EcosySTEM Convening Notes
Spring 2021

Success Stories

Anna Almerico, Claire Deters and Claire Sponseller gave an update of the Think Make Create trailer project. Should have 12 trailers in circulation this year providing maker opportunities to underserved students and communities. There has been tremendous collaboration from partners throughout the state making this a prime example of what the EcosySTEM is all about.

Jessica James and Sunshine Shepherd reported out on three separate projects taking place on the Fort Hall Reservation. First, they are very excited to be making progress on their Think Make Create trailer which should be completed this spring with May 15th slated as a community work day. Next, 13 Tribal students participated in the two-day iDrone camp put on by UofI professor Dr. Jae Ryu. Finally, the permanent makerspace has been completed and they are now in the process of acquiring materials, resources, and supplies to make it ready for students and community members.

EcosySTEM Hub Progress Reports

North Idaho (**regions 1 & 2**) - Susan Stauffer and Melinda Davis: Much of the initial work has involved gathering data from seven focus groups (K-5 educators, 6-12 educators, higher education, business and industry, nonprofit and community organizations, government and agencies, and students) and compiling it into a final report. In all, 131 stakeholders participated in focus groups and provided input. Despite not getting equal representation from both regions in all groups, presenters shared important findings from their research - much of which has statewide implications.

Eastern and South Central Idaho - I SEE STEM (**regions 4, 5, & 6**) Sarah Childers, Chris Guthrie, and Heidi Adams: Energy has been focused on developing a mission and goals primarily focused on equity for all learners, particularly those in more rural/remote areas. One goal is to raise awareness of STEM resources that currently exist in rural communities. The group has also developed a website that is live and linked the STEM AC website. The group is now focused on identifying and connecting partners to resources and developing a governance structure that is aligned with the statewide EcosySTEM.

Several convening attendees from **region 3** expressed an interest in forming a group to pursue the development of a hub for the region. STEM AC team members will follow up with them and lend support.

TIES Presentation

Alyssa Briggs and Veronica Gonzalez: Input from focus groups confirmed data collected from partner surveys, but added depth and color. Comments from participants indicated a strong desire/need for deeper partnerships that last beyond individual collaborative projects. Focus groups also stressed the need for consistent messaging throughout the EcosySTEM.

Alyssa and Veronica posted two questions in the padlet that received several comments. One common theme was the lack of broadband throughout the state - in both rural communities and pockets in urban centers - which is necessary for Idaho to scale impact.

Working Group Updates

Educator Preparation, Training, & Support - Sharon Cates, Clark Merkley, and Rebecca Martin: Presenters outlined the groups three goals: 1. Know where you are and come to a common understanding of what STEM is among educators; 2. Update the computer science/workforce development plan in order to keep students in Idaho; 3. Develop a state master list of STEM resources and make it accessible to educators.

Career Pathways & Exposure - Chet Andes: The group has produced a K - post-secondary STEM career pathway template organized by grade span with the goal of populating it with programs, resources, and opportunities. The resource is intended to be utilized by students, parents, and educators. Work U students are currently researching interactive digital platforms so that it is more user friendly and can be updated regularly.

Communication & Public Awareness - Crispin Gravatt: The group is working on a strategic communication plan that will address how we communicate with each other and those outside of the EcosySTEM. They will also be taking over the production of the newsletter and developing a media toolkit. While still in the listening phase, the group will be looking at overall messaging, crafting talking points, and developing strategies for reaching out to external groups who are doing work related to STEM.

Equity & Access - Heidi Adams: Persona mapping has been conducted involving 260 educators. Findings revealed that resources/libraries are key factors related to the growth of STEM and that transportation remains a significant barrier, particularly in more rural/remote areas. They would like to survey other groups to get a deeper understanding of the strengths, challenges, and barriers they face so that they can develop actionable steps.

Advocacy Presentation

James Brown from the STEM Education Coalition

Key Takeaways:
> ~ Considerable discretion with the federal funds coming to Idaho.
> ~ STEM is not necessarily a high priority
> ~ Funds must be allocated by FY23 and spent by FY25
> ~ Overall unemployment rate is 6%, but there is a shortage of skilled workers in STEM
> ~ General public perception of STEM is very limited (white male in a lab coat)
> ~ Definitions of STEM don't matter it's the jobs/skills that are important
> ~ Regardless of the definition, politicians come back to jobs/outcomes (bipartisan)
> ~ STEM is the key to prosperity across the board
> ~ Employers desire problem-solving skills over hard skills
> ~ Policy opportunities
>> 1. Be part of conversation as to how federal funds are spent
>> 2. Must up-skill people into available STEM jobs
>> 3. More money doesn't mean more/better outcomes
>> 4. Must defend STEM funding aggressively
>> 5. STEM courses are a necessity for all students, not a luxury some

Leadership Group Update

Kellie Taylor and John Cassleman shared an update of the progress made the leadership group. A rough draft of the hybrid model has been created, but they still need input from EcosySTEM members so that they can make the necessary modifications. Regional leads will be paid positions and will be responsible for working with regional partners and the statewide ecosystem. Part of the statewide governing board's role will be to provide strategic advice to hubs. The model stresses regional autonomy with a strong statewide connection.

Governance Breakout Group Notes

Group 1 - Kellie Taylor

Concern: No straight up networking component or format to make networking easy
Networking page with what they want to work on. Who would keep it updated?
Platform to help with finding people with similar interests of what to accomplish
Concern or Question: How are the Idaho STEM Action Center and the Idaho STEM Ecosystem different?
       Could this cause confusion about who to go to STEM AC or EcosySTEM.
       Important to have STEM AC at the core.

Working groups are going well. It is nice having flexibility to attend meetings or not and getting the notes when unable to attend so still can contribute.
The use of the word ecosystem could create a barrier or cause confusion for people the work closed with the working definition of ecosystem.
Common understanding of ecosystem and STEM will be important.
Challenge with efficiency and effectiveness with the proposed governance structure. Some things are applicable for all regions and some things are not. If the center cog is not working, it could freeze up the system. If an outside cog is not working, how does that impact the system?

Group 2 - Kaitlin Maguire, Sarah Childers, Gretchen Hyde, Wendy Wilson, Katie Leishman, Shelly Wray, John McFarlane

Group likes how the EcosySTEM has grown "organically."
All feel there are easy entry points into the EcosySTEM.
STEM AC budget has been approved and NSF funding has received an extension for the
       regional planning grant.

Regional lead positions:
       Need to determine roles and responsibilities. Positions will be contractors for STEM AC
       and funded through partners. Eventually they will be regionally funded.

EcosySTEM awareness:
       Need for information packets/videos for school administrators to promote STEM/
       EcosySTEM
       STEM nights are good for connecting schools/students/parents
       There needs to be strategic outreach to key partners/sectors that are not currently
          engaged

A membership directory will be important so we know who is in the EcosySTEM.
Need to figure out how statewide organizations fit into the EcosySTEM.

How many meetings do I have to attend to stay engaged?
Need to develop SMART goals, especially when working with the legislature. This is important
for accountability.
How do we involve parents and students? If students are engaged and excited about STEM,
parents will come.

Group 3 - Emily Mahon, Noé Zepeda, Claire Sponseller, Jennifer Lopez, John Cassleman, Kae
Jensen, Heidi Adams

Where do you see yourself?
Regional leadership
Higher Ed
Workforce
Outreach
iSTEM
OST, K12, - Out of School Time

What immediately stands out?
Communication lines are strong. Maybe we do the same thing, but with coordination.
Gear analogy says that one broken gear can seize the whole system. Good thing for all to
remember.
Complimentary, but worried about siloing, e.g. STEM vs STEAM. Let the identities be a starting
point.
Not a problem yet, but lets make sure to not let it become one.
Especially as we recruit new members we need to live the breaking down of silos.
Game storming - what could make this project die?

Benefits or concerns related to your participation?
Justify my time on the project
Big picture and concrete details
Why? Needs a very good answer
Quit thinking of K-12 outreach as a revenue stream
Creating awareness
Collective efforts not silos
Funnels, same people involved in everything. Big tent, not always appointments
Idaho is very open to new ideas
Are there pitfalls that have killed similar previous projects?
People spread too thin?
Devaluing others. Pulling rank.
Funding sources, unpredictability
Dug-in heels. Remove biases, self-interest.
Do we have our overall purpose?
Keep returning to that as culture.
If it shifts from grassroots to top-down, the vibrancy is killed. Keep stat as leader
and facilitator.
A mechanism for input without responsibility to be one of the gears

How would model improve/hamper a student's experience?
Better collaboration. e.g. brining CyberCore to more students. If we can't figure out how
to not be competitive, we're not putting the students first.
E.g. Think Make Create

Awareness could bring more funding.
If we stay strong, our partners will want to say strong with us.
Skin in the game - it needs to be a priority for not just us, but our partners, the
        community, the students.
Unspent grants at STEM AC with others' money?
    Free gives connotation of no value
    TIME
    Balance point of "just copy what we did" with having enough investment in the
        work.
        Duplicate
        Connect up
    Impact and evaluation, show ROI

How well does this structure work for educators? For _____? For _____?
    Structure is a basis for an ask for dedicated time.
    Structure helps us all to justify our involvement.

Group 4 - Glenn Pfautsch

- They liked the "trickle up" affect from the governance

- There is a need to understand "Western Science" in STEM

- A database of all associated with STEM and their employment status (where they work) and have the ability to filter the database in order to find specific people from STEM

- Current view of STEM within some districts is instead of being additional/support classes, STEM classes in schools are treated as Advanced Program (AP) classes for special or advance students.

Group 5 - Sharon Cates

First Impressions
A group member likes it, the gears all work together and we are leveraging power and connectedness
Another stated it sums up a really complex system and answered all of the questions
One member didn't see the state level groups where would work first or other statewide groups fit? Regional reps are in regional hubs, we want a place for state wide groups to be in the regional groups. Where does SDE fit?

How do you feel about the actual idea behind the model?
Response: I like the structure, connectedness with the statewide key will be solid communication and making sure that everyone knows what everyone else is doing and leveraging what is being done to push forward quickly
Another: Looking at ISEE vs north Idaho North was really researched based and south was more action based, now the higher ed people in ISEE wants to do some research. Maybe the gear system will allow them to use the research that we already have and take advantage of it.

There are no business people here. They don't want to do the research stuff they want to get started and make progress. In ISEE they have been trying to do a lot of the gear structure. Another comment: The partnerships have been amazing. Communicating to the work groups is more of a challenge. The work group that I am involved in know what is going in with the TMC Labs, but do the others know. Does that fall in charters or lines of communication from work group to work group. More different ways to get updates. Direct representation at a work group meeting so that everyone knows what is going on.
Comment: Maybe just having minutes shared so that there is more communication between the teams so the working groups can see what is going on in other groups.
Another: Communication has been thinking about how to do this.
And another: For the people who are really interested in knowing what is going on in the different working groups, but it should be shared more broadly. It would also be good to know what is happening on the regional level.
Finally: Minutes vs synopsis, in the minutes you know who is talking about what, if it is a synopsis of the group you can only ask the group.

Do you see yourself in this structure?
Response: Yes. In ISEE we are focused on Ag and really high on higher ed, women and girls in STEM they are not sure where they are, some is higher ed. Trying to structure something that is open but really encouraging girls because it is against the law to spend state money on a single gendered programs. This has been a quick turnaround to deal with these questions. Who will be talking to government? We need big groups who can fund things. It is hard to get equity programs moving forward right now.
Another response: The purple lines is an exchange of data part of that is promising practices. Gather info from on the ground people and what is happening and how it is working and process that with other regions and other information to put out guidance here are ways to make your programs more effective.

How would this model help improve the experience of a student participating in a STEM program? How would it get in the way?
Response: This can only strengthen opportunity and access for all , if we are all rowing in the same direction we will get further.
Another: We know that quality is engaging and youth want to stay engaged. Honing in on quality will increase impact and will help educators be more willing to bring STEM into the classroom and be more effective.
Finally: The STEM AC can say this is all the fun and great things that are happening in here. Confluent factors between the state and regional levels. Communication between State and regional hubs is important too.

Are there any barriers?
Response: We had to change the name of our groups. We were talking about asset vs access. It can be hard to tell those words apart. It is great to people serve on both the state and regional level. People get confused as to which level they are plying on.
Another: I hear the challenges that other Ecosystems have faced. In Oregon some of the regions have lost touch, they are very solid regionally but have lost touch with the larger state wide group and then things got competitive. There is potential for that here. The STEM AC is working to make sure that we avoid the pitfalls. We have to have continual two way communication to be sure that we continue to keep the statewide perspective and the regional identity.
Comment: It was hard to know what hub to be part of when you are a statewide provider.

Another: There is no region 3 hub. They have the funding, but no one stepped up to run a region 3 hub. The heaviest hitters in the state are in region 3 some people thought they have everything they need. But that can't be it, teachers and districts have needs. How do the people with a statewide interest engage regionally. There are a lot of statewide agencies.
We have Region 1 and 2 now, but they may be splitting up into two hubs. It could be that you join a working group in a region and another working group in another region.

Funding is one of the things that we have to figure out soon. Do we go after funds? Do we run money through the STEM AC or some other fiscal agent?
Response: Some organizations will only want to fund things in their regions and that might mean that STEM AC won't fund that program. How we deal with the funds is something that the governance committee really needs to chew on.
Another: If we have to go out and find our own money we need to know. They haven't gone out and gotten money yet because we don't know how this will work.
Comment: The regions can't depend on the STEM AC or statewide ecosystem for funding. That needs to be based in the region. People know people in their regions.
Related questions: How do we do grants? CSI and CEI are both doing cybersecurity camps, others are applying to STEM AC for grants. Do regions have any ability to control who gets STEM AC grants? Do the regions have the ability to spend money on programs. Who is responsible for what? What do we get out little toes in and what should we not get out toes into?

How well does this structure work for educators?
Response: It is hard to get subs even though we are willing to pay for subs there just are not any subs. We have no one for you to pay. We try to meet late so teachers can participate, but it is really hard. How to we make sure that we are mindful of the restrictions time-wise for teachers and students? We need to have student and parent voice.
Another response: When the in school teachers are available the out of school providers are not. In ISEE we have 4 day schools so they meet every Friday because there isn't school. Afterschool are showing up then too. There is always a mixture of who can and cannot attend. We haven't talked about counselors. We may need to have smaller work groups.
Comment: The virtual world has added flexibility we don't have to jump in cars.
Another comment: The gear structure – teachers may be more comfortable going with regional vs state.
Another comment: Statewide we have 2 different time zones. 1 and 2 are in pacific vs the rest of the state. There are benefits to being regional and having similar structures.
Finally: We have the higher ed representatives from all of the colleges. Hopefully the teachers are more comfortable reaching out.

What are your biggest concerns?
Response: Maintaining the energy that we have an moving forward. We are ready to take action now, we want to start doing stuff. I want the short erm early wins to help us move forward with actionable next steps that have an impact even if it is super micro local, AS a backbone organization. We constantly worry about bandwidth and funding. Funding these positions at a regional level is something we feel strongly about
Comment: Part of the workforce development council's task is to invest regionally, $$ flying to ecosystems. How do we get all of the people working in the same direction.

FEARS
Comment: My fear was that I just don't know enough about STEM to be part of this. I didn't see myself as STEMy until we got started.

Group 6 - Jen Redford, Susan Stauffer, Felice Otero, Cathy Ammirati, Roger Plothow, Sarah Penney

Where do you see yourself in this structure?
- I see myself (libraries) helping to build networks and more involved in a statewide level
- I am more in between the gears and not static
- As a region 5 representative (United Way/Cradle to Career) – I think I would be more involved with bringing in local businesses
- My reach (MICRON) is much broader as I need to reach across the state. My focus is to find out what efforts are going on statewide and I hope to have broader state connections as a result of the Ecosystem.
- I'm more involved with Region Business Development and Youth Programs and I also have a statewide focus. My main goal here is to see what the Ecosystem will do in regards to Apprenticeship in the state of Idaho.

What immediately stands out about this proposed structure?
- Collaboration is good
- The way it is set-up is good
- Way the gears are separated is good (organic division)
- Silos already seem to exist even without the Ecosystem and this could be an issue if we don't find ways to break through existing silos.
- This structure could allow for topical workgroups that are statewide (i.e. teacher preparation) and also hit some intersecting topics of multiple groups
- The structure is currently allowing for strong statewide connections. Zoom will not go away (even after pandemic) and so remote work settings is here to stay. This could be beneficial to Ecosystem efforts and allow the group to continue promoting that efficient and statewide collaborative structure that we are currently doing via zoom.
- Agree. Zoom builds connections and we don't want to see that go away
- Also in agreement – think it would be great to get a commitment from the group stating that although convenings are important – regular zoom calls will help cohesion statewide

What are the benefits and concerns you initially have related to your participation in the ecosystem?
- My concern is that we've been meeting – but now lets GET STUFF DONE and have some movement!
- There are a lot of people doing lots of things so we need to help plug people in to Ecosystem and get them involved
- We need a place for parents to plug in so that we can stay in tune to their needs
- Where is the designated space for parents? It would be good to have included in regional groups
- (in response to all planning and no action) – We are initiating some things that involve a focus group since we do not want to do a lot of work if that is not what the region wants. For example – an IRB for research was established and we are working to get more student voice. We will waste money if we do not listen to our focus groups
- We need to make mistakes "faster" – perhaps we could implement things on a smaller scale and see how it goes before ramping it up at a bigger scale

How can we make this Ecosystem work for you?
- I don't like to waste time so anything that helps me SAVE time is beneficial
- Having Ecosystem "communication tools" will help save time. This can include (on website)
  - STEM media kit
  - STEM research tidbits
  - STEM advocacy pieces/features
- Having occasional online meetings (such as 1 hr per month) on topical discussion can be beneficial to group.
- ALL HANDS MEETING – once per month or every 2 months – highlighting an Ecosystem STEM program per region
- Agreed that we do not want to meet ALL THE TIME. Having short term goals with deliverables will be good
- Creating a common STEM language a good idea – particularly for messaging

What about financial aspect of the Ecosystem – any concerns you see?
- Our region was a little confused with this aspect – are we a 501c3? Who would write proposal and who would be the fiscal agent?
- STEM AC not that accessible (in terms of funding) – grants are too specific and don't work for out of school networks.
- It would be good if they could give regions pot of $ instead to disburse out
- Funding for conferences and state marketing campaign is good.
- Now that we have a statewide ecosystem – it would be good to give PREFERENCE to folks participating in the Ecosystem when seeking funding.

Group 7 - Christopher Rice, Justin Touchstone, Robin Wilson, Johna Boulafentis, Lisa Lallis-Skogsberg

A brief amount of time was spent discussing where each of us could fit into the ecosystem and what we could provide. Emphasis was on Natural Resources and the National Forests, teaching and GIS studies with drones.
Diversity for educational needs for urban and rural was mentioned with the emphasis on what both sectors need and what different assistance they both require. STEM for K-12 needs integration holistically and teaching solving problems with different methods.

It was noticed that the gear diagram didn't include any Government or Policymakers cog. Questions were presented on what is the policy branch?
How would we include others in the systemic change with youth apprenticeships, entering into careers, and critical problem solving with influencing policymakers?
A "wish to include coaching and training with conceptual and applied" was mentioned.

Needs include identifying eligible kids, providing job shadowing and career pathways for students and educators.

Policymakers identified included School Boards/Trustees, Principals, and State Board of Education. It was suggested that we need to begin with the students and the parents at a grassroots level to bring the wish of the people to those in positions of making the policies. If a student/parent wants something and gets enough of their friends involved, the policymakers generally listen better.

It was suggested making the statewide working groups into smaller, more local groups (Regional) that meet regularly and then convene as a larger state-wide group at least quarterly to discuss the statewide needs.

Fundraising was discussed. The group consensus was the new Regional Leader paid position would be best positioned for this.

Concerns were brought forth regarding how we can help the rural students to stay rural after graduation and continue to live and support their childhood communities. Telecommuting was mentioned as a new tool enabling people to continue living in the rural communities. Growth in Broadband services.