Strategic Plan
Information and Advocacy Report

TO: Board of Education

FROM: Sarah Straka, Director of Instruction

DATE: June 15, 2020

RE: Information and Advocacy Report - Learning and Growth

OVERVIEW

Board Goal I: Learning and Growth - We will graduate life-long learners.

Objective D: Implement cutting edge and innovative learning practices

- Indicator 1: Integrate technology in instructional and learning practices
- Indicator 2: Incorporate research-based and innovative curriculum and instructional practices

Indicator 1: Integrate Technology in Instructional and Learning Practices

During the 2017-2018 school year, an Interactive Projection Device Task Force came together to create a plan to retire failing technology and to integrate newer technology devices and instructional practices into classrooms. After collective learning and planning, the task force developed an Instructional Technology Five Year Plan. This plan was set in motion the summer of 2018 with the purchase of AVer interactive displays for K-2 and interactive Chromebooks and flat panel displays for fifth grade. By the end of Summer 2019, the Early Learning Center, Primary Center, Intermediate Center, and High School all received new displays in classrooms. The Middle School received new displays in the sixth-grade wing during the Summer of 2019; the seventh and eighth-grade wing classrooms are being outfitted this summer.

Another aspect of the Instructional Technology Plan focuses on the staggered purchase of Chromebooks with concurrent digital implementation training for our staff. CESA 2's Digital Learning Director, Beth Clarke, has been the main facilitator for these trainings. If you remember, the fifth grade teachers started this journey with Ms. Clarke during the 2018-2019 school year, as this was the first year of our large scale Chromebook purchases. Figure 1 provides the current training sequence.

Figure 1: Digital Implementation Instructional Support and Training Sequence

Year	Year 1 Training Sequence	Year 2 Training Sequence
2018-2019	COHORT 1 - Grade 5, IC Art, IC LMS	
2019-2020	COHORT 2 - MS: Grade 6, MS Related Arts	COHORT 1 - Grade 5, IC Art, IC LMS
	COHORT 2 - HS: English & Social Studies	
2020-2021	COHORT 3 - MS: Grade 7, World Language	COHORT 2 - MS: Grade 6, MS Related Arts
	COHORT 3 - HS: Math & Science	COHORT 2 - HS: English & Social Studies
2021-2022	COHORT 4 - MS: Grade 8, Music, PE	COHORT 3 - MS: Grade 7, World Language
	COHORT 4 - HS: World Language, CTE, Fine Art	COHORT 3 - HS: Math & Science
2022-2023		COHORT 4 - MS: Grade 8, Music, PE
		COHORT 4 - HS: World Language, CTE, Fine Art

The first year of training focuses on initial digital implementation topics such as classroom management, digital tools/applications, and flipping instruction. Teachers then continue their learning into the next school year focusing on the integration of the SAMR model. The SAMR Model is a framework that categorizes four different degrees of classroom technology integration: Substitution, Augmentation, Modification, and Redefinition. Ms. Clarke works with staff on lesson design and student tasks that will lead students to higher order thinking skills.

As the fifth and sixth-grade students transition, they will bring their assigned Chromebooks with them to the next grade level. We believe that if students understand they are assigned a Chromebook for four years, they may take better care of the assigned device. At the high school level, Chromebooks have not been assigned to specific students but rather classrooms. In moving forward, based on the current model and total devices in the District, all grade 5-12 students will be assigned a Chromebook in a 1:1 environment by the start of the 2021-2022 school year.

There is no doubt that teachers all over the country have had to pivot their instruction to a virtual environment. Some may believe that the above professional development sequencing is unneeded. This is not the case. With any newer instructional approach, the learner needs coaching, modeling, and time to process. While the teachers identified in Cohorts 3 and 4 may have made the leap into virtual instruction, the deeper instructional practices will still require guidance and support. As we know, technology is always changing; there will be a need every year for technology support and training.

Indicator 2: Incorporate Research-Based and Innovative Curriculum and Instructional Practices

Various curriculum revisions and adoption/implementation of new resources have occurred during the previous 2-3 years. Below highlights several of these shifts.

Mathematics

Over the past three years, Mount Horeb Area School District partnered with CESA 2 to continue the professional development of middle school staff on effective mathematical teaching practices. During the 2018-2019 and 2019-2020 school year, math teachers were provided individual coaching sessions with Steven Mijajlovic, CESA 2 Mathematics Consultant to lesson plan and continue integration of these practices.

During the fall and winter of the 2019-2020 school year, Mr. Mijajlovic began work with the Intermediate Center classroom teachers in the areas of operations and algebraic thinking. These were two areas identified by the Intermediate Center Data Retreat team needing additional support. Additionally, the concepts and applications that were introduced to the staff laid the foundation for the selection of the new mathematics program, Bridges in Mathematics.

Co-teaching and Co-planning

All Title I elementary staff received intense, monthly professional development and coaching during the 2017-2018 and 2018-2019 school years. This began the District's journey to shift the delivery model from pull-out instruction towards a push-in and co-planning model; our most specialized teachers move their expertise and instruction into the classroom which in turn positively impacts the universal programming.

During the 2019-2020 school year, various special education staff began to receive co-teaching/co-serving training to expand how students are served in the classroom rather than the current pull-out model. Further targeted training for special education staff will continue into the 2020-2021 school year for upper elementary and secondary staff. This training will be delivered by CESA 2 trainers for elementary staff and independent consultant, Peggy Black, for secondary staff.

Technology and Design

During the Summer of 2019, three teachers--HS art teachers Anna King and Dana Showers and MS Technology & Engineering Teacher Tim Killinger--participated in the WiFab Retreat. This weeklong opportunity provided teachers with ways to rethink their approach to STEM teaching. As you may be aware, the District has been fortunate to purchase various pieces of fabrication equipment over the last two to three years. While the bulk of these purchases have occurred at the high school level, developing the innovative mindset of students at a younger age is crucial in order for students to be successful at the high school level. Mr. Killinger shared his instructional approach and vision below:

> *It is about the design process and experience. Transitioning from one's mind's eye to a 2D drawing to a 3D object to a 3D digital CAD model is difficult. The process isn't always linear, but just like anything that is difficult, you get better with practice. Oftentimes, the hardest park is transitioning between a 2D drawing and applying it to 3D physical objects. One could always fake a 2D drawing or sketch and ignore the things that couldn't be seen. The drawing's purpose gives a vision or a start of what is in the mind's eye. When it comes to applying these 2D features to a 3D physical object, it can't be faked or ignored. Through iteration and refinement, the solution comes to fruition. Enter 3D digital creation. You can't*

fake the details and you can't touch it to understand materials or textures. Having a physical model in front of the person allows one to measure and apply it to a digital format. The benefit of this 3D tool is being able to apply measurement accuracy and proportion preciseness. It also allows one to build a 3D print of the object.

I use this platform for my Yard Dice Project in my 6th grade TechEd classes. The process touches on measuring, drawing, hands-on building in the shop, 3D digital modeling in CAD, and 3D printing. With the addition of my new 3D printers, we are able to create a 3D physical print of their 3D digital CAD model. Now the students can compare the object they built in the shop to the one they built in CAD. During my FabLab workshop, I was reminded of ways to make the experience richer for students. I added a step that helps them connect "the why" to the design and building process. For this project, I have them create a family friendly game to play. It allows them to be creative in the use of the objects they created versus having them sit on a shelf collecting dust.

As you can see, Mr. Killinger has not fallen into the trap of using "technology for technology's sake". Rather, his approach is more about the process and the "why" behind what we do. As tools like 3D printers become more common in schools, the workplace, and homes, students will be able to create 3D models; however, it is the work behind those models that students will realize takes the most thought, creativity, and innovation. Mr. Killinger's approach is just one example our teachers will shift to inorder for students to be successful transferring their knowledge into other educational opportunities and future occupations.

Moving Forward

To continue to prepare for potential virtual learning in the 2020-2021 school year, instructional practices will need to evolve to better support student learning. While staff will still need support with platforms and applications, collective learning will focus more on areas such as developing a sustainable and effective feedback loop, building in support for learner reflections, and approaching lessons from a universal design for learners' mindset. This will take collaboration from various staff members, not just the regular education classroom teacher, in order for students to receive the most effective content, instruction, and feedback. Hopefully, students will be able to return to school in some capacity to receive the benefits of both face-to-face instruction while also experiencing the flexibility and support of online learning.