STEM Investment Council

FULL COUNCIL MEETING
MINUTES

January 4, 2024
1:00 PM - 4:00 PM

Pacificorps Offices, 825 NE Multnomah St, Portland, OR 97232 Microsoft Teams Link: Click here to join the meeting

Standing Business

1.0 Preliminary and Organizational Business, Chair Bird (1:00).

1.1 Overview of Agenda and Welcoming Remarks, Chair Bird. Introductions.

2.0 Public Comment, Chair Bird.
No public comments. Council begins recording meeting.

Alignment and Partnerships

3.0 STEM Innovation Grants; Deb Bailey, ODE (1:12).
Legislature allocated 1% reduced budget. Paperwork is currently in procurement.
Review of STEM areas of work for the biennium:
Core STEM, integrating STEM into core subject areas. Pathways to STEM (CCL), helping students identify and pursue passions. Early STEM, focused on building interest and identity in our youngest learners.
Community STEAM, elevating STEAM skills and interests within communities in a culturally responsive way.

Outcome measures for Innovation Grants have been shared: Added baseline and target. Developed measures via alignment to rule/law, STEM Plan.
Data Collection Tool: contracted Dialogues in Action for tool. Still in draft form, Hubs will be giving feedback for revisions and pilot.
Questions (paraphrased)
Rita Hansen: We discussed being able to measure against a baseline, is the intent to have directors report monthly, quarterly, ad hoc, etc? Is there a goal for a certain school year?
Deb: Twice yearly reporting, with the initial one being end of June. First year will be the baseline.
RH: At end of biennium, we would ideally see progress?
DB: Yes, we can also have that conversation as we go- 3% was mentioned before but unsure what that is based on. We are hoping to see first year as a baseline and second year, any increase.
RH: The network report examples don't show timestamps.
DB: This is just placeholder data. They will be dated in future.
Karla Clark: Each hub will do a report, then we can do a combined report?
DB: Yes, we will be able to run based on Hub or network.
RH: This should make it easier to tie performance to dollars.
DB: Progress is defined as an increase in numbers. Again, 3% was thrown around but we aren't sure if this is right.
Stefan Bird: How do we measure success? Need more than one data point, baseline. This will be a fantastic start. We can't realistically set a target today. Originally the IC goals were to improve test scores, obviously they have shifted. How do we engage all ages, demographics along the way? Innovation grants allow focus on these core areas needed. Every year it has gotten better but have had to work without hard data in the past, anecdotal only. CCL, YouScience really stand out as a way to show students interests and paths. The Council can help focus and direct, with the Hubs as the jewel, and Council doing all they can to help them succeed.

Pam: Is data being entered from a set list?
DB: Yes, when they register. Educators receive it when they register for PD so we can track how many are participating.
Deb Mumm-Hill: Also there will be surveys for impacts, capturing KPIs, etc. Will be a subset of the population.

4.0 2021-2025 STEM Education Plan, Deb Bailey, ODE (1:35).
In 2025 we will revisit the plan and rewrite. Today we will share goals, outcomes and indicators; please ponder these for future feedback on the revisions.
Output Numbers: Network wide output numbers. Kristen Harrison has helped collect this information.
RH: Is there anything on here noteworthy?
DB: Unfortunately I haven't had time to compare it to the last biennium. I can compare before we email out final notes tomorrow.
Review of Plan Goals and Outcomes.
Questions (paraphrased)
DMH: Are districts being challenged to bring scores up to a certain percentage by ODE, mandates etc?
Beth Blumenstein: I have not heard of specific targets at this point; they would likely come from the State Board of Education, but it is a nationwide conversation.
JI: Integrated guidance allows district set targets they are held to meeting, for example early Literacy targets are being set by e district. We still struggle with participation around state assessment.
SB: What are the national trends in comparison?
JI: It depends on the state, but the drop is pretty consistent post pandemic.
BB: NAPE assessments may be better for national comparisons.
DMH: Utah is the only state that has maintained- and they adapted the European model of math.
KRK: Focus on rote, calculus in States. How we teach math is getting more national attention now.
SB: This underscores the importance of what we're doing here. Scores indicate our inability to populate universities, jobs.
Beth A: Potentially ties to the STEM Identity focus.
DMH: Academic identities are set by 4th grade; Hubs have been really working on integrating early with the 'STEM identities'.
RH: My ten year old grandson attends Bend science program, and has concerns over identity as 'nerd'. The scores are not good- do we have data around who is likely to opt out of these?
DB: We do have demographics data- will review.
DB: I can review reports and see if there are specifics on which demographics are opting out.
DMH: It would be interesting to compare 3rd grade participation rates to 11th.
ODE can look into this.
Might need to message parents about the importance of participation for funding.
SB: Jessica, what are you seeing kids coming into college with in terms of scores? Do these reflect what you see in new students?
Jessica: Without a doubt. It's a struggle for faculty. Seeing less preparedness, also less maturity. Social development impact being seen, as well as mental health/wellness factor. Also seeing huge jumps in students who finished GED at community college instead of finishing high school, and are reluctant to rejoin an academic environment. Pandemic and learning loss will be felt for some time. One thing we're doing is a lot of work around corequisites with math and it's been successful. Accelerates students through college math instead of developmental math. Having a concurrent support course around fundamentals of the math they're in instead, for example math fundamentals or english language support. Working on that for other college math gateway courses.

Note that the number of STEM schools has increased (definition based on certifications, assessments). There are different levels of statuses as well- for example only Platinum level is Sisters.
Questions (paraphrased)
DMH: Farmington View School was looked at as a STEM school, they were at 64% proficiency. Would be cool to compare STEM scores to other schools. Be able to show it to the public, to the governor.
DB: I can provide that data. Have discussed comparable non STEM school scores, working on this with Jeriann Abel.

N=Majority elementary schools.
RH: Would be relevant if we're talking about all of Oregon. Would be important to review the geographic mapping.
DMH: As well as the resources it takes a school to be a STEM school.
KC: Since they're all elementary, would be interesting to see effect on career pathway.
DB: Part of the research conversation.
PP: What are the barriers schools face to this?
DB: Time, commitment, capacity. Staff turnover.
Tiffany: Curriculum usually siloed.
BB: More integrated curriculum coming out but it's a slow process.
JI: And all supports etc are siloed.

5.0 Oregon STEM Updates; Deb Mumm-Hill, Oregon STEM (2:11).
Review of Oregon STEM's mission and rebranding. See slides.
Focus on three buckets: Awareness, Alignment, Advocacy.
Gaps are access (what's in the community, awareness(jobs often invisible to students), skills (result of closing the other two gaps).
Oregon STEM at cusp of launching awareness campaign; will cost about $125K and looking for industry partnerships. Will not be a one and done but rather a systemic approach including media relations, programming/events, owned media.
System Alignment/Measuring What Matters: Where OR STEM is at now. 2024 talent assessment report coming out soon. Workforce readiness advisory committee participation.
Future Ready Oregon Technology Consortium member. Writing grants, drafting papers, proposing CCL software sponsorship for examples.
Supporting ODE teams inc. Jennell's work.

Partnership Integration: Workforce Development Efforts. Wanted to share structure with Council (see slide). How does Council fit in?

System Alignment and Data Systems: Power for CCL Platforms. Start career awareness earlier; adopt CCL software other states are using. Review of YouScience data around aptitudes vs interest/awareness.

How do we engage industry in the work?
Brightpath- partnerships and integration. Employability skills, need a system for industry to get involved in local schools. Need to be able to show deidentified data around student training, skills, interests. Software can make the convergence of connection and take responsibility off the educators. Industry should reach out to Deb if interested in sponsoring.

Break (2:32)

6.0 STEM Hub Updates; Karla Clark, Southern Oregon STEM (2:45).
2:45 Karla Clark presents STEAM Integration and Career Connected Learning.
STEM integration specialist hired by the Hub eads PD, coaching training, one on one teacher support within schools. Coaching, modeling STEM integrated lessons.

CCL: YouScience is a pivot point; in over 50 schools. School board interest in assessment is growing. Holding community meetings in each county based on a collective impact model. Bring everyone together to work on partnerships in the community. Have a CCL facilitator working with schools, counselors.
6 highest aptitudes vs interest breakdown for each county and district, provided to districts.
Awareness gap once again shows it's not an issue of talent and skill.
Southern Oregon programs are below capacity and few. We have to grow interest level from ground up, create awareness for students and educators.

Why is this important?

Target the development of a skilled workforce, able to secure high wage/high demand jobs. The data is being used to help students, funding, enrollment, inform STEAM plans, community college use of youscience, and more (see slide)

Industry tours show their perception that schools aren't doing tech ed- so did flipped tours that showed CTE. Build relationships as well. Website created for CCL funds. Visit for examples from students/educators/industry partners. See links.

How to help?
Youscience funding ends in 2024. How to sustain access? Youscience data is valuable. Helps with funding, inspires kids to stay in school. Assists counselors. Gives passion and purpose, long term outlook.

Julia Betts, South Metro-Salem Hub (3:13).
Chris Holden (WBTO) discusses CTE regional coordination work WBTO has been doing with the Hub..

Chris developed an apprenticeship program for machinists, PCC, training center project. Opened eyes to the education system; greatest impact could be seen in focus on high school programs.
Working with the manufacturing industry, training instructors. Manufacturing regional advisory committee. Focus on instructor support and technical expertise.
Worked with Hub to create a scope of work to perform a regional needs assessment, meet with instructors and employers, with a focus on Clackamas county. Challenge to collect data, align it, figure out how to measure misalignment and identify opportunities.
Ended up drilling down to fundamental skills and developing an assessment. Focus on machining and welding (high wage, high demand). Identified skills for each and met with instructors, reviewed skill integration in lessons. Also spoke with employers and job postings to gather data for ranked scale.
Also taking inventory of equipment with condition rating.
Questions (paraphrased)
Julia: We were able to get feedback at a more granular level, what the models practiced are, localized regional needs- especially since populations and communities vary so much within the region. Being able to ask what is being provided, and what is needed to provide it. There is a lot of potential in applying this process across the work for making informed decisions around funding, partners, etc.
Chris: Also discovered common skills between different areas; manufacturing jobs that require less training. Could help inform what programs look like, pathways for students.

7.0 YouScience Update & Recommendations (3:32). This was ceded to Jennell Ives due to time constraints.

8.0 CTE State Plan Update; Jennell Ives, ODE (3:34).
What CTE is: fueling the future, developing skills, preparing learners for work, leveraging relationships.
Why it matters right now: the world has changed since the 2019 CTE plan. Many young people feel lost. Gen Z is less willing to jump through hoops without some purpose, reassurance. New economic model. Education systems need to serve this.
Large investment in infrastructure, tech, workforce etc. Need to be able to tap into federal money for this.
CTE is more integrated now, working with Hubs now.
Good participation numbers in Oregon. Have data she can provide.
Currently revising plan. Outcomes for next 4 years: Integrate CCL systematically across Oregon, Increase equitable access and inclusion in high quality CTE ad CCL; expand communication, transparency, and voices contributing to our education and workforce development partnerships. Will not be completely accomplished in 4 years.

Strategies for getting there (see slide). Align systems, focus on middle school, support student awareness/career pathways.
Equitable Access vision and strategies: center equity and learner experience, strengthen quality of CTE programs, create CTE educator retention/recruitment.

9.0 OR Math Project Update; Kama Almasi, ODE (3:50).

Review of statewide initiative centering equity in new, rigorous math pathways. Designed to help students develop identity and interest in math.
Biennium update: governor grants for 21-23 biennium.
Six Hubs received grants for developing/piloting/adjusting math courses.
Math specialists collaborated between higher ed and high school to align math pathways, numbering, language etc. There was also focus on the alignment of standards for different math pathways i.e. calculus.
In the 23-25 biennium they are looking at $2 million for Math Pathways. Currently working on applications for these grants.

10.0 Computer Science Implementation Plan Update; Andrew Cronk, ODE (3:55).
The Implementation Plan was released in December. Reviewed plan and strategy highlights, goals of Directive, timeline of progress, and future funding estimates.
Questions (paraphrased)
Chair Bird asks how to address the challenge of increasing participation for what is available at schools already; what's a good state outlook?
AC: The Plan encourages both access and participation. We need to examine what is happening in the classroom, i.e. inclusive and welcoming activities for all. Other states have both lower and higher participation than Oregon; higher participation rate states have made CS a requirement but we will not be pursuing that right now.

Adjourn (4:10)