STEM Action Center Board Meeting Minutes
January 10, 2018 • 2:00pm
STEM Action Center: 60 East South Temple, Suite 850, Salt Lake City

Members Present:	Vance Checketts, Tami Goetz, Blair Carruth, Scott Nowlin, Joseph Fournier, Mikal Ann Byrd, Bert VanderHeiden, Sydnee Dickson, Kathleen Riebe
Members Absent:	Val Hale, Marc Sunday, Tami Pyfer, Dave Woolstenhulme, Jon Pierpont
Staff:	Tami Goetz, Kaitlin Felsted, Kellie Yates, Clarence Ames, Erin Paulsen, Lolly Bowler, Chuck Keeler
Visitors:	Stacy Eddings, Vessela Ilieva, Xiangyang Yu, Louis Piconi, Eric Hafen, Melisa Stark (on behalf of Jon Pierpont)

I.   **Welcome and Related Business**

Vance Checketts welcomed everyone to the new year and the meeting. Asked for a motion to approve the minutes from the November board meeting.

APPROVE NOVEMBER MINUTES
MOTION: MOTION WAS MADE TO APPROVE THE NOVEMBER MEETING MINUTES, SECONDED BY SYDNEE DICKSON AND SCOTT NOWLIN. THE MOTION WAS UNANAMOUSLY APPROVED.

II.   **Board Discussion**

Tami Goetz gave a brief overview about the presentations and introduced the evaluation team from Utah Valley University and the University of Utah. They have been collecting the SAGE test score data and evaluating the available quantitative data to determine if the use of software learning tools is improving student performance. Stacy Eddings then proceeded with the presentation of the quantitative data. The presentation showed the difference in data between the math vendors, based on frequency of usage and student proficiency. Certain product providers are more efficient at helping the schools implement their technology, which affects the usage and proficiency in the students and the overall data. The data is also effected by the fact that each software product is geared toward a particular grade range.

Kathleen Riebe posed the question of how we can get more of a consistent experience for the schools with these products. Can we give them a shorter time frame and required amount of usage time so that the data doesn't vary so widely between the products? There was discussion about the parameters that are already set by the product providers, including recommended usage time or fidelity. It was explained that it's more about how these products are integrated and utilized in the classroom, rather than how much time the students actually spend using the program. It is difficult to measure all of the variables, especially how well the teacher is implementing the software in the classroom.

Stacy explained that there are a lot of data points that can be collected, but they focused on raw math scores and SAGE test proficiency and growth percentiles for the sake of the presentation. The comparison is between participants and non-participants, between different usage levels and between different products. In comparing SAGE scores from 2016 and 2017, those participating in the math software show an improvement and the non-participants show a slight decline in scores. When we are looking at math proficiency, students are either

proficient, or not proficient, which eliminates a lot of the variation. The evaluation team tried to look at those who already had a record of non-proficiency. They also evaluated those who had shown proficiency in the past year to see if they maintained that level or improved. In the participant group, less students dropped down into the non-proficiency category. More students who were non-participants showed a decrease in proficiency, than those who were participants in the software. And a greater number of student participants showed an increase in proficiency, in comparison with the non-participants. Overall, product users had less negative changes into non-proficiency, and had greater positive results moving from non-proficiency to proficiency. Combining all of the data, an average of 22% of product users showed an increase in proficiency from 2016 to 2017. So if a school uses a math software product, whether they use it the recommended amount of time or not, they are 22% more likely to have an increase in proficiency than those who do not use any of the products. Stacy also explained growth percentiles, and how there the data is showing a 1.5% growth percentile rate between participants and non-participants. Mikal Byrd asked if overall, that small of a percentage growth is worth it. Xiangyang Yu spoke to the importance of the 1.5% growth, how if it was for one individual, it wouldn't be seen as a huge success, but since it is such a large data group, it is a significant increase.

There was some discussion about other variables, including the fact that some of the software is verbal and some is non-verbal which could affect the student outcomes. It is also important to take into account demographics, including minority and low-income students. Are we using the data to drive our instruction, in addition to SAGE scores? Kathleen Riebe asked if the two sets of data are parallel and will be used to drive and improve instruction in the classroom. Clarence explained that a lot of schools and districts are intimidated by fidelity and decline using any of the math products. We can use this data to show them what levels of fidelity have proven successful and to share best practices and support from the vendors so that they can feel comfortable using the product.

Sydnee Dickson added some comments about the math products, based on her visits to see them in action in schools throughout the state. Vendor fidelity is not always aligned to best practices, students staying on task, etc. Students who are gamers, progress fairly well independently. If students are not technology proficient, they struggle more. Teachers divide students into groups and coordinate rotations with the software, which might contribute to the low usage times. When they go in a lab, there may not be an experienced teacher. The intuitiveness of the program, the content knowledge of the student and the tactics of the teacher have great effect.

The STEM Action Center team then showed the board a video that was sent from Eastwood Elementary School in Granite School District. The students sang a song about the importance of STEM, and thanked the STEM Bus for coming to their school. It's things like this that show that what the STEM AC is doing is having an impact on Utah students.

Kellie Yates from the STEM Action Center then presented about the Professional Learning program. She showed the data from year one of the program, with usage of the program Edivate. She talked about how originally, there was not a minimum usage requirement set for Edivate. Kellie gave some background information about what Edivate is, and explained that it utilizes video making for teachers to identify where they need to improve and to share with their fellow teachers. Edivate is Utah-based and their library of example videos are of Utah teachers. She also presented data from year two of the grant and year three. In year three, the number of Edivate licenses was reduced due to low usage by the teacher participants. She explained what the additional funds are used for, including SWIVL filming devices (so the teacher can film themselves while teaching), off contract time, incentives, substitutes, travel to

conferences, etc. In year 3, it was required that the participants provided video documentation of 10% of their teachers utilizing the program. This was also the first year that a required amount of usage of 20 minutes per month was established. Kellie shared the positive feedback that was received by teachers and administrators about the new science standards and professional learning program. Kellie talked about the current school year, and how the language of the grant was changed from saying that they "shall" use Edivate to they "may" use Edivate. We are much closer this year to having everyone use the professional learning platform the recommended amount. A lot of schools have been communicating more with each other, especially some of the stand-alone charter schools. The teachers are able to share videos and ideas with other teachers of the same grade and subject and it has been very beneficial.

Kellie then moved on to speaking about the Elementary STEM Endorsement program. The current model includes 6 courses over a time period of 2 years. There are currently 7 institutions of higher education participating with over 400 teachers participating. Kellie talked about potential barriers to the program, including capacity. We have looked into finding adjunct professors to teach the courses, and also explored the option of having Westminster come on as an additional higher education partner. One of the other barriers is that teachers are coming in and not feeling comfortable enough with the content knowledge to implement it successfully. We are working with USBE to expand the subject content of the program to include more options with math, science and STEM endorsements. We want to focus more on integration of all STEM subjects. Over 1,000 teachers and administrators in the state have the math endorsement and could be a cohort for a STEM integration endorsement next year. Sydnee Dickson praised this new blend and the new ideas to move the program forward; she appreciates the focus on content and integration. She mentioned that a lot of educators have had a lot of success with Snow College as a partner in the endorsement program. Tami Goetz thanked the team at USBE for helping come up with creative ideas to improve this already successful program.

Tami Goetz then gave an update about the SB-190 funded Computing Partnership Program. Tami thanked Erin Paulsen and Lynn Purdin from the STEM Action Center for their work on getting this program going. Tami mentioned those that were awarded in the first round of applications. There were leftover funds from a High School Certification program that were used for five pilot programs for computing. This helped the STEM AC to discover what the needs are in computing and how to orchestrate the computing partnership grant once legislative funding was allocated. Something that we are going to do to enhance this program is to establish a community of innovators, since so many teachers and administrators are already innovating in their schools. Suzy Cox from Utah Valley University will be going on sabbatical and we are hoping that she will be able to join the STEM Action Center for one year starting in August to help grow this initiative so that educators throughout the state can share their best practices with each other. Tami mentioned the Governor's 25K Jobs initiative and how a lot of the focus of that program is computer science and increasing it in rural areas in Utah. We have been reaching out to many of the rural districts in Utah to educate them about the program and the possibilities for their districts and communities. We are partnering with industry to offer coding and computer science programs in rural communities. Sydnee Dickson mentioned regional service centers in rural communities, and an example in Richmond where the students are being taught computer repair as a CTE pathway. It would be beneficial to connect with these service centers as a partner with this program. There was further discussion, included questions about how much funding was given in the first round of the grant and whether it is funding on-going programs or not.

Vance Checketts encouraged board members to talk positively and gratefully about funding received and programs in place if they talk to legislators during the upcoming legislative session. Tami Goetz proceeded to give a legislative update. We are not asking for additional funding this year, we are not in the Governor's budget. She has been told by industry members (UTC) that they are wanting to request more money for the math program. This is fine, but we can't advocate for it since we aren't in the budget, but we can provide the needed data. This session is for getting the word out about positive outcomes to build up for an ask next year. Tami mentioned that she will be having meetings with as many legislators as scheduling permits and that it would be helpful and have greater impact if board members were able to attend some of those meetings with her. There was further discussion about STEM Spotlights and other materials that can be distributed to legislators to give them information about our programs and success stories. It was also mentioned that having printed materials and "cheat sheets" with important information for the board members would be very beneficial.

III.   **Adjournment**
VANCE CHECKETTS MADE THE MOTION TO ADJOURN. BERT VANDERHEIDEN SECONDED THE MOTION. IT WAS UNANIMOUSLY APPROVED.