STEM Investment Council

10/18/24 Meeting Minutes

Location: Oregon Public Service Building, Room 251B. 255 Capitol St NE, Salem, OR 97301

Introductions [12:37]

KS Venkatraman

Venkat hosts introductions and establishes meeting expectations and norms.

Elizabeth Massa-MacLeod conducts roll call.

What is a STEM Hub?

Sarah Whiteside, Chris Hesselbein

Review of definition and role of STEM Hubs.: Connected collective impact organizations. Reduce barriers between relevant sectors in regions. Hub network est 2013; other Hubs added over the past 11 years.

Q&A [These are abridged and not verbatim]

Venkat: Is this unique to Oregon?

Deb Bailey: It's an international effort, begun just before Oregon started (STEM learning ecosystems community of practice0. Not always called Hubs though. The state is seen as one ecosystem that we broke into smaller hubs working together.

Deb Mumm-Hill: Different models across regions. The Hubs themselves all have different fiscal agents though- other states are more centralized.

Venkat: Do different ecosystems get together?

DB: Yes, actually getting together at the end of month plus once a year convenings. About 107 ecosystems across the world.

Purpose

OR STEM Education Plan. Connect students to the world of work, prepare students with STEM and CTE education. [see slide]

DEI: Need to support women and BIPOC in STEM; especially in Oregon where there is a high demand for workers in high wage field and a need to disrupt systemic barriers.

Funding

ODE, industry partners, additional grants and support. Each Hub has a different fiscal agent however.

Q&A

Venkat: Is there any funding that comes from outside the country?

DB: Not for our Hubs. International organization has its own fiscal agent so they do raise funds but it's mostly for their operation as a supporting entity.

Venkat: Is USDoE a funder?

Beth Blumenstein: No; OR state legislature funds them and that passes through ODE.

Nikk Salengeri: Used to be a pain point when funding came from so many different sources and required reporting for every dollar. Hubs working together has improved this, as has OR STEM.

DMH: We are working on taking over reporting for Hubs.

Rita Hansen: Are there examples of "industry partner" funding grants? What are the mechanics of how that type of funding is distributed?

Kristen Harrison: As an example- local clean water services contribute to out of school focus work, as has Intel, Boeing, PGE, and others. Mostly larger companies who have community connection teams. A few Hubs have received direct sponsorships. Most grants are 10K - 20K so it's not really distributable between multiple Hubs.

KRK: One of the reasons OR STEM was conceived. And to support collective work to show what industry priorities should be.

Venkat: Is there any active outreach to local partners, i.e. company matching programs?

KRK: We are actually working on that right now.

DMH: Really need a min of $1 million in order to divide funds. Have only received 700K so far despite higher asks which is somewhat disheartening. So we will either go to the legislature for more funding, or will have to look at federal funds.

DB: Other hubs across the country are nonprofits and don't get state funding and it's a very different conversation. We're lucky to have a legislature supporting backbone funding.

KRK: We're beginning grant writing for entities like NSF. Working on a target first.

Bryan Fix: I'd suggest this is a piece of the solution. Nonprofits are able to carve out resources for communities since this is their focus; working within communities and with students- if you look at what industry partners are doing, you may find a unique way to develop funding & partnerships. There is a deepening interest across the state- we need to figure out how to capture this.

DMH: What Bryan is doing is incredible- putting a CTE healthcare pathway within their building. It's what we're trying to do in clean tech and other sectors.

BF: Other things happening like MECOP; this is funding both a workforce coordinator and a middle school teacher: longitudinal approach.

DB: The National STEM group convening is worth going at least once for directors. New Orleans for example gets lots of industry funding- there's lots to learn.

KH: There's also some data around optimal running rate for Hubs. About 9 million brought in within last year. Most opportunities go to providing direct programming.

DB: State gives 12.1 million per biennium for backbone and innovation grants.

Venkat: It would be nice to see a breakdown of funding sources at some point, and see how we can leverage industry funding. I like the connection of students to future work, and I appreciate how challenging it is to prepare for rapid technology advancements.

STEM Investment Council Law Overview
Beth Blumenstein
Review of the laws specific to the role of the STEM IC and Advisory Members (ORS 326.500). Reviewed touchpoints of ORS around the role and structure of the Council. The purpose is to assist Superintendent and HECC director in developing and overseeing STEM education strategy i.e. STEM Education Plan. This covers proficiency in 4th and 8th grade math and science, and number of students earning postsecondary degrees in STEM fields. This goes into effect July 2025. Also makes recommendations.

Consists of advisory members.

[see slide]

We do have a number of vacancies and are hoping to vote on filling those at the next meeting.

Q&A
Venkat: Who is the director of education?

BB: Technically the governor and Dr Williams is the ODE director.

Venkat: How long have these metrics been in place?

BB: Since 2015; this is modified language.

KRK: Initially intended to double proficiency scores, but that was not practical.

RH: The current metrics address unrealistic goals from the recent Education Plan. Have we submitted an annual report this year?

BB: No, we lack a current Council director. ODE has a similar reporting requirement we're working on.

BF: How is the second goal measured?

BB: We don't yet have data from HECC on degrees granted.

BF: Many students don't see themselves going to college; we're designing pathways for them, especially for Hispanic female students facing challenges.

DMH: Nursing programs have accepted more students to offset dropouts. It would be beneficial to track healthcare outcomes in future reports.

Bryan: Post-COVID nursing contracts are offering $100K/year for an associate's degree, which is transformative.

DMH: A workforce report indicates Oregon has the highest per capita STEM graduates in the nation.

STEM IC Meeting Schedule
Beth Blumenstein
Reviewed the law/rules related to meeting structure and introduced the proposed structure for this fiscal year based on council tasks.

History of Innovation Grants
Deb Bailey
Since 2015, a combined backbone and programming grant was established without a funding formula initially.

Innovation grants evolved from background work buckets; more Hubs were added over time, leading to an increased number of grants and a refined funding formula.

Current biennium includes 13 Hubs with more collaboration and statewide "buckets of work" using PARE surveys as a pilot for future data collection.

Q&A
BF: Does this tie into assessments like YouScience?
DB: Not really; they are different types of assessments.
GG: Other interesting data to explore includes the number of schools adopting high-quality curricula and detracking math.
DMH: Writing recommendations on initiatives would be helpful for metrics and future funding requests.
KH: Defining roles for ODE, Hubs, etc., would clarify responsibilities and legislative recommendations.

2023-2025 STEM Innovation Grants: Overview and Accomplishments
Kama Almasi and Kristen Harrison
Official Proposal
Opportunity for STEM IC to ask questions & provide recommendations for improvement or direction for these funds
Reviewed governors education priorities and buckets of work.
Proposed to keep same buckets and add a few more (see handout).
Education Plan: Recommended to review.
Review four goals.
Legislated requirements
Note that Hubs did not design the criteria.
Hubs would welcome thought partnership on this.
Governor's Priorities
25-27 Innovation Grants:
6 project areas, up from 4. Early STEAM, In School STEAM (was Core STEM), Out of School STEAM, Career Connected Learning. Adding Scienceways [based on Mathways. Uses Patterns Science. Increasing access instead of assigning students to tracks early] and Computer Science [building on GEER grants, Exploring Computer Science, Implementation Plan]

Q&A

Venkat: What's in a STEM Kit?
KH: Kits vary by age and aim to empower parents and students, particularly in underserved communities.
GG: Some students must stay home after school for economic reasons.
BF: Klamath Falls had a free ODE summer learning program.
Karla Clark: Southern Oregon utilized CS funds for summer camps.
TWS: Can we collaborate with Migrant Education representatives?
KH: It's essential to meet students where they are, including those caring for siblings.
DB: Hubs can partner with organizations like 4H to enhance programming.
Venkat: Are lending libraries popular?
KA: Yes, but awareness is key.
GG: Scienceways address systemic issues needing collaborative work across the ecosystem.
BF: Are any schools currently testing this curriculum?
KH: Many high schools are using Patterns; we aim to rigorously measure the impact.
DMH: Healthcare can help start pathways to address nursing shortages.
BB: ODE does not collect data on district curricula, but about 40 districts (59 schools) are estimated to use Patterns.
KH: Standards in Oregon pair science with engineering.
Venkat: How much overlap exists between Patterns and existing curricula?
KH: Not much; Patterns generally replaces other curricula.
GG: The key difference lies in pedagogy and activities rather than content.
KRK: There is a possible legislative proposal to support the CS Implementation Plan.
BB: We have applied for a 5-year grant for extension.
BF: Addressing the wage gap between teaching CS and private sector jobs is crucial.
KC: Community colleges should align with CTE requirements.
GG: Strategies for K-5 are being tested in two rural districts with positive results.
BB: Input is needed from the Council on project buckets and industry needs.
Venkat: Emphasizing foundational skills in science is critical for breadth of knowledge.

STEM Legislative Concept Engagement

Beth Blumenstein
A formal presentation of ODE's technical fix for the STEM Legislative Concept for the upcoming long session, with an opportunity for asynchronous feedback.
See draft for feedback.

CTE Overview

Jennel Ives
Overview of Career and Technical Education (CTE) and the strengths of STEM Hubs.
There is insufficient population growth to meet job openings; we need to tap into our existing potential.
CTE Strategic Plan: Adopted this year to address issues such as the lack of an integrated education system and the rigidity of 4-year pathways.
Student Outcomes: Highlight the benefits of CTE.
CTE Funding Summary
Participants are encouraged to complete the survey if possible.
Discussion Points
Venkat: Are these classes considered electives?
JI: Yes, but students are required to take at least one elective.
Venkat: Are these classes available statewide?
JI: Mostly; a few schools lack a full range of offerings.

Venkat: Is it challenging to attract students to these programs?

JI: Once students enroll, they typically remain engaged.

CH: How does your funding differ from that of the Hubs?

JI: Regional structures utilize federal and local funds; state funding is not recommended for Hubs.

DMH: There is a need for pathways for students to pursue further education and career endpoints.

JH: Community colleges are increasingly connecting with employers and can now offer Applied Baccalaureates.

KH: What proportion of high school students participate in CTE programs?

JI: The majority take at least one class; approximately 44,000 high school students concentrated on CTE last year out of roughly 160,000 students.

What barriers exist?

Mental blocks

Time constraints

Lack of understanding of importance

Awareness

KC: There isn't a strong onboarding process. For example, CS programs in Southern Oregon are not full.

Venkat: This highlights the importance of industry participation.

[Adjourn] 4:50 PM