Partnerships and Alliances

Virtual Breakout

Group 1 (Neil, Lin, Christy, Rachel)

Opportunities/Challenges

- Opportunities:
  - More opportunity to reach rural groups via Zoom (pandemic bright spot)
  - Importance of science literacy
  - Getting close to “critical mass” of adoption of NGSS
  - OER options
- Challenges:
  - Quality of materials is improving, but more variety, place-based, etc. needed
  - Trusting the process (students will learn three dimensionally as teachers gain more

Goals

- Better coherence and pedagogical shifts
- Making resources and curriculum both inherently local relevant, but also useful across the nation – appropriate grain size
- Growing and strengthening of the STEM ecosystem (Integration of STEM appropriately and purposefully)

Actors and Actions

- Making sure those leading the PD understand local issues (no corporate bigwigs)
- Teacher co-design and administrative engagement
- Policies have to reflect the need of the science classroom (accountability, momentum)

Group 2 (Jonathon, Shannon, and Sharon)

Opportunities/Challenges

- IM are improving - curriculum developers are responding to the field
- There aren't enough HQIM out there…yet
- Political challenges of school boards/leg. controlling what goes on on the classroom
- collaborations with university extension services, tribal nations, ID out-of-school network to form a statewide network focused - integrated curriculum (partnerships with other orgs and ELA/math content)
- educators seem to have limited understanding of the NGSS and how it is implemented. What is the role of partnerships in supporting this exposure? Some educators do not have access to training around NGSS - how do we support this?
- the NGSS can be complex - it is easy to get lost in the details and not see the big picture (shifts called for by the Framework)
- curriculum - tension between national and local context
- lots of groups working on these things: how to elevate all voices (students, teachers, states, other orgs) - how to create coherence
- teachers value the opportunity to network and collaborate to share problems of practice and discuss challenges

Goals

- Encourage informal/formal partnerships, and share models of this in action
- Find ways to create more opportunities for educators to receive formal training in NGSS and implementation (seeing the whole picture)-with partnerships
- Find ways to support teachers in communities (local, virtual) - to share and learn together
- Expand the definition of partnerships (students, teachers, tribal nations, formal/informal)-expand perspective of science

Actors and Actions

- Highlight partnership models that work in order to inform others
  - https://idahooutofschool.org/
  - https://idahooutofschool.org/think-make-create-labs-land/
  - https://stem.idaho.gov/idaho-stem-ecosystem/
- Find and highlight models of partnerships who focus on exposure to the Framework (big picture/implementation) in a cohort manner
  - Interstate Science Collaborative
- Playbook around support to form partnerships (including a wider definition - students, families, etc.)
  - And look at what has already been done

Group 3 (Jen, Brenda, Annette, Eve)

Opportunities/Challenges

- Partnerships- how do you balance the role of the partner and the 'district'
- Bringing in parent and family engagement
- Developing the practices and supports that will actually invite and learn from the voices of communities that haven't been represented or worked with
- Partnerships within school systems
- Partnerships for supporting integration and more time for elementary science/social studies

Goals

- Partnerships that contribute to a coherent infrastructure for school/district/state work
- And partnerships that can add something new or fill specific needs
- Create a teacher hub where partner resources are stored and shared

Actors and Actions

- Make visible more stories of partnerships and the work they can do
- Develop a set of tools for partnerships
- Develop a list of potential partners (informal educators)
- science teaching associations or non-profit agencies- compile a hub for partner resources

Group 4

Opportunities/Challenges

- What is the best structure? What would the role of each district be?
- Need to continue to offer both online PD and face-to-face (need to know what works best for their teachers)
- Where is their space for professional learning?
- Need after work hours availability- need flexibility to support the teacher on their schedule. One type does not fit all.

Goals

- Need to strive for both informal and formal partnerships that share common vision
- Offering helpful resources to teachers that can be shared nationally
- More PD offered by fold that not only understand the content but have a strong connection to the teachers
- Administration buy-in is important to help teachers feel supported

Actors and Actions

- Create a shared go-to list for teachers
- Administrators can offer support and help with providing the PD needed for its teachers
- Just as important for parents to be informed - parental support of teachers to get training

Group 1 (Christy, Neil, Lin, and Rachel)

Goal/Action

In an effort to make resources and curriculum more **culturally relevant**, but adaptable across the nation, a strengthening of the STEM ecosystem is needed. There is a need to balance the locally-adapted materials versus a more flexible, broad K-12 framework.

Why now? Why is this important?

Phenomenon is **local** – so to have culturally relevant materials is essential to both equity and inclusion. There has to be a bridge between the policy makers and the needs of the science classroom. Educators and students need to be centered in all policy making.

Actors/Networks that are or need to be engaged (be as specific as possible)

Idea is rooted in the STEM ecosystem currently available right now – but needs to be more focused on teacher co-design with cultural relevance. https://stemecosystems.org/

Teachers must be at the center.

Policy makers must be at the table with open minds.

Possible idea: Take the idea of the ecosystem or approach Sharon is mentioning and developing it into an OER site for nation (or rework STEMecosystem itself?)

Summit: Bring different perspectives/regions together yearly to begin to develop this resource in the context of both OER and the K-12 framework

Group 2

Goal/Action

- Find ways to create more opportunities for educators to receive formal training in NGSS and implementation (seeing the whole picture)-with partnerships
- Find ways to support teachers in communities (local, virtual) - to share and learn together

Why now? Why is this important?

Teachers need deep training and community to implement Framework based standards and opportunities to work with colleagues in similar contexts to fully address issues of justice and teacher need. Most teachers have not have the opportunities to engage in Framework based teaching and learning.

Actors/Networks that are or need to be engaged (be as specific as possible)

There is a wide variety of PD/PL providers that do good work with teachers however the need for **cohorts** and learning communities is not always supported. These organizations, state government, higher education, local school districts, communities, curriculum developers and yet to be created collaborative groups should be involved in this work. National organizations such as CSSS, NSTA, and others should also be part of the conversation.

Group 3

Goal/Action
In any partnership, what are the areas of expertise by all concerned, what are the standards upon which we are agreeing, how will these partnerships benefit the students/learners.

Why now? Why is this important?

There are many ways for students to learn science. We need to imagine all the possibilities for learning and soaking in science.
Giving students multiple outlets for learning provides the opportunity to spark an interest in a child.

Actors/Networks that are or need to be engaged - be as specific as possible :)

"Someone" (non-profit, science teacher assn, etc) who can house a hub for regional/statewide informal ed resources that partner groups (parks, 4H, agencies, museums, zoos, etc) offer for K-12 science teachers to use in & out of classrooms. (ed kits to check out, scientist/expert speakers, entrepreneurs in science fields, websites with info,) List these by topic/level for easy finding.

(Example from Black Hills Parks and Forests Association education hub with partners https://blackhillsparks.org/education-resource-hub/)

Group 4

Goal/Action

Strive for both informal and formal partnerships that share common vision in science learning development provided by those who not only know the science concepts, but are also able to connect on a personal level.

Why now? Why is this important?

If not now, when? Science is important and we can't procrastinate what impacts our daily lives. If we don't stress it and make it a priority, then who will?

Actors/Networks that are or need to be engaged (be as specific as possible)

teachers

parents (Just as important for parents to be informed - parental support of teachers to get training)

administrators

community members

Things to consider in relation to the goals

- **Why Does it Matter:** Why now? Why is this important for the community to take up?

- **Things to Consider:** Once listed, have the group name any considerations associated with the goal that would be important for the group to name. (ex. Many states are local control, so we might want to focus on district leadership structures, when thinking about our goals)

- **Attending to Equity:** How is equity being centered in this goal? Is there framing that you might add or are there specific

Ideas from each group

Opportunities/Challenges

Opportunities

- More opportunity to reach rural groups via Zoom (pandemic bright spot)
- Getting close to “critical mass” of adoption of NGSS
- OER options

Goals

- Fill this in

Actors and Actions

- Fill this in

Summary Slide

Opportunities/Challenges

- More opportunity to reach rural groups via Zoom (pandemic bright spot)
- Getting close to “critical mass” of adoption of NGSS or standards based on the Framework
- OER options are emerging
- Partnerships- how do you balance the role of the partner and the ‘district’
- Bringing in student, parent, and family engagement
- Developing the practices and supports that will actually invite and learn from the voices of communities that haven’t been represented or worked with
- Partnership opportunities exist within school systems
- Partnerships for supporting integration and more time for elementary science/social studies
- Curriculum - tension between national and local context
- Many groups are working on these things: how do we elevate all voices (students, teachers, states,families, other orgs) - How do we create coherence
- Teachers value the opportunity to network and collaborate to share problems of practice and discuss challenges

Goals

- Strive for both informal and formal partnerships that share common vision in science learning, and share models of this in action
- Develop resources/pl/science learning provided by those who not only know the science concepts, but are also able to connect on a personal level
- Find ways to improve or streamline processes to support teachers in communities and across communities (local, rural, etc/) to share and learn together
- In an effort to make resources and curriculum more culturally relevant, but adaptable across the nation, a strengthening of the STEM ecosystem is needed. There is a need to balance the locally-adapted materials versus a more flexible, broad K-12 framework.

Actions

- Develop tools for building partnerships - how to connect networks of networks - this could look like a hub of models
- Continue local/national convenings so we can consider what has worked and what we need to continue (landscape analysis-research practice partnerships)
- Federally Funded Opportunities for All States to Provide PL Partnerships (Title II B reboot)
- Engage with STEM ecosystems in states
- Support more partnerships to develop locally relevant OER materials
- Develop and increase awareness of regional/statewide/national informal ed resources that partner with groups (parks, 4H, agencies, museums, zoos, etc) to support K-12 science teachers to use in & out of classrooms

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Actors and Actions

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The Need

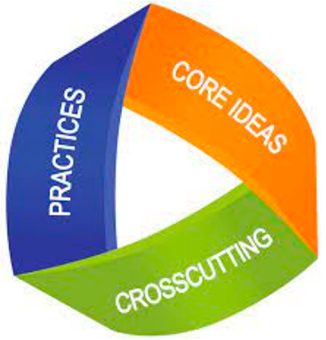
Advancing the implementation of 3D instruction in a way that…

- Centers young people's experiences
- Develops Science and Engineering Education
- Advances Equity and Justice

The Challenge

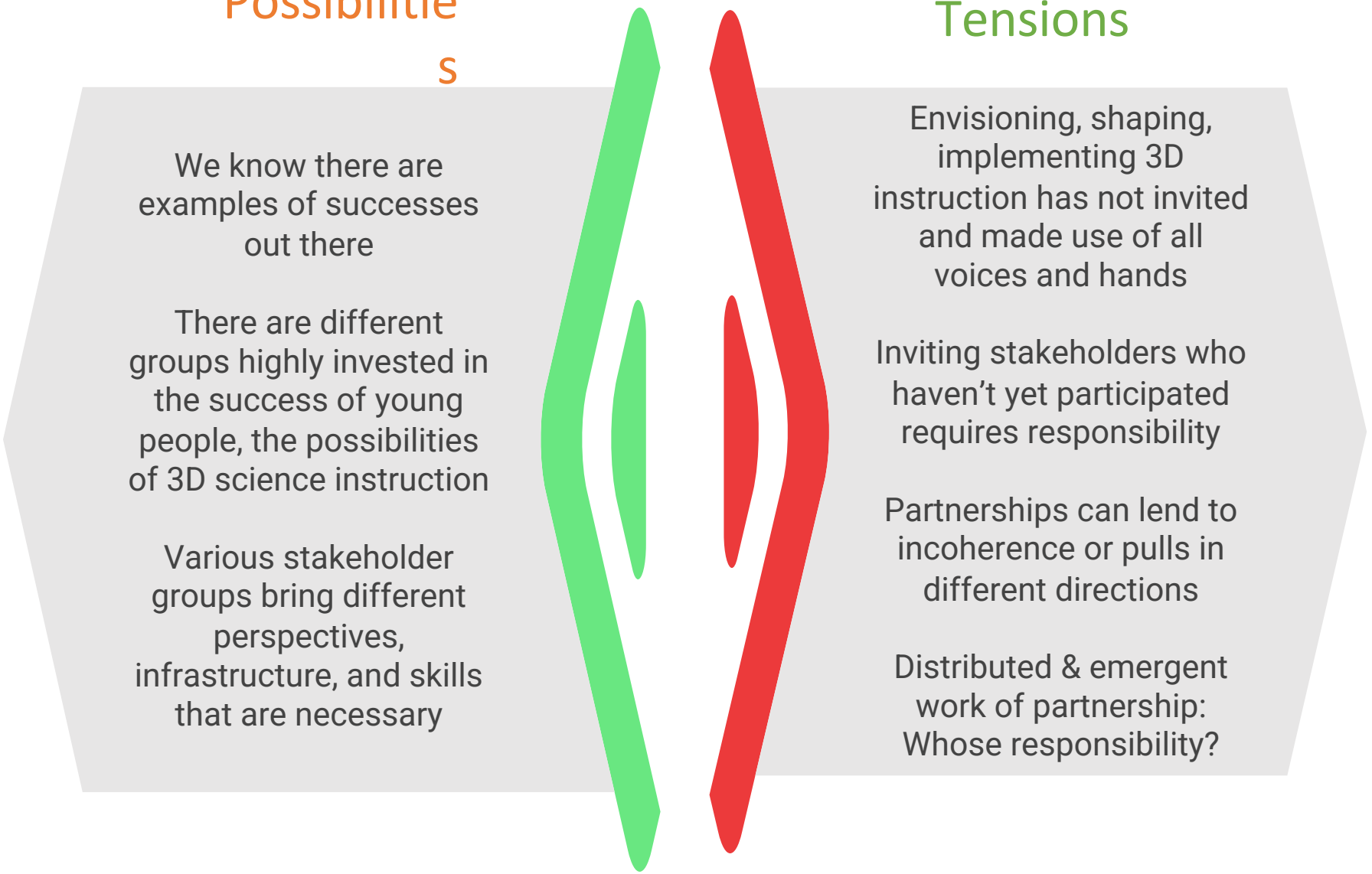
Lack of visible/shared models and tools for supporting partnerships that honor and build from diverse perspectives toward…

- Envisioning
- Implementing
- Infrastructuring



3D science instruction

Considerations



The pitch: Develop, share, refine a partnership playbook with processes for diverse stakeholders engaged in the support of 3D science implementation

DENVER MUSEUM OF NATURE & SCIENCE

DEFIANCE RAFTING

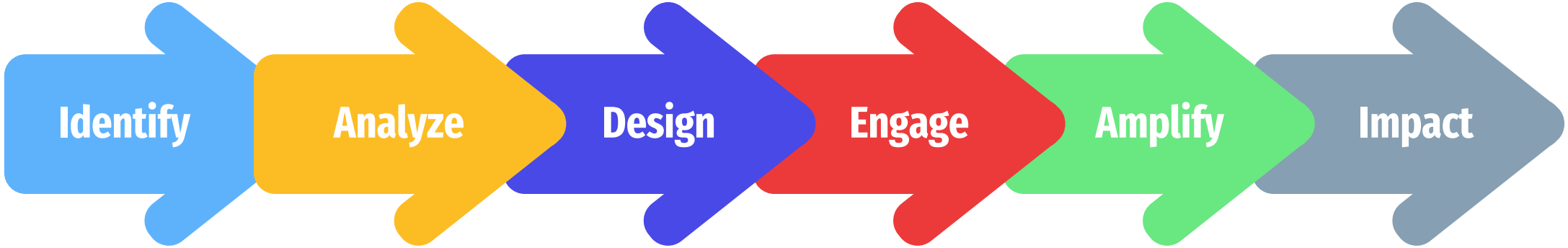
Colorado Teacher of the Year 2022

Our Approach

2. Analyze
Map the success parameters of existing partnerships in various contexts

4. Engage
Distribute, implement, and reflect on tools and approaches in partner districts/communities

6. Impact
Celebrate and scale to new partnerships and lessons learned.

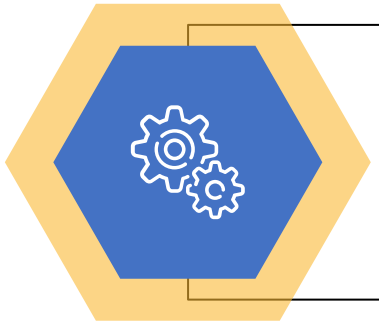


1. Identify
Find high-quality models of existing partnerships

3. Design
Develop a playbook for successful partnerships

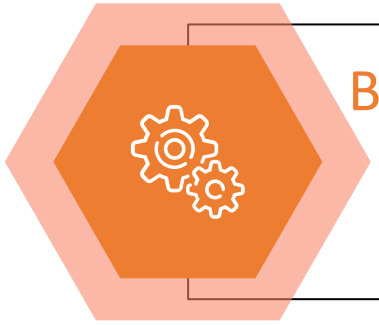
5. Amplify
Capture and make visible, publish, try in new places and contexts

Stakeholders/Actors



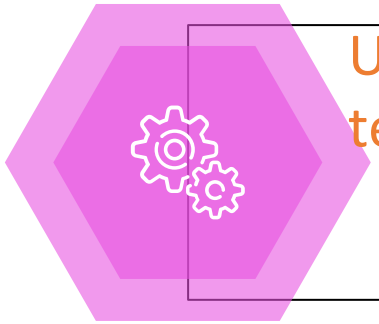
K-12 Teachers

The expert practitioners and influencers of three-dimensional science teaching



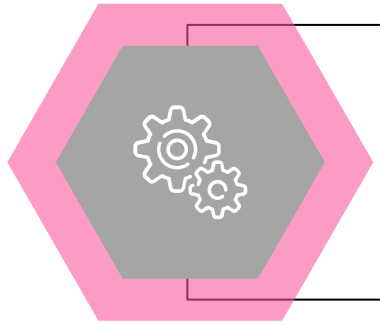
Business/Scientist Partners

Providing expertise to all educators and their students on science topics



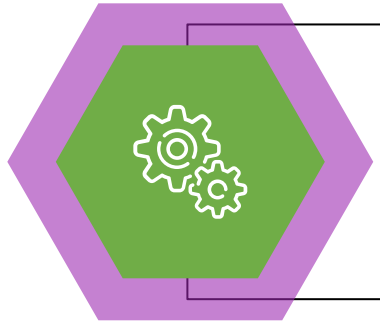
University researchers & teacher educators

Supporting tool development, implementation, and analysis



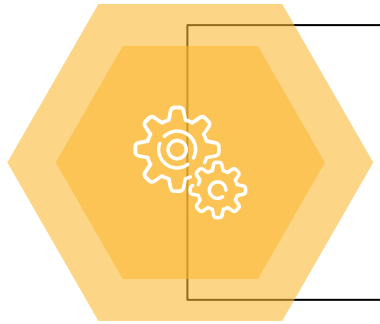
Families/Community

Those who influence students' learning beyond the school day



Informal Educators

(i.e. Fish Wildlife Parks, Audubon Society, higher ed outreach, etc.)



Funders

Supporting infrastructure

Do you want to form an alliance?