



REGIONS 3 & 4 MEETING NOTES

Idaho STEM Ecosystem September Convening

September 17-18, 2020

DAY 1

IN ATTENDANCE

Lisa Lalliss-Skogsberg, Heidi Adams, Kari Wardle, Chet Andes, Michelle Youngquist, Emily Mahon, Stephanie Bailey-White, Tracie Bent, Donna Llewellyn, Jacque Deahl, Will Goodman, Claire Sponseller, Sharon Cates, Christopher Taylor, Rebecca Martin, Laurie Andersen, Kellie Taylor, Anna Almerico, Nick Crabbs, Cathy Beals

NOTES

Welcome & Introduction

Angela Hemingway, Executive Director of Idaho STEM Action Center, welcomed and thanked the group for being on the call, reminded them that the meeting will be recorded, discussed the agenda, mentioned the list of attendees that they received, and introduced STEM AC team.

Nick Aldinger, from IBL Events, went over the Basic Zoom Tips and Controls. His team was available for any technical issues during the call.

Angela went over the meeting norms, emphasized that STEM AC is here to learn from attendees, recognized that STEM AC has blind spots, and asked for honest feedback.

Crispin Gravatt, Data Analyst for STEM AC, introduced an ice breaker on Sli.do

- Question: In one word, what have you learned since February?
Response: **Patience, resilience, adaptability, grace, innovation, balance, technology, flexibility, civility, sitting, understanding, skills, gratitude, boundaries**
- Question: What are you most looking forward to in 2021?
Response: **Hugs!, traveling, change, normalcy, vaccine, smiles, comfort, progress, experiences, seeing people in 3D, people, more, outside**

Angela went over the Intended Outcomes, the Idaho Ecosystem Timeline and Overview

EcosySTEM Aspiration

Angela read the EcosySTEM aspiration statement that was developed during the January convening to refresh everyone's memory. A poll was launched - How does this statement resonate with our ecosystem aspirations? 50% strongly agree, 50% agree

What about this statement resonates with you?

Summary: "problem solvers and critical thinkers" (this is what employers want to see), "shared understanding", "education EXPERIENCES", "all Idahoans", "lead", "sustain", "future", "integration of STEM". Suggestion to change "will foster" to "fosters". Appreciation for the word integration, as we

want to break down silos of learning and realize problem solving and critical thinking through STEM has a cross curricular impact with integrated solutions/lessons/partnerships.

Second poll: What do you hope the EcosySTEM can do for you, your organization, and/or your region?

- Funding 47%
- Networking 76%
- Connections between In- and Out-of-School education opportunities 59%
- PK12 education and higher ed/career opportunities 71%
- Policy and Governance 24%
- Other 6%

Why did you make the decisions you did, what was going through your mind?

Summary: Many chose networking as primary because we cannot stay siloed, we need to know what everyone is doing, leads to integration and successful partnerships, and it ties into sustainability. We can feel disjointed or unaware of what others are doing and the ecosystem has been an amazing way to connect. The statewide component is awesome. The ecosystem is helping us know who is doing STEM, what they're doing, and how we can all help each other. It also allows for serendipitous connections that will pay dividends later in unexpected ways. Several organizations mentioned that using networking to get the word out about what they are doing has helped with misconceptions about what their organization does or is doing.

Statewide Survey Data

Crispin introduced and presented the statewide survey data. Thoughts and comments were added to the Sept. 17th [Padlet](#).

This data is a snapshot in time, and STEM AC is still gathering responses. This survey will be supplemented with focus groups and interviews in the near future. This data is based on 110 respondents.

Who gave input? Lots of organizations located in region 3, but service areas are much more spread out (incl. statewide). We have a good spread of the kinds of orgs that gave input, and most serve the Pre-K – 12 populations.

Nearly 1/3 of the STEM 'power players' in communities across Idaho are industry. Other major players are higher education and out-of-school organizations. STEM AC was commonly named, which reinforces our role as the ecosystem backbone org.

Respondents shared confidence that the communities they serve know what STEM means, are interested in it, and value the skills and careers they bring. Many barriers still exist to STEM success across Idaho, including infrastructure, technology, funding, human power, and leadership.

Reminder: The survey will remain open, please share far and wide with your network. This survey is meant for anyone to take so that we get a full picture of the STEM landscape in our state. The data will be available on the [EcosySTEM website](#) through the PowerPoint presentation.

Initial thoughts:

Summary: While filling out the survey, some had trouble determining which community they should speak for. They realized they have several different communities – be they the audience,

colleagues, supporters, etc. And there's the community where they operate, and the community(ies) they serve. Interesting that this data was consistent across regions, but could this be a result of selection bias of who completed the survey. There was discussion on whether or not this data is an overestimation of STEM awareness given the respondents are from a similar group. Some guessed that awareness is actually much lower. It was suggested that since we've all traditionally focused on K-12 population, there should be some special initiative building more programming geared towards Family & Adult awareness & comfortability with STEM for a broader impact. There was discussion on the primary focus outcome of the ecosystem. Economy and economic health were mentioned twice today, however, STEM has the ability to impact other sectors such as environment, social justice, and many others. Ideally, the aspirational statement and outcome of the ecosystem would be larger than just the economy. A participant commented that the perceived greater availability of human power versus funding is interesting and opposite of his/her experience. They want to know who the people or roles are that are the perceived human power. A participant asked how do we learn more about local organizations that don't have state-wide reach and hence might not feel so connected to this initiative? This can be an outcome from the ecosystem work – need to figure out a way for smaller organizations to let ecosystem partners know what they are doing. It was noted that the ecosystem newsletter has been a great way to increase knowledge.

Erica introduced the **Think Make Create (TMC)** project as an EcosySTEM initiative. This project will be providing STEM trailers to communities throughout the state to do hands-on making and STEM learning. The first trailer is being constructed at the Gizmo Makerspace at North Idaho College in Coeur d'Alene. The project is being led by the Idaho Out-of-School Network and 4H. During the 5-minute break, a [video](#) of the project was shown. Claire Sponseller from 4H and U of I, made the video.

After the break there was a giveaway. Winner of the giveaway received a 3D printed picture.

Discussion and Feedback on Survey Findings

Initial Thoughts:

Summary: The conversation about the ultimate purpose of the ecosystem was continued and discussion on expanding the outcome to include the environment and social justice. There was a suggestion to view the outcome as sustainability which builds on three things: society/culture, environment, economy. One participant commented that the 13% of schools are strong STEM supporters seems high and this number may actually be lower if a larger population was surveyed. There are a lot educators/administrators that are not informed.

What is missing in this survey?

Summary: Would like to know the breakdown of rural vs. urban. The percentages seem high given experiences with technology in rural communities. Perhaps these numbers are high because most respondents were from region 3 and the perception of the importance of STEM and the infrastructure for STEM is much more prevalent in the urban settings. Some rural communities are based in STEM but may not realize it because they don't see fields such as forest service, salmon management or agriculture as "STEM" industries. Our definition of STEM is very inclusive and the ecosystem's goal is to communicate this diverse, robust and inclusive definition of STEM. There was discussion on how some organizations have had a hard time surveying their own community on what is STEM. An industry representative would like to know more about programs to support. The percentage for out-of-school seems high and these programs could always use more funding for implementation statewide. There

was discussion on whether there will be interviews conducted to mitigate selection bias since participants needed to know a lot about STEM to answer it and STEM AC let the group know there will be interviews and focus groups.

How do you define STEM in the work you do?

Summary: Integration of the four letters in STEM, however, understand that others see individuals letters as STEM. People tend to see technology as a very different component. Overall, it would be good to have a consistent definition of STEM that ties into a widely accepted or national definition of STEM since many students leave Idaho for college and career. There is an interesting discussion of why it is hard to define STEM [here](#). Industry tends to focus their outreach on STEM that pertains to their industry. STEM AC focuses on integration and application to everyday life.

What constraints do you face in defining STEM?

Summary: Gateways seem to be PD that shows how our different areas are connected (i.e. literacy is STEM). [Dimensions of Success](#) through the Pear Institute define quality STEM education. A focus on boosting critical thinking and problem-solving skills, and promoting awareness, identity and confidence in students to pursue STEM supports STEM no matter what our 'silo' is. And resisting the more commonly expressed "everything is STEM". Several participants debated defining STEM too narrowly or too broadly that it includes everything and there was discussion on making the definition contextual; framing it so that it can be taught as a broad definition. It is good for people to realize that they are often doing STEM, and then be mindful about finding ways to do it even more. The more you can include everyone, the more discussion can be had to further it. Many of the examples of STEM discussed by the group are core to CTE programming and pathways. Agriculture, Trades & Industry, Healthcare area all CTE programs teaching STEM that relate to their program of study. The discussions lead to a door (or gateway) to connect STEM in a culturally relevant way to Idaho communities. For example, find out what the major business supporting the community is and build off of that to open a door. We need to find the community entry point into how STEM becomes relevant to them. One participant suggested STEM is the interdisciplinary approach to solving problems and/or applying solutions utilizing evidence and experimentation and that this can get us out of the limitations of the four letters.

Overall Takeaways: need more clear definition of community, clearer understanding of STEM, and how might we have our aspirational statement more robust than just economic growth and referenced the figure on the three components of sustainability in the Padlet.

Working Groups

Angela provided updates on each working group. Crispin provided update on the Asset Mapping working group which has taken a break because the asset and needs survey is underway and because TIES, the national ecosystem organization, is working on developing an asset mapping software that we can use. If you want to join or change working groups, please reach out to us.

Feedback on Working Groups: Appreciate the involvement of STEM AC staff keeping the working groups going.

Communication and Communication Strategy Discussion

Summary: Many agreed the communication and frequency of it is sufficient. Monthly working group check-ins are providing the right amount of communication. STEM AC requested participants to send stories so they can get a statewide view and add this information to the newsletter.

Who is missing, who should be engaged?

Summary: The survey data reveals that rural perspective is important. Also missing are the high school and college school student perspective, Latino population, indigenous groups, FFA and similar groups, parent groups, more K-12 representation, Angel Network, several state agencies that manage Idaho's vast natural resources – IDFG, BLM, US F & G, Forest service, Soil and Water Conservation Commission, Department of Agriculture – they all have education arms of their agencies. There are many libraries and youth advisory councils and this may be a good place to recruit a youth involved in after school STEM. PTAs are a good network to involve as they pay for STEM nights. They often reach out to industry for help because they don't know about their community resources. More representation from industry would be good since they are mentioned heavily in the survey data. Industry will eventually be the end-user and influencer. Need to include both urban and rural industry. Having a student sitting next to an industry professional will result in many opportunities and it is great to bring these groups together.

Crispin recapped the meeting and discussed what will happen during tomorrow's meeting.

DAY 2

IN ATTENDANCE

Lisa Lalliss-Skogsberg, Chet Andes, Kari Wardle, Heidi Adams, Sharon Cates, Stephanie Bailey-White, Donna Llewellyn, Rebecca Martin, Claire Sponseller, Chris Taylor, Will Goodman, Michelle Youngquist, Emily Mahon, Nick Crabbs, Anna Almerico, Cathy Beals, Tracie Bent, Justin Touchstone, Matthew Thomsen, Jacque Deahl, Laurie Anderson

NOTES

The meeting started with the [“This is STEM” video](#).

Welcome

Angela welcomed the group. The “This is STEM video” is available on STEM AC website and can be shared publicly so please share.

Angela went over the agenda and explained that this meeting will be focused on data from Regions 3 and 4.

Ecosystem Commitments

Angela introduced the Ecosystem Commitments concept. Commitments are powerful in showing our collective work and can help support funding efforts and bringing on partners. Each year STEM AC makes commitments to national organizations/movements (e.g. CSforAll, MakeforAll). Commitments are measurable, large or small, may not require funding or time, and do not need to be new. Commitments help us leverage each other's work, find funding, and bring on new partners.

STEM AC identified four commitment categories based on the EcosySTEM's aspiration – education, partnerships, equity, and ecosystem infrastructure. These commitments should support the Ecosystem's

aspirational statements. Commitments may fall into one or more of these categories – there is overlap between categories. Commitments can be small with individual commitments (e.g. educator) to large lofty commitments for larger organizations. STEM AC envisions a broad range of commitments that will be posted on the EcosySTEM website.

Angela went into details on the four categories of commitments and examples of each (see slides).

Angela introduced STEM AC's draft ecosystem commitment: Idaho STEM AC commits to serving as the backbone organization of the Idaho STEM Ecosystem and through this work will bring together stakeholders from across the state to work towards an equitable STEM education plan for PreK-20.

This is just an introduction to the commitment concept and there will be more discussion about it at the Oct. 30th meeting. STEM AC is not asking for commitments now, just want participants to start thinking about it.

Participants can put their thoughts in the [Sept. 18th Padlet](#):

Initial thoughts about commitments. Is making a commitment a good step to take?:

Summary: Yes, the group agrees making commitments is a good step. There was clarification on how the commitments differ from participation in ecosystem meetings. A commitment can be participation in ecosystem meetings or it can go beyond that or include the work they are currently doing. Making a commitment can make you think through what you are doing for the overall 'movement' and makes you develop a well thought out, measurable statement that is public to be held accountable. There was discussion on how they will be held accountable or what is the follow up on the commitments and STEM AC said that you and your organization are responsible for meeting commitments, STEM AC will not be checking in on whether commitments are met or not. There was discussion on how an organizational commitment may need to be ratified and supported by institutional boards for any follow through and a suggestion to bring together members of our various boards to garner these buy-ins. Some participants felt they can't speak for their organization alone. There was discussion on having ecosystem members recommit to their working groups and to be honest about what they are able to commit to. There was discussion on whether these commitments will cover new activities/actions or describe what is already being done and STEM AC said either would work. There is no set formula for what these looks like, they are not obligatory and not tied to funding. They build the informal sense in belonging and investment in the shared work we are all doing. We can use them to measure, celebrate successes, and share stories. Examples of commitments can be networking through the ecosystem or discussing the ecosystem more regularly with partners. There are many comments/thoughts on the Padlet.

Survey Data – Regions 3 and 4

How was community defined:

- Statewide/regional – big, diverse population. Region 3 in particular is a hub for organizations serving statewide or regionally.
- Specific industry focus/government agencies – work tends to focus on organization/agency missions
- Local- peripheral rural communities – “bedroom communities”, may not have access to resources but are still part of this geographic region.
- Hispanic populations – large population; most organizations are trying to serve them

- Low SES populations – libraries and schools are serving these populations.

What are the existing assets/needs:

- Available
 - o Volunteers – there is a lot of industry presence to support this, as well as higher ed
 - o Funding – also because of industry
 - o Training opportunities – STEM instruction for educators, and workforce development
 - o Venues – available to conduct programming
- Missing
 - o Ongoing funding – stability is missing as funding opportunities ebb and flow
 - o Staffing – turnover, shifting in priorities of organizations, also unfilled jobs
 - o Resources – high populations in urban areas means materials/resources might not serve all or make it as far, especially if expensive
 - o Leadership – need a connector or hub, how do we organize together and share resources.
 - o Access and inequity – these issues are highlighted given the full spectrum of haves and have nots and all the underrepresented populations in these regions.
 - o Awareness – need to make sure communities know what STEM is and why it is valuable
 - o Training – constant and evolving need, need to keep up-to-date on trainings as they change
 - o Time – more time is needed to get done what needs to be done
- Overall Regions 3 and 4 are appreciative of volunteers but you are lacking paid staffing; appreciative of industry funding but it is often one-time and not on going. While there are great opportunities for training and venues, there is still a need for more since the population is so large.

How do partnerships occur in Western Idaho?

- Events
- Training
- Outreach and Collaborations – collaborating on outreach to reach underserved populations
- Provide Volunteers and/or Mentors – from industry and higher ed supporting the K-12 population.
- Share Resources
- Provide Funding

List of achievements (most common):

- Connect students to learning out the classroom – there is a focus on out-of-school time through camps, after school clubs, etc.
- Offer trainings
- Host events
- Increase interest in STEM – seeing this in students as well as adults
- Received grants/funding
- Now offer CS
- Awarding more STEM/CS degrees, certifications

- Increase outreach efforts – through programming and collaborations

Measure of Success (most common):

- Surveys
- Participant counts
- Go on rates
- Number of projects completed
- Number of partnerships
- Funding received
- Outreach activities
- Resources provided

Regulatory/Policy Needs (most common):

- Organization:
 - o Unknown – often on the ground practitioners don’t operate on the level of policy so they don’t know.
 - o State rules/legislation - Need direction on how to implement science standards, etc.
 - o School Policies
 - o Liability
 - o Accreditation
- Community:
 - o Unknown
 - o Funding (state and federal) – what is available, how to get funding
 - o Specific demographic needs – how do we support rural, “bedroom”, low SES, Hispanic communities

What are barriers to your success:

- Lack of funding – consistency is needed
- Lack of equitable access
- COVID-19 – how can we reframe successful programs.
- Lack of awareness/outreach needed – many groups don’t have a high-level awareness on what STEM is. Solution is outreach, but how do we do this?
- Lack of Time – need to figure out how to use the time we have to make the biggest impact
- Politics – can be difficult to navigate or overcome to serve communities

How does your organization approach equity and what is needed to support equity?

- Approach Taken:
 - o Programs/Outreach target URPs
 - o Programs open to all/inclusive
 - o Partnerships
 - o None/unknown
 - o Use data to make decisions
 - o Targeted funding
 - o Diversity
- Supports Needed:
 - o Funding

- Training – effective training
- Diversity – how to reach UPRs
- Support – to get the work done
- Unsure/unknown

Initial thoughts on this data. What is accurate? What is inaccurate?

Summary: The data made one participant connect STEM to a digital equity workshop that she attended in the morning. Equity has come to the forefront with the pandemic. Participants would like equity training and/or guidance on equity. NAPE was mentioned as a good organization for equity resources and training. There's also an upcoming AAC&U conference on Transforming STEM Education coming up in November that is focused on equity and affordable. Some participants serve on the equity committees for other organizations. Having these conversations with those outside the ecosystem on this topic will take time and manpower. Mathematics is known to be a barrier for Hispanic students in Idaho, migrant students, students with disabilities and students from poverty across the nation. One participant would like to look more closely at our Idaho math achievement data and brainstorm solutions together on how to help these students pass their math classes in high school. Passing math is often the first barrier that leads a student to choose to drop out of high school. Funding and equity tie together (as the data exposed, our programs need to dedicate time for their staff to take part in trainings) - funders and industry partners understanding the need to train and invest in this work. Prioritizing equity in their funding allocations and grant applications would help shed light and encourage programs to commitment to equity trainings. Utah STEM Action Center has resources on micro-messaging and communication around equity. Angela was part of an NSF INCLUDES grant that development a STEM [equity rubric](#). This equity work can be a large grant opportunity – aligning to NAPE is a way to gain credibility to position us for future grants.

Infrastructure connectivity is key. Department of Commerce is leading connectivity efforts and a member of DOC is on STEM AC's board. A member of the state's broadband taskforce provided information on three groups in Idaho that are working on connectivity:

- 1) Education Opportunity Committee – bringing internet to schools and pays for school internet
- 2) Broadband Infrastructure Improvement Grants (BIIG) out of the State Department of Education – gets fiber to schools and then they can install it out to communities. This worked in St. Mary's after 15 years of trying.
- 3) CARES Funding to DOC – matching grants for broadband providers to increase their infrastructure throughout the state. Asked to focus on students first. Worked with Idaho Business for Education to map out where students did not have connectivity at home.

5-minute break with “This is STEM” video, followed by a giveaway

Regional Discussions Based on Survey Data and Needs

- What are you doing currently in STEM in Idaho? Are there successful programs we should try to scale?:
 - Micron's CHIP Camp had previous limitations of serving local students and had to cap the number of students, however, through their new virtual format, they could focus on students across the country. They targeted underserved populations

- through their partners. Their final camp had 25% native students. They have also taken the job shadow program and made it virtual so it's now available all over Idaho and USA. Women in Tech Careers lunches will also be available virtually.
- There is the [Rural Tech Project](#) grant for schools and districts which makes \$600k available to advance technology education in rural high schools.
 - Project Learning Tree has a new [Green Jobs Educator Guide](#), and Idaho PLT is offering a virtual training in it this fall. STEM skills are woven throughout the activities.
 - What has your organization done to reach underrepresented populations or plan to do:
 - STEM AC/Ecosystem can help with digital connections. Connect within Idaho, but also to national programs (e.g. 3M, TMC – students and educators in Idaho can now be connected to these opportunities).
 - Idaho Out-of-School Network has become a Program Affiliate of Girls Who Code - they are a liaison to after school organizations interested in starting a club with the Regional Program Director and host trainings on their website.
 - [Discovery Center](#) is updating AT&T All Girls Coding Camp, providing an online option in addition to in person for participation.
 - What are some of the barriers you are facing on reaching underrepresented groups?
 - Identifying cultural ambassadors in each region as local partnerships seem to be a big key in reaching communities.
 - Finding out who is the right person to communicate/connect with can be a long process. STEM AC is thinking of creating a directory of partners to help with this. The group thought this was a good idea. There was a suggestion to develop this regionally as well – part of regional hubs of information, talent, tools, etc.
 - Time commitment for volunteers in out-of-school programming is a barrier. Stipends for coaches/mentors would help.
 - Sustainability is a barrier and to solve this some out-of-school programs are trying to make the program a part of the curriculum. This can also help reach underserved populations.
 - A challenge for the ecosystem seems to be communication of all the activities going on in our networks and getting information to each other.
 - Look at FRC as a case study of how to scale a successful program.
 - What else is needed to help the ecosystem?
 - STEM Ecosystem networking events or regional meetings
 - Collaborative grant writing
 - Workshops on how to use virtual technology

There are more comments on the Padlet.

Crispin went over Oct 30th whole group meeting that will focus on setting goals, metrics, a communication plan and leadership plan. Please invite anyone that should be involved in this discussion.

Angela introduced the Regional Ecosystem Planning Grants – during the Oct. 30th meeting there will be regional meetings to discuss this opportunity. \$5-10k per region to support determining next steps for your region.

STEM AC will send out a survey next week about this meeting, please fill out.