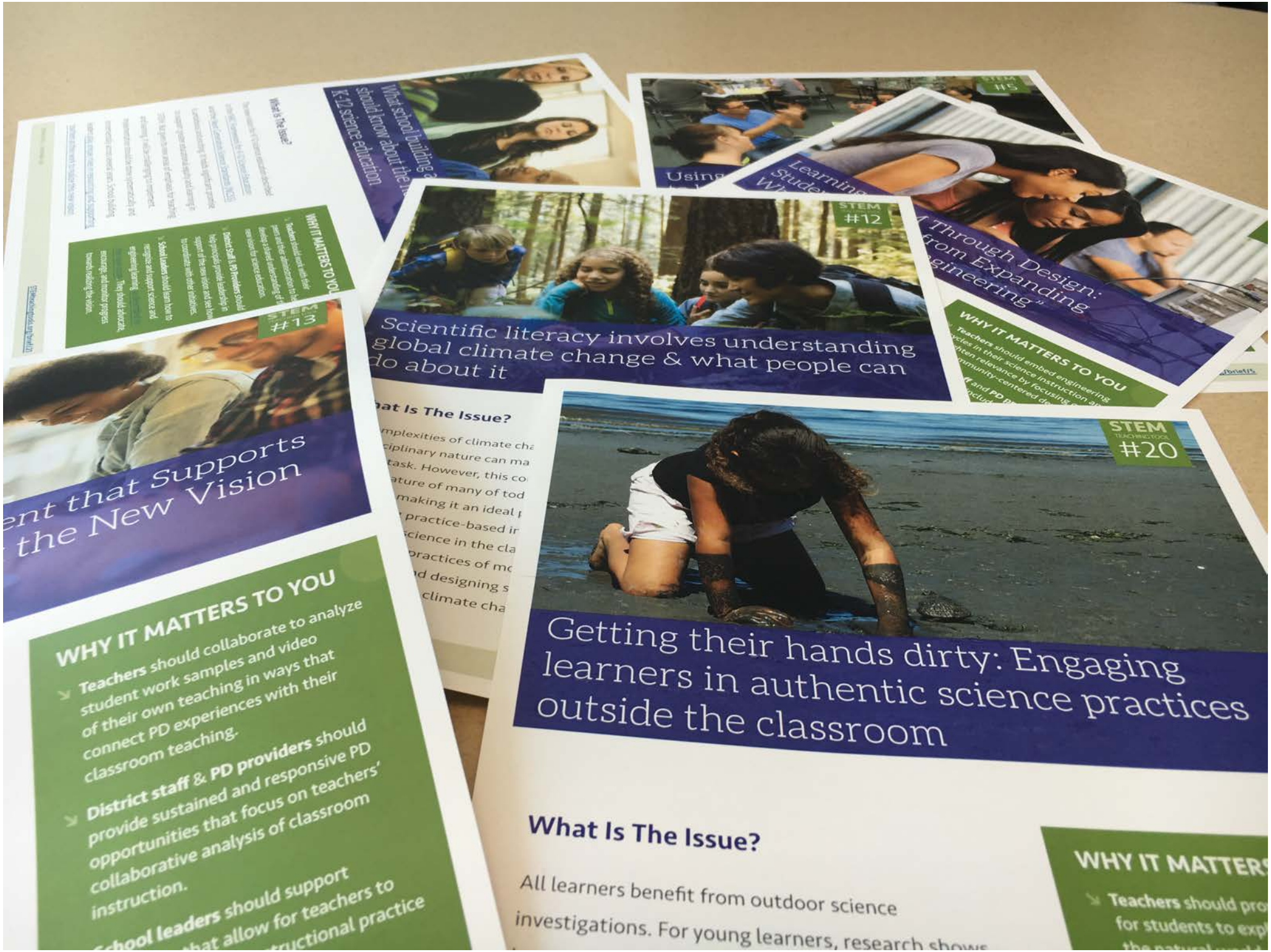
Infrastructuring Implementation of the Vision for K-12 Science Education



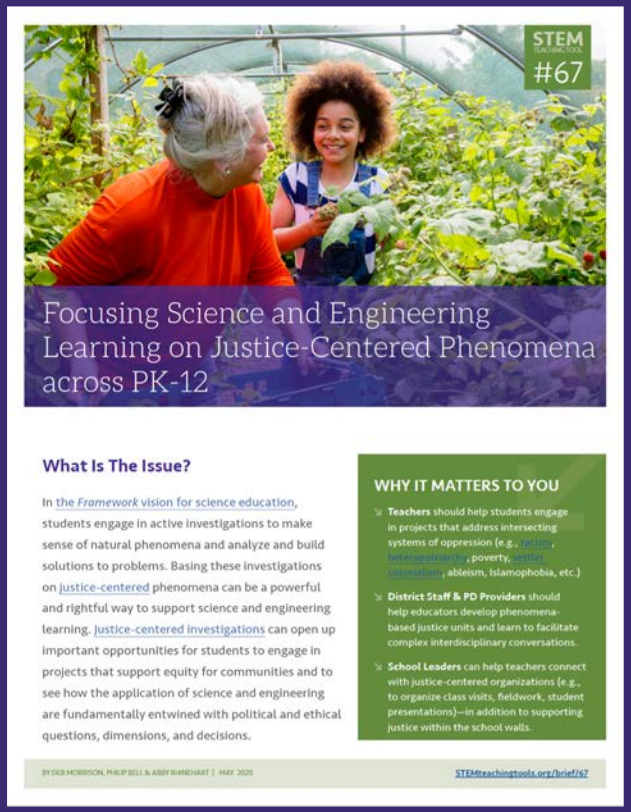
NEXT GENERATION SCIENCE STANDARDS

The Framework & Standards were reviewed and refined by over 40,000 teachers, scientists, engineers, educational researchers, youth and other stakeholders in K-12 science ed.

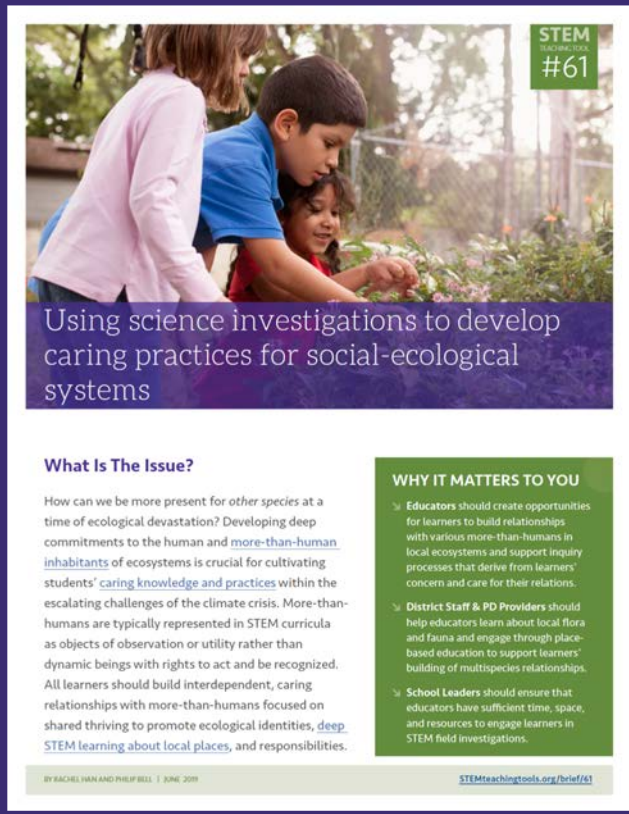
Info Online: tinyurl.com/ScienceFramework & nextgenscience.org


STEM #13
ent that Supports
the New Vision
WHY IT MATTERS TO YOU
Teachers should collaborate to analyze student work samples and video of their own teaching in ways that connect PD experiences with their classroom teaching.
District staff & PD providers should provide sustained and responsive PD opportunities that focus on teachers' collaborative analysis of classroom instruction.
School leaders should support
that allow for teachers to
structional practice
STEM #12
Scientific literacy involves understanding global climate change & what people can do about it
hat Is The Issue?
STEM #20
Getting their hands dirty: Engaging learners in authentic science practices outside the classroom
What Is The Issue?
All learners benefit from outdoor science
investigations. For young learners, research shows
WHY IT MATTERS

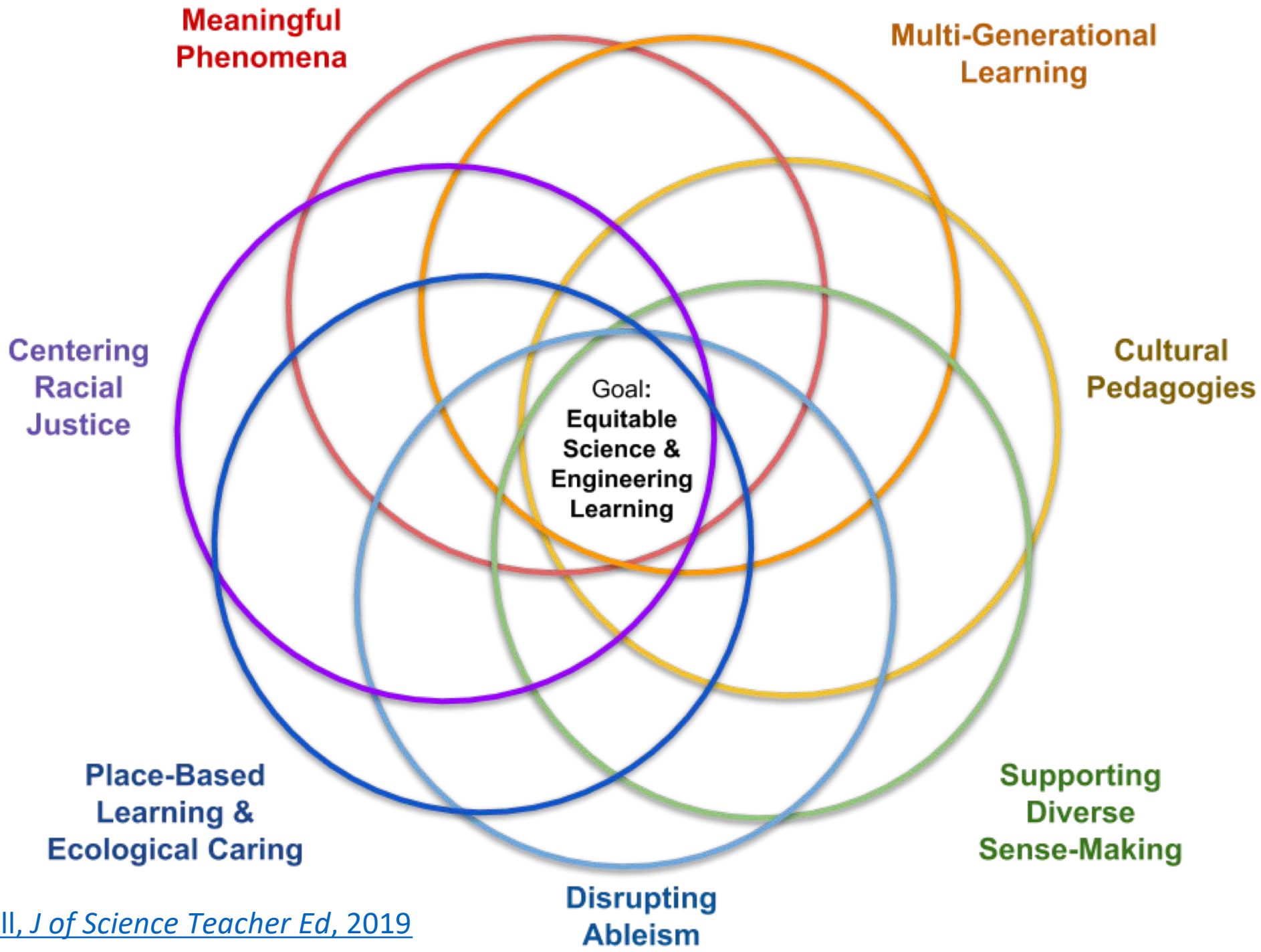
Professional Learning Resources to Support NGSS / Framework Implementation



- *Co-designed by practitioners & researchers*
- *Tested & refined over time*
- *Easily shareable—over social media, email, paper*



STEMteachingtools.org
@STEMteachtools (Twitter)
facebook.com/STEMTeachingTools



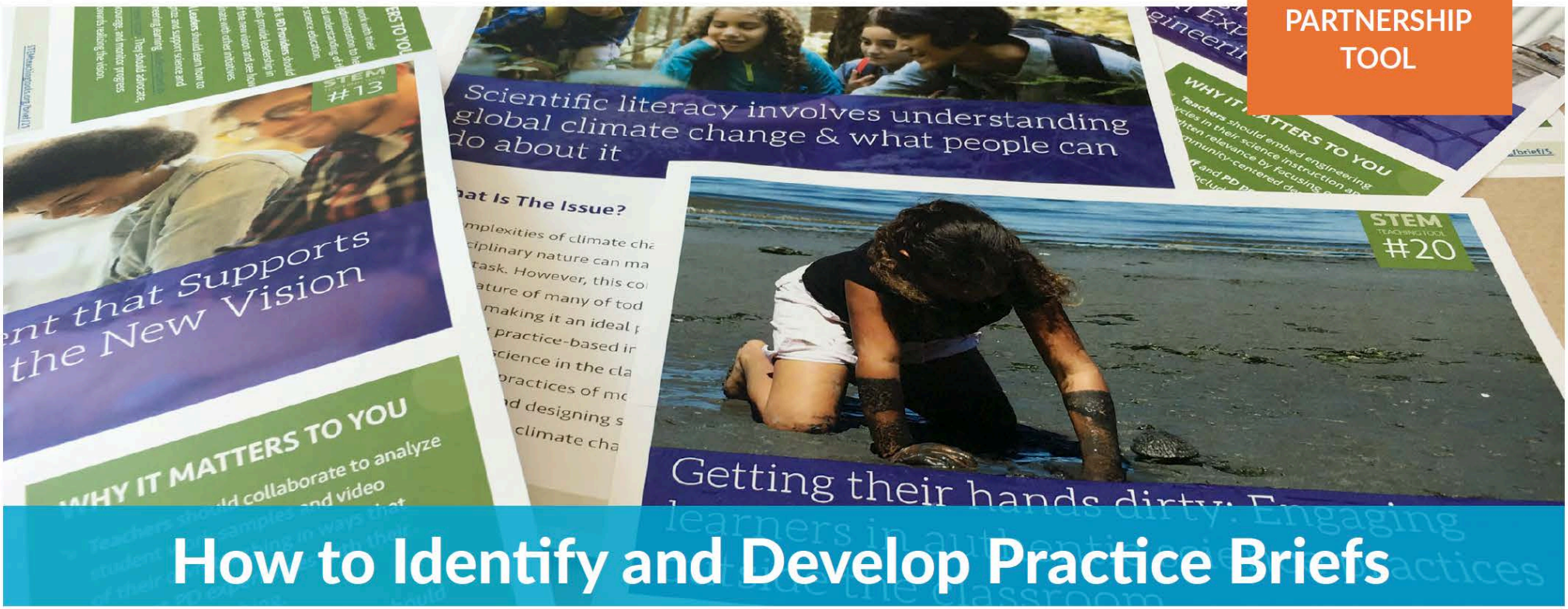
Bell, *J of Science Teacher Ed*, 2019

Uses for STEM Teaching Tools

- In PD events: Vision overviews, topic-focused explorations, in direct support of project work
- By individual teachers refining their practice
- By PLCs, PLNs (e.g., on Twitter), science departments, projects engaged in implementation
- With principals, state STEM groups, assessment design teams, and informal science organizations
- In pre-service science methods courses & graduate seminars
- By organizations messaging about Framework / NGSS through newsletters, sites, email…
- To communicate with parents about science ed

RESEARCH + PRACTICE COLLABORATORY

PARTNERSHIP TOOL

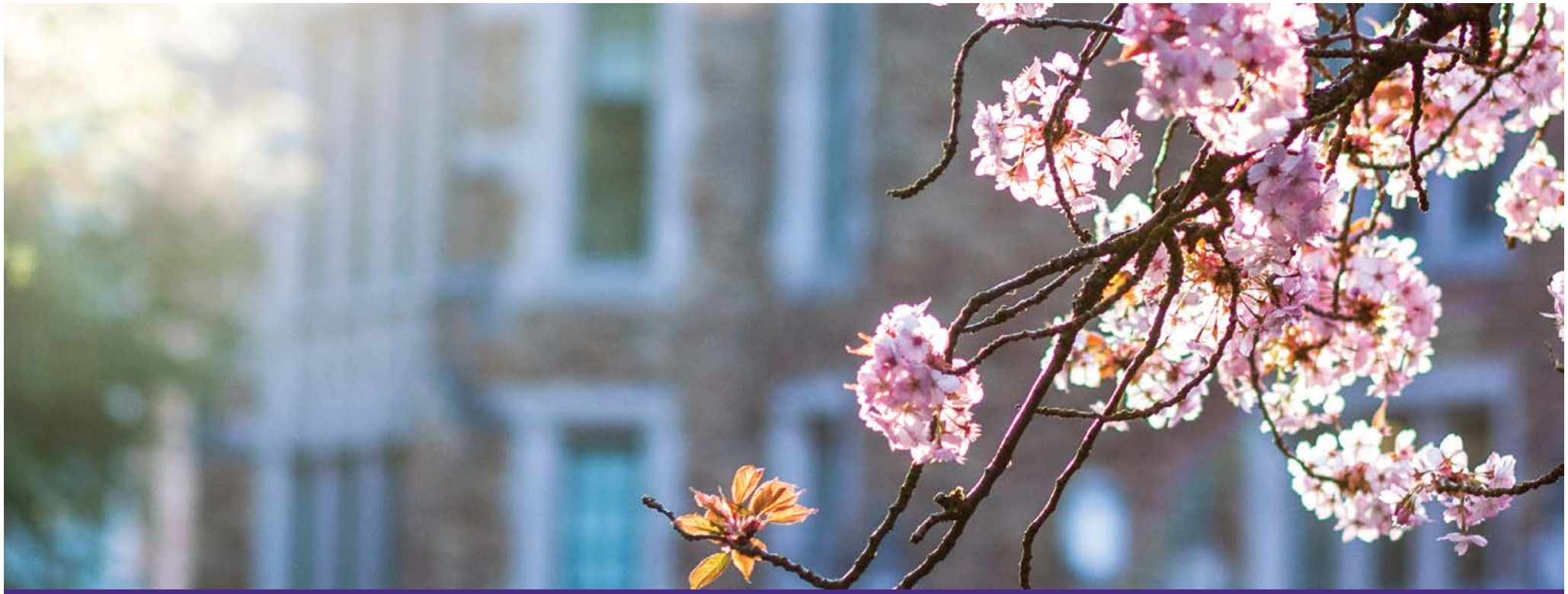


How to Identify and Develop Practice Briefs

About This Tool

Purpose: To provide a "how to" document for identifying and authoring practice briefs that can be used to support practitioners and researchers in their educational improvement activities.
Audience: Members of a partnership responsible for authoring and/or editing resource collections related to the work.
When to Use: When a partnership is developing insights and approaches that are ready to be more broadly shared with educational practitioners.

http://tinyurl.com/PracticeBrief



Thoughts on using social media to improve education as a researcher

Philip Bell, Learning Sciences & Human Development

UNIVERSITY of WASHINGTON | COLLEGE OF EDUCATION

Share Quality Resources Routinely

Philip Bell — 6+ft—
@philiplbell

A4) Here are some specific ways to overlap instruction with the cultural lives of students & their communities... #NGSSchat

stemteachingtools.org/brief/31
stemteachingtools.org/brief/58
stemteachingtools.org/pd/sessionc
stemteachingtools.org/tgs/Culture

6:39 PM · Mar 4, 2021 · Twitter Web App

Philip Bell — 6+ft—
@philiplbell

PLS RT/SHARE/ADAPT #NGSSchat & #SciEd!

SUPPORTING STUDENTS' SCIENCE LEARNING DURING COVID-19 SCHOOL CLOSURES - NEW LANGUAGES

These resources from @CSSSupervisors are now available in English, Korean, Chuukese, Spanish & Arabic (w/ others in process).

stemteachingtools.org/news/guid...

ipervisors

Mar 26, 2020 · Twitter Web App

Philip Bell — 6+ft—
@philiplbell

Replying to @sbottasullivan @AmbScienceTeach and 4 others

💚In addition to cultural/funds of K work, it is useful to trace current #SciEd instruction back to ANCHORED INSTRUCTION & COGNITIVE APPRENTICESHIP—anchoring phenom, learner agency, making thinking visible, scaffolding talk & tasks instructionaldesign.org/theories/ancho...

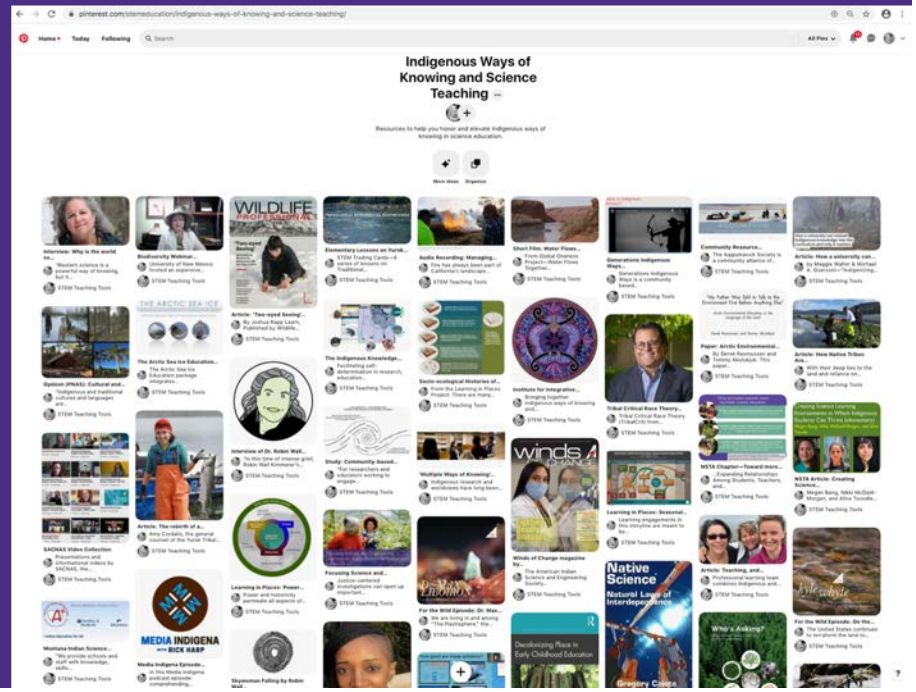
Cognitive Apprenticeship - InstructionalDesign.org
Cognitive apprenticeship is a theory of the process where a master of a skill teaches that skill to an apprentice. ...
instructionaldesign.org

12:56 PM · Feb 20, 2021 · Twitter Web App

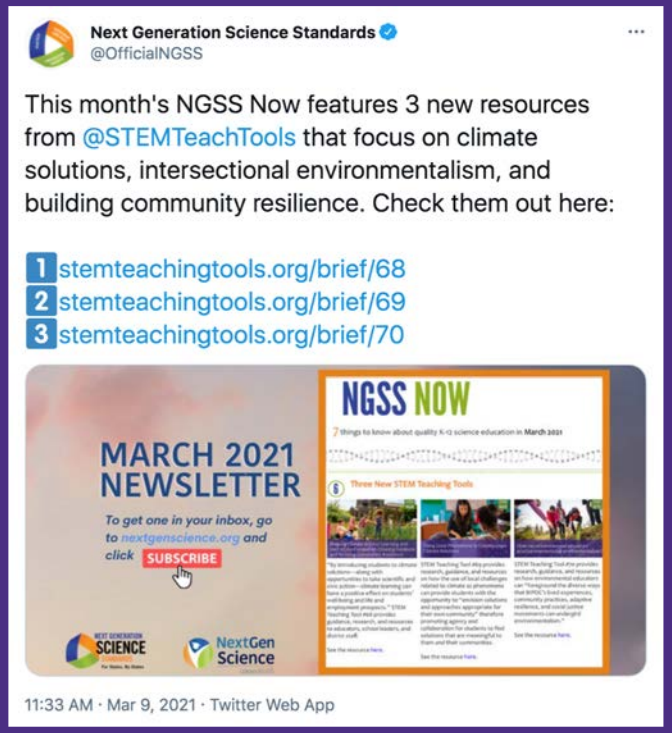
Philip Bell — 6+ft—
@philiplbell

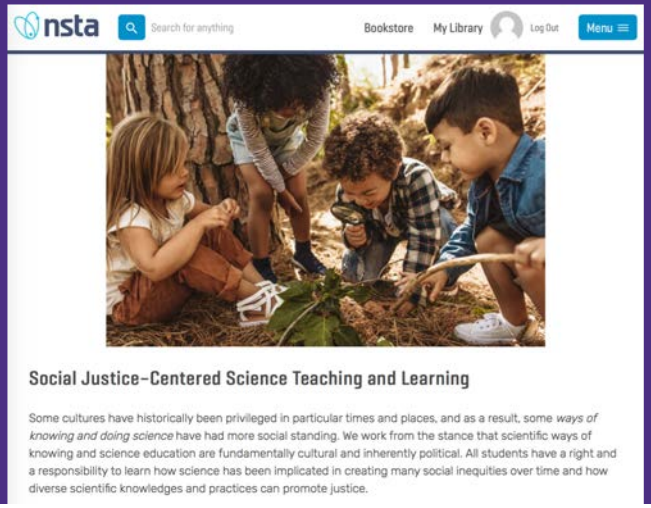
PLS RT #NGSSchat—Here are links to all slides & resources from my #NSTA19 sessions
Assessment twitter.com/philiplbell/st...
Teacher Resources twitter.com/philiplbell/st...
Equity&Justice twitter.com/philiplbell/st...
Family STEAM twitter.com/philiplbell/st...
Diverse Sense-Making

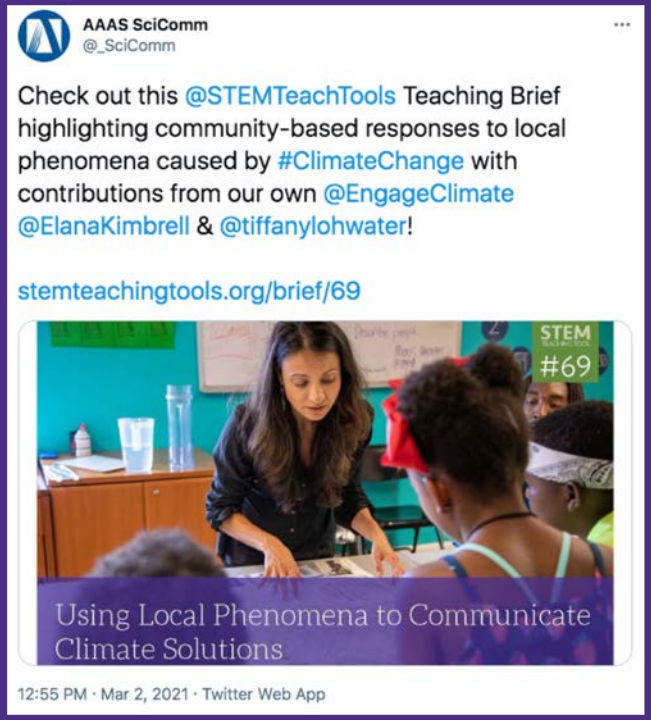
You and 3 others



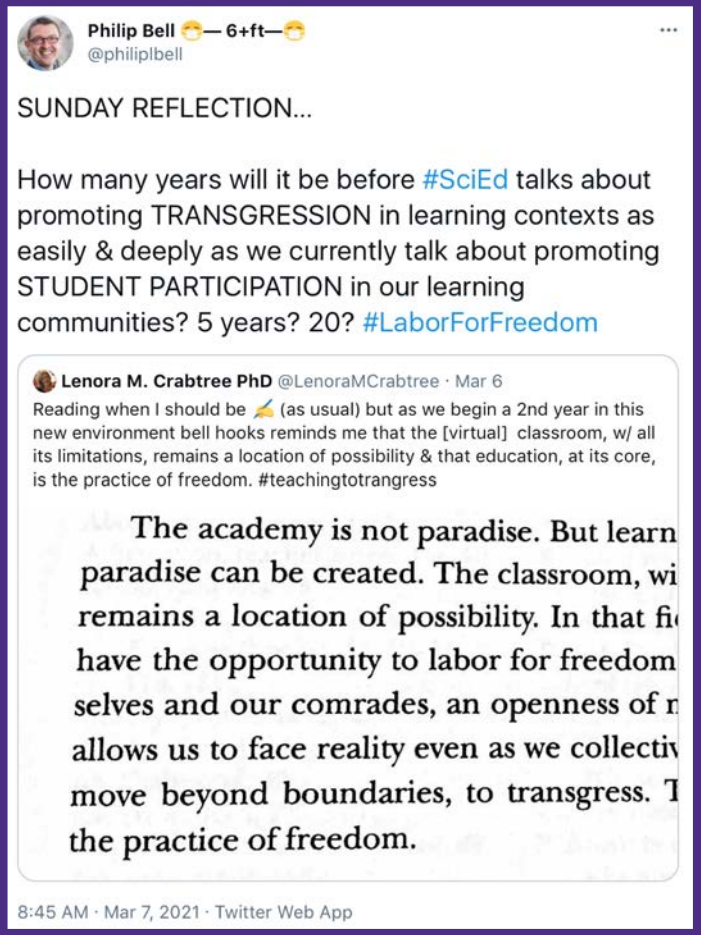
Tap into communication channels of other orgs by building relationships







Think in Public



Philip Bell 😷— 6+ft—😷
@philiplbell

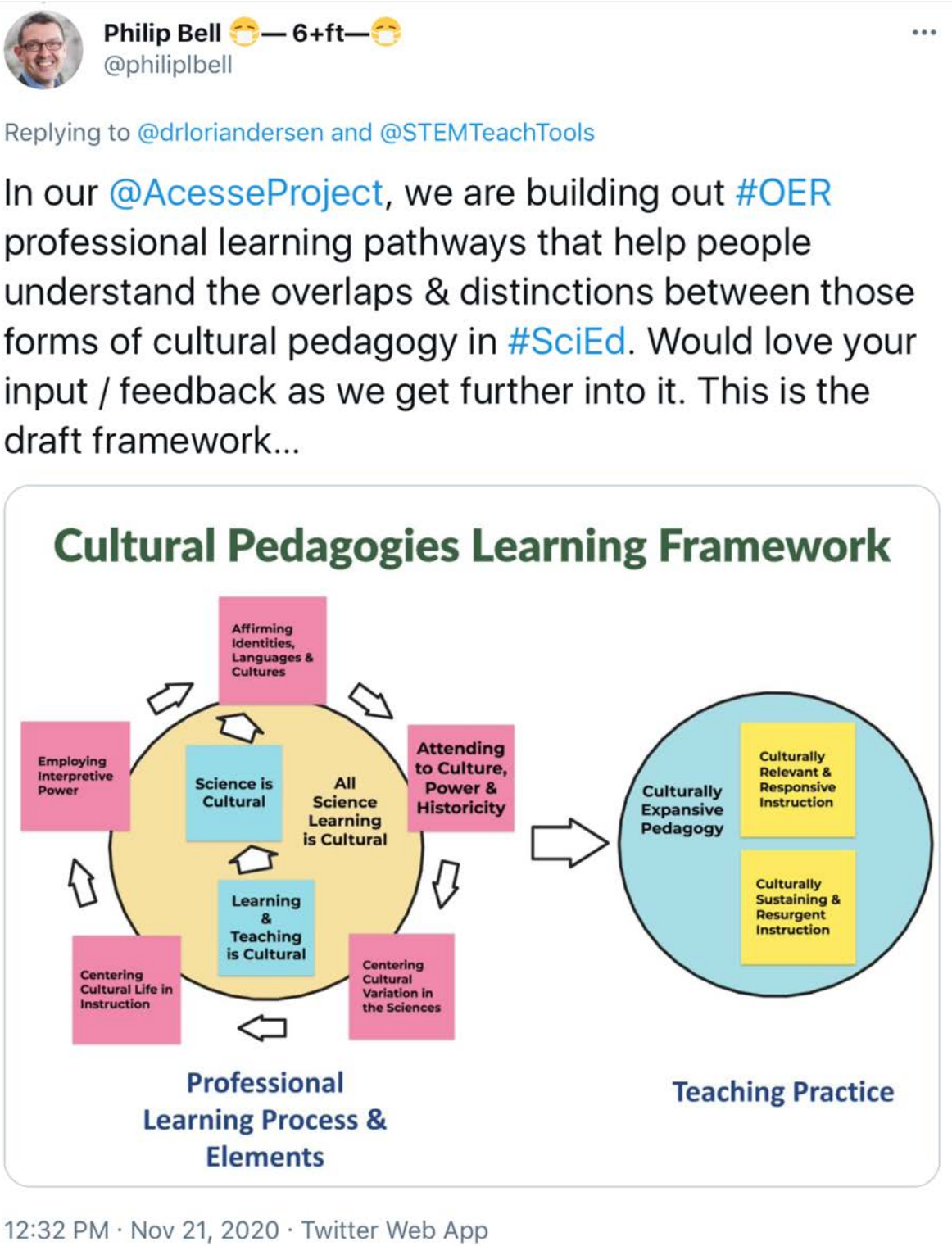
SUNDAY REFLECTION...

How many years will it be before #SciEd talks about promoting TRANSGRESSION in learning contexts as easily & deeply as we currently talk about promoting STUDENT PARTICIPATION in our learning communities? 5 years? 20? #LaborForFreedom

> **Lenora M. Crabtree PhD** @LenoraMCrabtree · Mar 6
> Reading when I should be ✍ (as usual) but as we begin a 2nd year in this new environment bell hooks reminds me that the [virtual] classroom, w/ all its limitations, remains a location of possibility & that education, at its core, is the practice of freedom. #teachingtotrangress
>
> The academy is not paradise. But learn
> paradise can be created. The classroom, wi
> remains a location of possibility. In that fi
> have the opportunity to labor for freedom
> selves and our comrades, an openness of r
> allows us to face reality even as we collectiv
> move beyond boundaries, to transgress. T
> the practice of freedom.

8:45 AM · Mar 7, 2021 · Twitter Web App

Learn Together



Philip Bell 😷— 6+ft—😷
@philiplbell

Replying to @drloriandersen and @STEMTeachTools

In our @AcesseProject, we are building out #OER professional learning pathways that help people understand the overlaps & distinctions between those forms of cultural pedagogy in #SciEd. Would love your input / feedback as we get further into it. This is the draft framework...

12:32 PM · Nov 21, 2020 · Twitter Web App

Engage in public pedagogy

Philip Bell — 6+ft— @philiplbell · Feb 6

We explored resources leveraging concepts of:
- thick present
- entanglement & shimmer
- nonhuman sentience
- ethics of principled exclusion
- designing for radical interdependence & community-led justice

Links are in #UWClimateEd slides for Session 5:
sites.google.com/uw.edu/climate...

2 3 3

Philip Bell — 6+ft— @philiplbell · Feb 6

We need to design for emergence of partial recuperation across multiple timescales. Building on Haraway's model of the CAMILLE STORIES, the group explored how to frame SPECULATIVE, multi-generational stories of PARTIAL FLOURISHING through COMPANION-SPECIES KNOTTINGS. #UWClimateEd

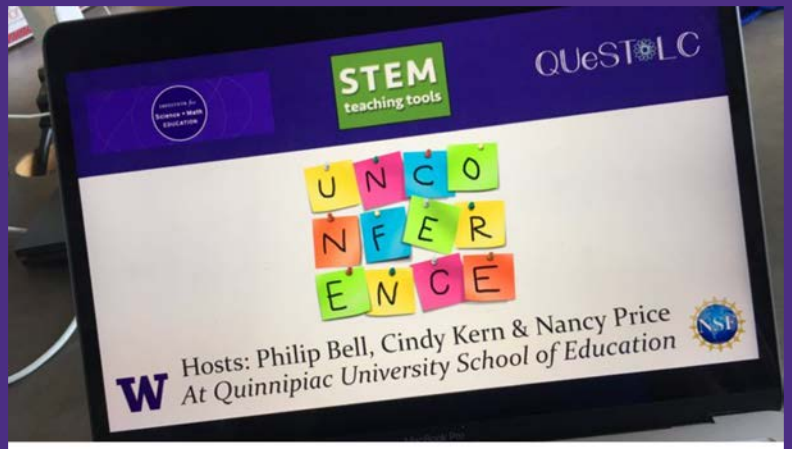
1 1 2

Philip Bell — 6+ft— @philiplbell · Feb 6

In Session 6 of #UWClimateEd, we will keep exploring speculative ethics in ECOLOGICAL THINKING & CARING from critical, Black feminist perspectives & wrap up discussing BRAIDING SWEETGRASS.

Links to these readings & media are on the #UWClimateEd web site:
sites.google.com/uw.edu/climate...

- **Book:** *Braiding Sweetgrass*, Burning Sweetgrass section & Epilogue (pp. 303-384)
  - Please also read and reflect on this Twitter thread by Dr. Zoe Todd
- **Article:** 'Nothing comes without its world': thinking with care by María Puig de la Bellacasa
- **Short Article:** Black Feminist Ecological Thought: A Manifesto by Dr. Chelsea Mikael Frazier
- **Podcast Episode:** Listen: How Beyoncé, Issa Rae, and other Black women lead on the environment (by Grist staff)



Cindy Kern @CindyLKern

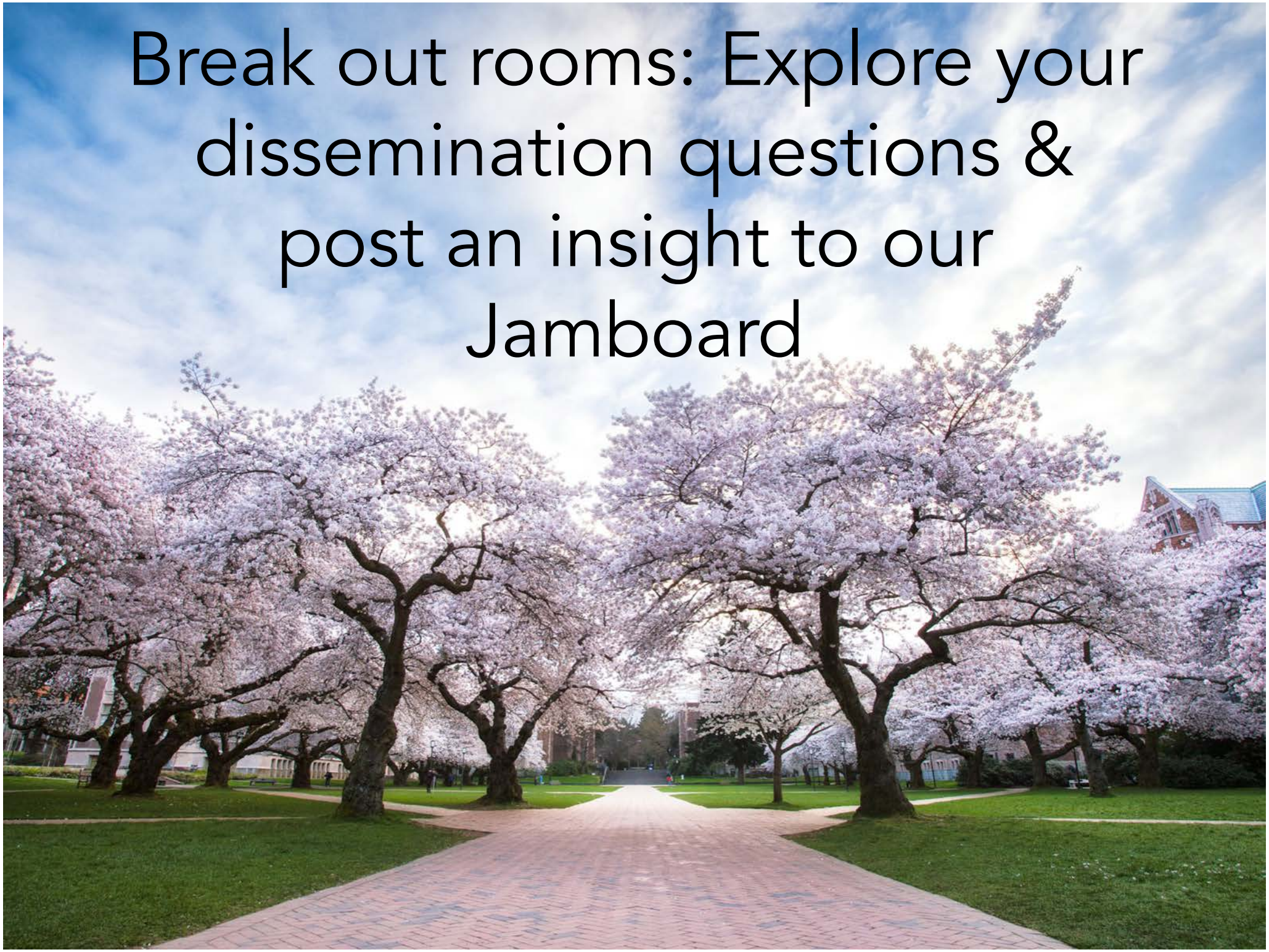
August 16, 2019

@STEMTeachingTools Unconference @QUeST-LC

Dr. Phil Bell, a professor of the Learning Sciences & Human Development at the University of Washington, facilitated a participant-driven 4-day workshop around the STEM Teaching Tools at the Quinnipiac University's Science Teaching & Learning Center.
Photo via @philiplbell

Over chat…

What questions do you have about project dissemination?


Break out rooms: Explore your dissemination questions & post an insight to our Jamboard