


Idaho Mastery Education Network

Summary of Action Research Teams Study Outcomes (2019-2020)

June 15, 2020

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Executive Summary

This report presents findings from all seventeen (n=17) Idaho Mastery Education Network (IMEN) sites designated by the Idaho State Department of Education as Action Research (AR) sites during the 2019-2020 school year.

In June 2019, two districts, four charter schools, seven alternative schools, and four traditional schools from across Idaho, in various stages of implementing mastery education under Idaho Code 33-1632, volunteered to research the implementation of their practices. The teams applied to participate as an “Action Research” site, receive additional funding to support their work, as well as assent to share their learning (both positive and negative) with a wider audience through this process. In addition, teams agreed to report on the outcomes as they relate to their targeted goals for improvement (i.e. student achievement, teacher retention, parent engagement, social-emotional wellness, student agency in the learning, increased graduation rates, increased Go-On rates, etc.). The AR teams received \$36,000, in addition to technical assistance to support their time engaging in action research outside of school hours.

A partnership with Boise State University was created to orient the teams to action research, support them in the process, provide technical assistance to both the AR teams as well as the SDE Mastery Education designee as requested. The primary purpose of the work was to engage a purposeful sample of experts from the field of practitioners, representing sites in various stages of implementation, in a process of critical reflection and evaluation of their efforts to better understand the breadth and depth of mastery education in Idaho - and more specifically policy implementation under Idaho Code 33-1632.

All educators make observations about student learning, collect data, make judgements from the data every day, and communicate their findings to others. The difference between what educators do every day and action research is during the process the educator-researchers develop and use a range of skills to achieve their evaluation aims: sharpened observation tools, data collection tools and techniques, careful planning of inquiry and research questions, and critical reflections. The strength of action research lies in its ability to empower practitioners to systematically monitor the processes and generate solutions to system challenges.

All seventeen AR teams worked collaboratively in October during the fall IMEN conference to build knowledge and skills about action research, as well as develop initial research questions. After the fall conference, teams returned to their sites, refined their plans with their site teams and executed their research with ongoing support from Boise State, as well as the SDE.

This report highlights the trends, themes, successes, challenges, and next steps as reflected in the AR teams’ final reports. It is important to note that COVID-19, and the related soft closures of Idaho’s schools this spring did impact and alter many of the original research plans.

Background

History of Mastery Education in Idaho

In December 2012, Idaho Governor C.L. “Butch” Otter commissioned a task force under the direction of the State Board of Education to “shepherd a discussion about how to improve Idaho’s education system to better prepare students for success (Idaho OSBE, 2013).” A task force of thirty-one (31) individuals representing broad and diverse groups of stakeholders from across the state gathered in January 2013 to begin discussions and identify areas of focus. The group included representatives from school districts, school boards, the state teachers’ association, the state superintendents’ association, the Governor’s office, the business community, parent groups, the state school boards’ association, and higher education institutions—among others. For the next eight months, the “Idaho Task Force for Improving Education K-12” convened over fifteen (15) times and held a series of statewide community forums. In September 2013, the Task Force finalized its recommendations. Of the twenty (20) recommendations put forth, the very first was to shift Idaho’s K-12 system to a “mastery based” system:

We recommend the state shift to a system where students advance based upon content mastery, rather than seat time requirements. This may require a structural change to Idaho’s funding formula and/or some financial incentive to school districts. We also recommend that mastery be measured against high academic standards (Idaho OSBE, 2013, p.7).

A mastery education system was proposed in House Bill 110, which passed both legislative chambers unanimously and was signed into law by Governor Otter on March 19, 2015. The law (Idaho Code 33-1632) directed the Idaho State Department of Education to move Idaho towards:

“an education system where student progress is based on a student's demonstration of mastery of competencies and content, not seat time, or the age or grade level of the student.”

In addition, it created the Idaho Mastery Education Network (IMEN) that allowed LEAs to apply to the improvement network focused on building support for the implementation of mastery education in their local school systems. In addition, it directed the SDE to create a sustainability plan for statewide scaling of mastery-based education and ensure that all public school districts and charter schools participating in IMEN develop plans that describe how they will maintain a mastery-based approach to education.

Idaho Code 33-1632 provides the following framework for mastery education:

1. Students progress as they demonstrate mastery of a subject or grade level (**MASTERY RECOGNIZED**)
2. Personalized and differentiated learning (**LEARNING PERSONALIZED**)
3. Focus on explicit, measurable, and transferable learning objectives that empower students (**STUDENTS EMPOWERED**)
4. Emphasize competencies that include application and knowledge along with skill development (**COMPETENCIES DEMONSTRATED**)



Figure 1: Idaho's Visual of the Framework as of June 2020 (source: [Idaho SDE](#))

During the first phase of “incubation” Idaho had 19 LEAs – representing 32 schools – that participated in IMEN activities and worked to explore, plan, design, and implement mastery-based education system changes. However, starting July 1, 2019 Idaho moved past the “incubation” phase and all districts, charters, or schools were able to join the IMEN network, or at the minimum access the tools and resources that had been developed, such as the Idaho Mastery Learning Staging Guide to determine where their efforts best aligned in their transition to a more student centered learning system.

Action Research Teams

In June 2019, seventeen sites from across Idaho, in various stages of implementing mastery education under the IMEN grant application process (as part of IC 33-1632), applied and were

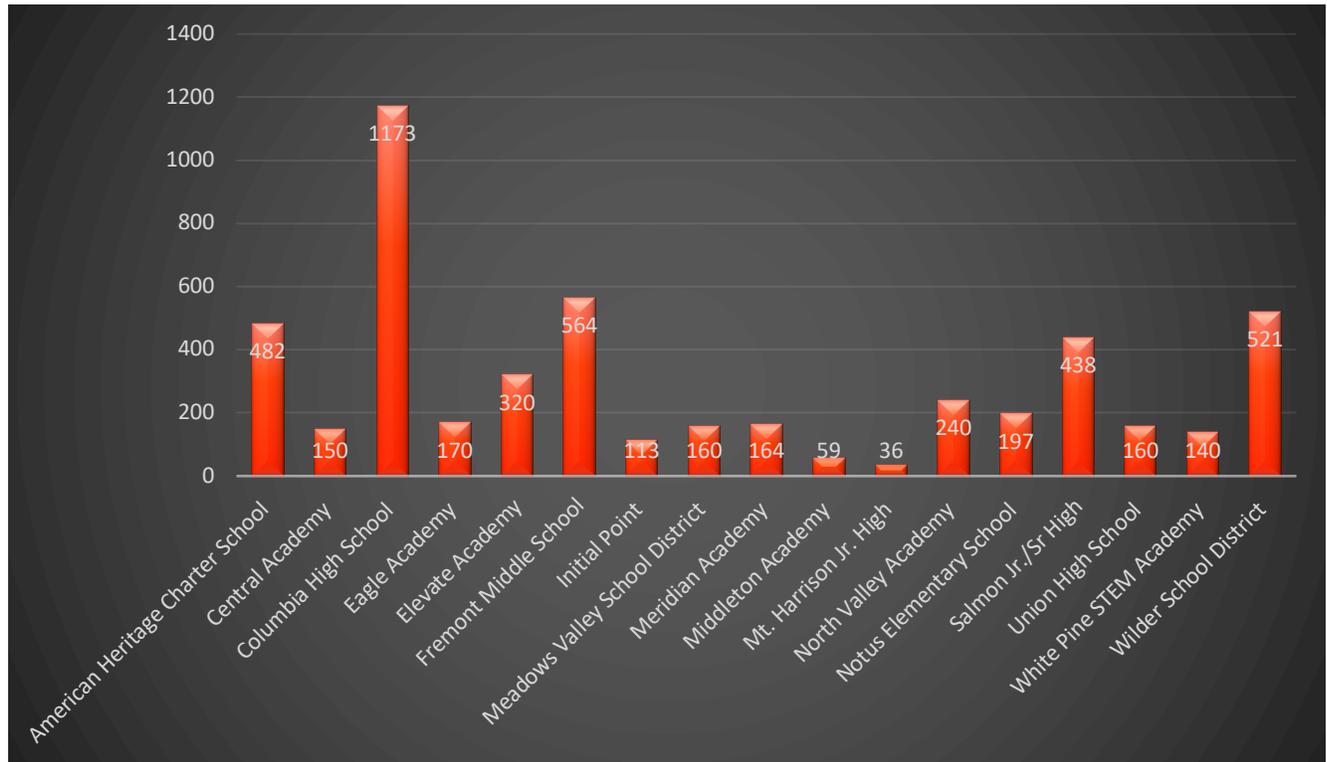
selected to self-evaluate and research the implementation of their practices. These sites represented various types of school systems:

- two school districts (K-12)
 - Meadows Valley
 - Wilder
- four charter schools
 - American Heritage
 - Elevate Academy
 - North Valley Academy
 - White Pine Academy
- six alternative high schools
 - Central Academy
 - Eagle Academy
 - Initial Point
 - Meridian Academy
 - Middleton Academy
 - Union High School
- one alternative middle school
 - Mt. Harrison Jr. High
- one elementary school
 - Notus Elementary School
- one middle school
 - Fremont Middle School
- one high school
 - Columbia High School
- one combined middle/high school
 - Salmon Jr./Sr. High School

The teams applied to participate as an “Action Research” site. Each site received additional funding to support their work, as well as assent to share their learning (both positive and negative) with a wider audience through this process. In addition, teams agreed to participate in professional development in October, and report on the outcomes as they relate to their targeted goals for improvement (i.e. student achievement, teacher retention, parent

engagement, social-emotional wellness, student agency in the learning, increased graduation rates, increased Go-On rates, etc.). The AR teams received \$36,000, in addition to technical assistance to support their time engaging in action research outside of school hours. The AR sites vary in size from a student population of 36 to nearly 1200.

Table 1: Student enrollment by Action Research site



Participating sites self-identified as being in various stages in their implementation of mastery education as defined by the [Idaho Mastery Learning Staging Guide](#). The stages are meant to be an overall sequence for the shifts in the system during the journey from a traditional educational system to a student-centered system: 1) Explore, 2) Plan & Design, 3) Implementation, and 4) Sustain & Scale.

Table 2: AR Teams Self-Selected Stages in Their System Shift to Mastery

	Stage 1 <i>Exploration</i>	Stage 2 <i>Plan and Design</i>	Stage 3 <i>Implementation</i>	Stage 4 <i>Sustain and scale</i>
# of Schools/Districts	2	4	8	3
	Mt. Harrison Elevate Academy	Fremont MS Initial Point White Pine Middleton Academy	American Heritage Columbia HS Eagle Academy Meadows Valley Meridian Academy North Valley Notus Elem. Salmon Jr/ Sr. HS	Central Academy Union HS Wilder

It is important to note, action research sites are not always implementing mastery-based policies across all grade levels, classrooms, or schools within their sites. Please read individual site reports in the [Appendix](#) for greater details. The overall trends for the AR sites suggest that secondary students (grades 6-12) were the primary focus of the AR sites represented in the study. See Table 3 below.

Table 3. Student grade levels impact by mastery education policies

Mastery Recognized	K-12	K-6	6-8	7-9	6-12	9-12
Sites	Wilder Meadows Valley North Valley	Notus	Fremont MS Mt. Harrison Jr.	White Pine	American Heritage Elevate Academy Salmon Jr/Sr HS	Central Academy Columbia HS Eagle Academy Initial Point HS Middleton Academy Union HS

Rationale for Action Research

Action research creates knowledge based on inquiry cycles conducted within practical contexts, such as school systems. The purpose of the partnership was to learn through action that then leads to personal or professional growth. Action research is participatory in nature, and often follows a spiral path between cyclic processes of action and reflection. During each phase of the cycle knowledge emerges, lessons are learned, and participants gain deeper insights and understanding – both of the system(s) and of themselves as participants in system change. The overall goals were to continually refine the methods, data, and interpretation in light of the understandings developed in each earlier cycle, phase, or stage.

The IMEN network began as an “incubator” with a limited number of schools or LEAs allowed into the cohort and then IMEN moved to a flexible network, thereby removing the cap placed on the number of LEAs that can participate. This created an ideal opportunity for a robust action research collaborative. Furthermore, Idaho’s local control approach to the implementation of Idaho Code 33-1632 allows for a high degree of complexity. This complexity means that large-

scale education research and double-blind studies have limited applicability in Idaho's mastery setting. There are just too many contextual factors affecting the implementation for any generalized approach. Further, the student-centered system solutions for equity, excellence and student well-being in Idaho are nuanced and vary greatly depending on the local community learning needs. Therefore, an action research partnership between K-12 educators and higher education researchers was a logical step to assess the diversity in the field related to the policy implementation of Idaho Code 33-1632, otherwise known as mastery education, and its relationship to measures that may influence student achievement.

AR teams were given the following deliverables, timelines and expectations by the Idaho State Department of Education as part of their grant award (source: SDE email):

- Provide a 1-page overview of the project describing the research topic, importance relative to the implementation or scale of mastery education in Idaho, and targeted data collection; Due Nov 22, 2019.

- Provide a 1-page follow up about your findings and results by June 1, 2020.

- Each Action Research Team will prepare and present a 75-minute session at the June 8-9, 2020 Idaho Mastery Education Conference to share your evidence-based inquiry process and recommendations for future work, practice, and policy.

- One person from each team will share on a panel discussion during the June 8-9, 2020 Idaho Mastery Education Conference.

Role of Boise State and Dr. Heather Williams

Boise State University is a comprehensive university serving a diverse population through undergraduate and graduate programs, research, and state and regional public service. Emphases include health professions, biological sciences, engineering, innovation and design, and education. Boise State served 22,939 undergraduate and 3,333 graduate students in 2019-2020, and offered 93 baccalaureate degrees, 68 master's degrees, 14 doctorate and educational specialist degrees, and 29 graduate certificates. It is a well-established organization experienced in program evaluation and research.

Faculty member, Dr. Heather Williams directed this effort and served as the principal investigator (PI). She is a faculty member of the College of Education, and program coordinator for Executive Educational Leadership at Boise State University. She teaches courses for superintendent certification, as well as courses for aspiring principals. In addition, Williams has been the PI on prior contracts with the Idaho SDE to support the Idaho Mastery Education Network with technical assistance providing research support, assessment design, system change support, policy implementation support, coaching, and focus group facilitation.

This Action Research study was a continuation of the previous work and informed by the prior efforts to further build capacity and implementation of mastery education in Idaho. Williams has spent over twenty-five years in public education, serving in both higher education and EC-12 as a professor, superintendent, principal, curriculum director, teacher, coach, and school improvement consultant. Dr. Williams works nationally as a school improvement consultant providing training and development for school system leaders, teachers, and school boards members. She is most interested in improving learning communities to better serve all students, but her heart lives in rural Idaho.

Dr. Williams presented at the fall conference in October to Action Research teams in order to build collective efficacy around what action research is and is not. She then facilitated teams in brainstorming and planning for what types of questions they wanted to examine this academic year.



Figure 2: Adapted: Fisher, D. 2020

One common challenge IMEN collectively identified is the lack of distal outcome measures to assess the impact of mastery education, due in part to the lack of consistent longitudinal data that aligns well for students advancing in mastery-based systems.

Dr. Williams worked with AR teams throughout the year to build knowledge and skills around the steps that support action research:

- Map the Problem: Developing a problem statement
- Funds of Knowledge: Clarifying your theories of action
- Turn the Problem into a Question: Generating your research question
- Qualitative and Quantitative: Gathering data
- Sort the Information: Analyzing the data
- Tell the Story: Reporting your results
- Take Action: Asking the next questions and taking the next step

In addition, she provided support for AR teams, including the following: study modules, book studies, phone calls, emails, webinars, meetings, written feedback, and development of presentations to be used by the AR teams.

Beyond supporting AR teams, Dr. Williams provided technical assistance and support to other IMEN sites and the SDE as directed by SDE Mastery Education Designee(s). The goal of the SDE is to build capacity and scale up the work in Idaho, helping more Local Education Authorities (LEAs) move to student centered instructional systems.

Study Methods

Data Analysis of AR team reports

Completed profiles for each AR site (including location, implementation stage, demographic data, narrative data, descriptive data) were entered into Excel and coded for patterns. The artifacts and data submitted via their reports were coded. Content analysis provided the descriptive, narrative, and quantitative data about mastery education in Idaho. Completed profiles can be found in the [Appendix](#).

A cross-case analysis (Miles, Huberman & Saldana, 2014) was used to compare commonalities and differences among sites, implementation plans, and processes. The use of this type of analysis improved the capacity to understand how relationships may exist between the AR sites, as well as develop and/or refine concepts about mastery implementation in Idaho and next steps.

COVID-19 Impact

It is important to note that all AR teams were impacted by the soft closures of Idaho's schools due to the coronavirus (COVID-19) pandemic. The economic impacts and trauma related to the COVID-19 pandemic will have far reaching effects that are yet to be fully known at this time. These impacts may have accelerated the shift to mastery learning for everyone in Idaho or may have deepened the equity divide – further study will be needed. Due to the forced “soft closures” every LEA in theory is doing some aspects of mastery-based education: students (and parents) are playing a greater role in their educational progress, goal-setting, and decision-making; explicit, measurable, and transparent learning objectives are critical; flexibility in pace and delivery is essential; and successful instructional practices personalize the learning by leveraging student interests and community needs.

Many of the AR teams had to make adjustments in their research plans to accommodate the new reality. In addition, many that were using end of year assessments (i.e. ISAT) and could not use them because they were not given, also had to make adjustments.

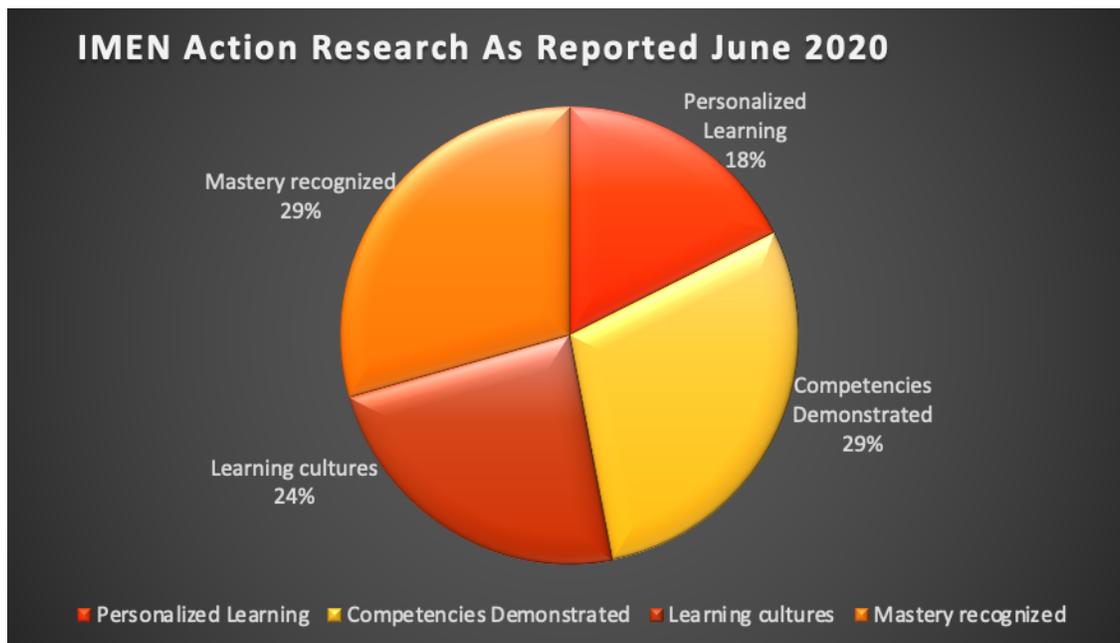
Overall Findings

Themes and Trends

In the fall, the AR teams collectively focused on the following areas of study that align to the Idaho Mastery Learning Framework ([as of June 2020](#)): 1) Personalized learning, 2) Competencies Demonstrated, 3) Learning Culture, and 4) Mastery Recognized.

Table 1. IMEN Action Research Themes and Sample Questions as reported from November 2019

Topic	Sample research questions
Personalized learning	<ul style="list-style-type: none"> How do we offer different avenues of learning experiences to students while maintaining fidelity to the standards? How will learning occur with individual students?
Competencies Demonstrated	<ul style="list-style-type: none"> Does revision improve the academic grade of a student? How can we build math vocabulary and familiarity with the test to improve our scores on the Idaho SBAC? What effect will PLCs and progressions have on math scores? Are our strategies and structures improving student learning? What are the most effective strategies and structures in the mastery system that result in growth, as measured on the interim blocks, ISAT, and performance tasks?
Learning Culture	<ul style="list-style-type: none"> How can strong relationships foster student self-efficacy? How does mentoring students through regular and routine goal setting and social and emotional instruction help create a productive shift in attitude toward academic skills and mastery? How does student agency and mindset affect achievement, as measured by the ISAT? What will be the behavioral outcomes as a result of mastery-based learning? Will there be growth in social and emotional behavior as a result of the implementation of soft skills training and other mastery components?
Mastery Recognized	<ul style="list-style-type: none"> How can LEA's best respond to encountering resistance and change in leadership and instructional practices?



Successes

All AR sites were able to complete their action research, even in light of COVID-19 and the related school closures. This speaks to the commitment of Idaho's teachers and educational leaders who are implementing student-centered learning systems. It also speaks to their commitment to the IMEN network. We were able to hold Zoom conferences and phone calls with many of the AR sites during the final weeks of the 2019-2020 school year. The excitement for their work and their findings from their action research was palpable, even in light of a worldwide pandemic and economic downturn. Comments were heard such as:

- *We were waiting for Utopia...but we just blazed our own trail.*
- *Are kids progressing differently? Yes!*
- *What is the impact of mastery on our system? On demand grading? Our grading practices had to change in the face of what is happening. Students and teachers love it!*
- *I am a new teacher and it has been fun to have my admin support me. As big as I dream, they'll make it happen!*
- *Our end goal has stayed the same, but the HOW has changed a lot. Our administration has gotten better at hiring learner-focused hires.*
- *We have had to build an eclectic system to meet the needs of our students. It's about teaching students how to manage: time, resources, and content so they can pace their learning.*
- *Forty-six percent of parents who responded to our survey said that their students were very prepared for a change in learning because of our mastery based system. Another 45 percent of parents said that their students were relatively prepared. Ninety-one (91) percent of our parents believe that their students were prepared or very prepared to succeed in an environment they were not used to due to mastery based education.*
- *We graduated the largest class at our alternative high school, ever in our history.*

Challenges

Again, all Action Research sites were able to complete their research. They filed written reports, and most were able to hold interviews with us via phone or Zoom to discuss their findings. Challenges emerged from the comments such as:

- *Onboarding is a challenge, and an opportunity, people need to know standards-based grading is the first step.*
- *You have to have Maslow before you can ever have Bloom.*
- *Formative, formative, formative, before summative.... sometimes it feels like others (indicating beyond their district) only care about summative results. We need better formative assessments for mastery to work.*
- *You have to deploy the mindset stuff to engage the agency stuff, for students and adults.*

-
- *We think the challenge is to spread the work. There is a lack of leadership.*
 - *What is the difference between proficiency scales and rubrics? That took our staff a long time to grapple with and we still struggle with grading.*
 - *We have been at this a long time. Student agency started in our district back in the 2000's with PD about Vygotsky and data driven projects, layered curriculum, and we have just become stronger at competency based and projected based learning. It takes a long time to do it well.*
 - *We spent a lot of time navigating the websites in order to bring clarity to the Idaho CTE and State Content Standards requirements. We found some outdated resources, and some that didn't align. After reaching out to SDE staff, studying Idaho statute and IDAPA, we were able to begin alignment and create the 6th-12th learning progressions.*

Next Steps

Under Every Student Succeeds Act (ESSA) plan, states have more flexibility in decision-making to determine how to best serve students. Personalized, competency, mastery-based, deeper learning are all terms used across the globe to define and explain educational changes happening in classrooms, schools, and districts striving to improve the traditional educational system. However, they do mean different things to different people and even within Idaho this study clearly shows that “mastery education” is very nuanced and highly contextualized.

The theory of change central to student centered learning reforms is the notion that more students will reach high levels of achievement in a given subject if they able to advance at their own pace and if the learning experiences are tailored to their interests and needs (Lewis et al., 2014; Sturgis & Patrick, 2010; Ryan & Cox, 2017; U.S. Department of Education, 2011; Alliance for Excellent Education, 2012). Systems leaders (both in policy and practice) must continue to re-imagine our educational infrastructure to better meet the needs of all students, address issues of equity and enduring achievement gaps, and demonstrate college and career readiness outcomes for EC-12 students.

Higher education and EC-12 must also continue to partner in meaningful ways to address the gap in current research related to the relationship between student centered learning and educational equity. In other words, while many states adopt/shift to student centered learning because they may recognize that a broader set of outcomes are necessary for success, a secondary reason is often using more student-centered approaches to help all students succeed and close achievement gaps. Yet, there are few examples of states, districts, or schools that have made progress in showing how these policies and practices are related to more equitable student outcomes. More study is needed. Finally, as one site in this study stated, “As education continues to evolve, we believe the shift to MBE (mastery based education) to be inevitable. It is imperative that colleges begin to prepare teachers to teach in a mastery system. The burden for individual schools or districts to train teachers fully in MBE is too great.”

For additional information about this report please contact:

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Appendix

American Heritage Charter School

IMEN Site: American Heritage Charter School

District: American Heritage Charter 482

School Setting: Charter

Grade levels served: K-12; 6-12 for mastery

Number of students: 140 6th-12th grades

Number of teachers: 9

Phase of Mastery: Implementation - Year 4

Lead or key contact: Shawn Rose; roses@ahcspatriots.us; Secondary School Principal

Mastery: Does Mastery-Based Education Prepare Students for Distance Learning

Demographics or Background information/ Setting: We are a small K-12 school in Idaho Falls that focuses on American History, Patriotism, and Leadership. We began our mastery-based education (MBE) 4 years ago by exploring MBE with various other schools around the state. We have learned largely by trial and error and through collaboration with other schools in the Idaho Mastery Education Network. We hope to push MBE to grades K-5 in the next year or two.

Purpose of our Action Research and Research Question(s): Our goal this year was to research how post-secondary education is preparing teachers to work in an MBE setting. As education continues to evolve, we believe the shift to MBE to be inevitable. It is imperative that colleges begin to prepare teachers to teach in a mastery system. The burden for individual schools or districts to train teachers fully in MBE is too great.

However, given the events of this year and education turning to distance learning for instruction, we felt it appropriate to study how MBE has prepared students for distance learning.

Does MBE better prepare students for distance learning than traditional school settings?

Project Activities: We looked at data from before and after moving to a distance learning model on March 13th with the intent to compare student performance pre and post distance learning.

Additionally, we surveyed students, parents, and teachers about how they felt MBE had prepared them for the change.

Data Sample: Study participants included students, parents, teachers, and administrators (n=175).

Key Measures: Interviews, discussions, student performance data.

Outcomes or Findings:

Student performance: Overall there was a 12% increase in students on pace and at a mastery level (80% or higher) in courses 6-12. There was variability between grade levels, however, we saw larger increases in 6th-8th grades while 10th and 11th grades decreased in this measure. We feel it is important to note that we did not change our grading system after moving to distance learning. Many larger school districts in the area went to a Pass/Fail system and students could not fail as long as they turned assignments in.

Teachers reported that in general students who consistently worked and were at grade level before moving to distance learning, continued that trend. However, approximately 5% of those students turned little or poor work in after the switch. Furthermore approximately 17% of students who were not on pace or working at mastery level increased production and quality of their work. One teacher

mentioned that she believed that the majority of students who increase their output did so because they were allowed to choose a time and place to work on content rather than only during school hours. Lastly, 46% of parents who responded to our survey said that their students were very prepared for a change in learning because of our MBE system. Another 45% of parents said that their students were relatively prepared. 91% of our parents believe that their students were prepared or very prepared to succeed in an environment they were not used to due to MBE.

Central Academy

6075 N. Locust Grove Rd, Meridian, ID 83646



Phone (208) 855-4325 Fax (208) 855-4324

IMEN Site: Central Academy High School

District: West Ada School District

School Setting: Alternative

Grade levels served: 9-12

Number of students: 150

Number of teachers: 12

Phase of Mastery: SUSTAIN AND SCALE (Phase 4)

Lead or key contact: Donell McNeal (Principal)

Explicit Skill Instruction/Alignment and how it affects ISAT performance data

Demographics or Background information/ Setting

Central Academy is an alternative high school that serves 150 students. The student population includes forty students on an IEP, forty students on a 504 plan and ten EL students. The free and reduced lunch percentage is 55%.

Purpose of our Action Research and Research Question(s):

The purpose of our action research was to determine how our ISAT performance data in reading would be affected by explicit skill instruction of competencies during instructional blocks and deliberate and intentional alignment of competencies to ISAT targets in our ELA studios.

Project Activities: ELA teachers, instructional coaches, and principal worked on analyzing ELA studios and ensuring competency alignment included in studios to ISAT reading targets. Students were administered the ISAT interim blocks at the 11th grade level for Reading Informational Texts and Reading Literary Texts to determine effectiveness of skill instruction and alignment. After analysis of block data, competencies were re-taught, studios were reviewed to ensure intentional teaching of skills. Our goal was to compare block data to year end data but we were unable to accomplish this due to Covid-19.

Data Sample: Study participants included twenty-three 9th grade students and twenty-three 10th grade students.

Key Measures: Interim ISAT block data for Reading Informational Text and Reading Literary Text

Outcomes or Findings: The interim block data strongly suggests that explicit skill instruction and competency alignment in student learning opportunities embedded in our studio model to ISAT targets positively affects ISAT performance data. 9th grade Reading Informational Text results showed 74% At/Near or Above Grade Level. 9th grade Reading Literary Text showed 50% At/Near or Above Grade Level. 10th grade Reading Informational Text results showed 78% At/Near or Above Grade Level. 10th Grade Reading Literary Text results showed 85% At/Near or Above Grade Level.

Please let us know if we can do anything else to help. Take care and BE well!

Respectfully,

Donell T. McNeal
Principal, Central Academy HS
mcneal.donell@westada.org
208-855-4316 (Direct Line)

“Preparing Students to be College and Career Ready”

Columbia High School

2019-2020 IMEN Action Research

Columbia High School

Spotlight

Abstract: Math and Mastery: the great conundrum of modern academia. We decided to attack this issue with a specific building-wide goal of 5% improvement in math scores on our state exams from 2019/2020. We believed that students' confidence in math plays a factor in achievement. We wondered if we could build math vocabulary, would it have an effect on math confidence and therefore achievement.

Research Question: "How can building math vocabulary connect to math gains?"

Results: TBD- Our measuring tools were the state exams, and these were cancelled.

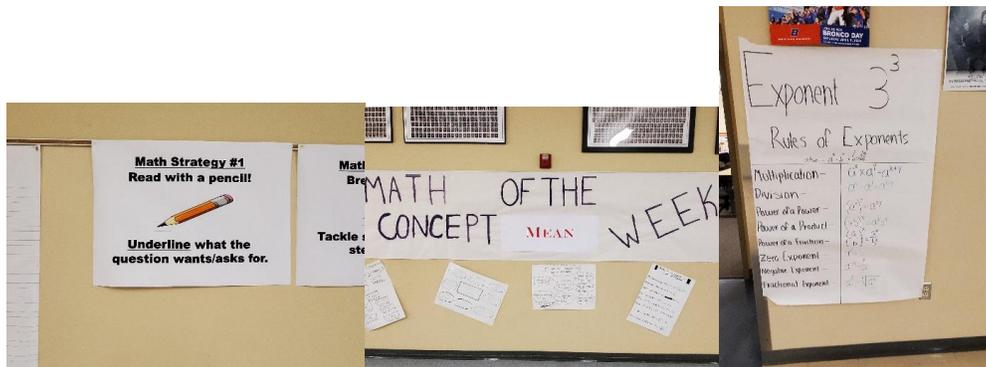
Methods:

Pre-Survey-We began with a survey for students concerning math vocabulary. This survey was conducted conversationally through a mentor teacher in an attempt to have a natural conversation about math, rather than insincere student digital response. The survey had to be hand tallied to identify the most common responses. Students identified words "exponent", "quadratic" and "inequality" as terms that they needed the most help with.

Language- We identified important terms to define for students from the survey and from data from our SAT, PSAT, ISAT scores from previous years. We had these terms made into posters and began a marketing campaign to highlight each word weekly.

Weekly Campaigns- We designed posters that taught the math concept of the week. These posters were shared with staff for the weekly mentor day. These posters also went up in the hall and in bathroom stalls. The term was discussed in class and through building announcements. The student leadership even highlighted the math term of the week in student social media.

Anecdotally**The most noticeable and commented strategy from the campaign were the [bathroom posters](#). It can be very difficult to fight for the attention of 21st century teenagers and math terms are utterly boring...the bathroom posters captured a "captive audience" .



[Movies 4 Math-](#)

In addition to a weekly vocabulary campaign, we also wanted students to practice math outside of a math course. We began a weekly contest in mentor house (advisory class) that provided 1 math practice problem from a state exam per grade level. Students could do the problem together in class, with other students or on their own. The objective was to talk about and practice math in all our classrooms, not just math class. Students then turned in the correct problem into the front office math box for a weekly drawing. The weekly winners won a movie ticket to the local theatre and were announced in our school announcements.

Participants: 9th-11th grade students at Columbia High School, approximately 1000 students

*12th grade students do not have a state measuring tool (PSAT, ISAT, SAT)

Limitations: Math and vocabulary instruction was facilitated through “Mentor Teachers”. This did not allow for consistent execution of math instruction, discussion, or even the pre-survey experience. Each teacher was given instruction, resources and support, but delivery was personalized by each instructor.

Another Limitation was a very inconsistent school year. The Nampa School District was attacked by a digital virus in the fall and the world was attacked by a physical virus in the spring. The school year lacked uniformity and consistency.

Final thoughts: Frustration....we were excited to see how our initiative might have improved math scores, but alas....no scores.

A possible measure could be a post survey discussing the confidence of math students, but the general diaspora of students would not yield good data at the current time.

The coming school year will no doubt provide opportunity to measure student relationships with math confidence, math vocabulary and mastery; and so we feel that our work will continue into next year.

Eagle Academy and Meridian Academy

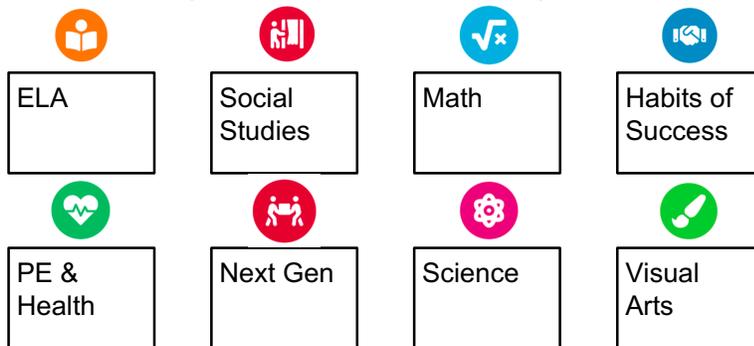
The graphic features six colored boxes with text, arranged around the central text "Our Beliefs".

- Dark Purple Box:** We believe in being transparent with what we expect from students
- Green Box:** We believe assessment should be a positive experience where students know what they should do and are given the opportunity to revise
- Yellow Box:** We believe every kid can learn at their optimal pace
- Maroon Box:** We believe every student should have caring adults who understand their needs
- Blue Box:** We believe students should take ownership of their learning and we can give them tools to do so
- Teal Box:** We believe every student should receive timely, differentiated support based on their individual learning needs

Our Beliefs

Emphasize competencies that include application and knowledge along with skill development

 **Competencies are the Backbone of Our System**
"Learning What Matters" Framework-- Goal: Aligned Studios



Focus on explicit, measurable, transferable learning objectives that empower students

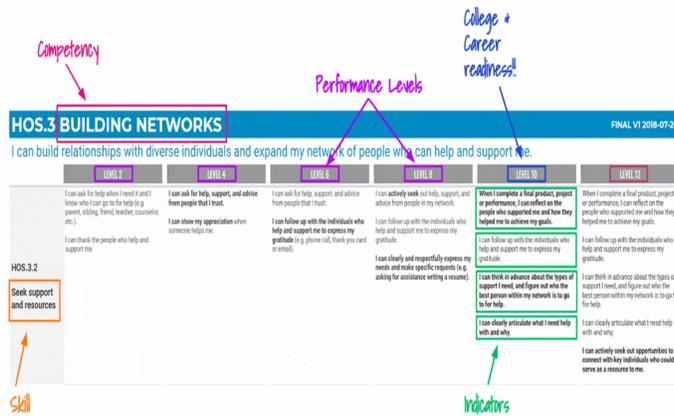
Why Competencies?

Students can see where they are and where they need to go written out on a continua for each competency.

Grading is equitable and meaningful.

Students can progress at their pace.

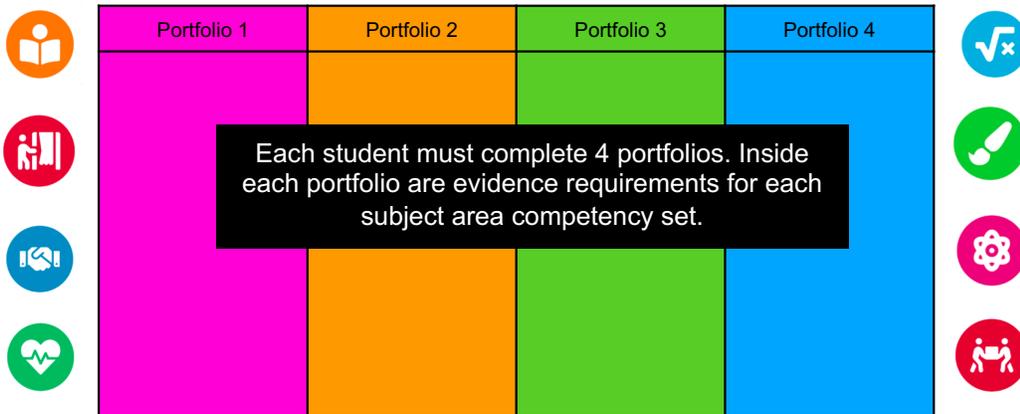
Student choice for how to get where they need to go.



Students progress as they demonstrate mastery of a subject or grade level

Competency Roadmap

What does a student need to do to graduate?



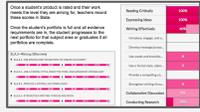
PATHWAY TO GRADUATION: 4 Year Competency Requirements at a Glance

	Portfolio 1 (min Performance Level = 7)	Portfolio 2 (min Performance Level = 8)	Portfolio 3 (min Performance Level = 9)	Portfolio 4 (min Performance Level = 10)	Additional Requirements to be completed by Graduation
ELA	Reading Critically Expressing Ideas Writing Effectively Collaborative Discussion Conducting Research	<input type="checkbox"/> 2 PE <input type="checkbox"/> 8 Elective Choices <input type="checkbox"/> Econ (Financial Lit)			
Soc.Studies	Analyzing Historical Events Engaging as a Citizen Understand Geographic Representations Analyze Human-Environmental Interactions	Analyzing Historical Events Engaging as a Citizen Understand Geographic Representations Analyze Human-Environmental Interactions	Analyzing Historical Events Engaging as a Citizen Understand Geographic Representations Analyze Human-Environmental Interactions	Analyzing Historical Events Engaging as a Citizen Understand Geographic Representations Analyze Human-Environmental Interactions	
SCIENCE	Lead Scientific Investigations Analyze and Interpret Data Develop and Use Models Technical Writing	Lead Scientific Investigations Analyze and Interpret Data Develop and Use Models Technical Writing	Lead Scientific Investigations Analyze and Interpret Data Develop and Use Models Technical Writing	Lead Scientific Investigations Analyze and Interpret Data Develop and Use Models Technical Writing	
MATH	Mathematical Problem Solving Mathematical Argumentation and Reflection Concepts for C&C Readiness	Mathematical Problem Solving Mathematical Argumentation and Reflection Concepts for C&C Readiness	Mathematical Problem Solving Mathematical Argumentation and Reflection Concepts for C&C Readiness	Mathematical Problem Solving Mathematical Argumentation and Reflection Concepts for C&C Readiness	
Habits of Success	Personal Work Habits Planning My Journey Building Networks Professionalism				
Next Gen Ess.	Presentation	Presentation	Presentation	Presentation	
Health			Knowledge of Health Concepts Health Promotion/Risk Reduction Health Advocacy		
Vis Art	Create Vis Art Present Vis Art	Create Vis Art Present Vis Art			

Evidence Requirements Example (Social Studies)

SOCIAL STUDIES PATHWAY TO GRADUATION: 4 Year Competency Requirements at a Glance						
	Portfolio 1 (min Performance Level = 7)	Portfolio 2 (min Performance Level = 8)	Portfolio 3 (min Performance Level = 9)	Portfolio 4 (min Performance Level = 10)	Total Body of Work:	
<div style="border: 1px solid red; padding: 2px; transform: rotate(-45deg); display: inline-block;">Competency</div> <div style="border: 1px solid red; padding: 2px; transform: rotate(-45deg); display: inline-block;">Evidence Pieces</div>	Analyze Historical Events 1.1 1.1 1.2 1.2 1.3 1.3 1.4 1.4 1.5 1.5	Analyze Historical Events 1.1 1.1 1.2 1.2 1.3 1.3 1.4 1.4 1.5 1.5	Analyze Historical Events 1.1 1.1 1.2 1.2 1.3 1.3 1.4 1.4 1.5 1.5	Analyze Historical Events 1.1 1.1 1.2 1.2 1.3 1.3 1.4 1.4 1.5 1.5	Analyze Historical Events 1.1 1.1 1.2 1.2 1.3 1.3 1.4 1.4 1.5 1.5	
	Engaging as a citizen 2.1 2.1 2.2 2.2 2.3 2.3 2.4 2.4	Engaging as a citizen 2.1 2.1 2.2 2.2 2.3 2.3 2.4 2.4	Engaging as a citizen 2.1 2.1 2.2 2.2 2.3 2.3 2.4 2.4	Engaging as a citizen 2.1 2.1 2.2 2.2 2.3 2.3 2.4 2.4	Engaging as a citizen 2.1 2.1 2.2 2.2 2.3 2.3 2.4 2.4	Engaging as a citizen 2.1 2.1 2.2 2.2 2.3 2.3 2.4 2.4
	Understand Geographic Representation 3.1 3.1 3.2 3.2					
	Analyze Human-Environment Interaction 4.1 4.1 4.2 4.2					
						Total Body of Work: Analyze Historical Events Engaging as a citizen Understand Geographic Representation Analyze Human-Environment Interaction

Rating Skill in Studios

Step One	Step Two	Step Three
<p>Students complete a studio's performance task that is aligned to competencies.</p> <p>EXAMPLE Studio: Am I Truly Free? Task: Argumentative Writing</p> 	<p>Student and Teacher have a feedback conference to see what level the work is.</p> <p>EXAMPLE Studio: Am I Truly Free? Feedback on Paper</p> 	<p>Student revises until levels for all needed skills and competencies are reached.</p> <p>EXAMPLE Studio: Am I Truly Free? Final Rating on Slate and Dashboard</p> 

Final Rating in Slate

Once a student's product is rated and their work meets the level they are aiming for, teachers record these scores in Slate.

Once the student's portfolio is full and all evidence requirements are in, the student progresses to the next portfolio for that subject area or graduates if all portfolios are complete.



Reading Critically	100%
Expressing Ideas	100%
Writing Effectively	60%
Introduce, engage, and o...	
Develop message/purpo...	
Use words and transi...	8
Use a formal style, objec...	8
Provide a compelling co...	
Strengthen writing throu...	8
Collaborative Discussion	0%
Conducting Research	20%

Rating for Competency by Portfolio

Once a student is ready to move on, teachers rate the performance task and submit the score to Slate

ELA 3.1 I can introduce a claim	8	<ul style="list-style-type: none"> • Which portfolio is the student in? • Which level is the student at now? • Where are they aiming? • How do they meet their goal?
ELA 3.2 I can develop my claim/counterclaim	7	
ELA 3.3 I can use transitions to connect ideas	6	
Overall Score: 7 <i>You are in Portfolio 2. You need to revise your task to reach a level 8 across all skills</i>		

	Portfolio 1	Portfolio 2	Portfolio 3	Portfolio 4	Growth
C	7.0-7.44	8.0-8.44	9.0-9.44	10.0-10.44	1.0-1.9
B	7.44-7.94	8.44-8.94	9.44-9.94	10.44-10.94	2.0-2.9
A	7.95 +	8.95 +	9.95 +	10.95 +	3.0 +

Personalized and differentiated learning

Students and Studios

Studios are learning opportunities that help students meet the Competencies in their portfolio.

Traditional:

English 9A English 10A
English 9B English 10B

English 11A English 12A
English 11B English 12B

- Content-based
- Inequitable grading,
- Fight over content-reading,
- Teacher choice,
- No progression of learning
- "Learning was handing in assignments"

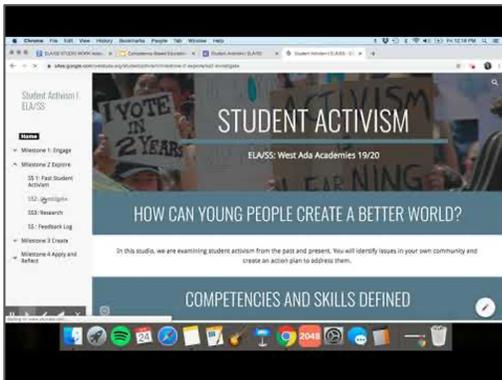
Studios based on Competencies:

What Competencies do you need in your portfolio? Is there a studio that allows you to demonstrate that skill? Which one do you want to try?

Studio Warehouse: ELA + SS Studios

- Skill-based
- Equitable grading
- Student choice in
 - Studio theme
 - Skills to demonstrate
 - Task
 - Time
- Learning is progression in skill that is clear for students to see over time

Preview of a Studio: Student Activism



Students...

- Engage in the project
- Explore new content (usually student-choice)
- Practice (develop skill)
- Apply (submit the task & perform)
- Reflect on their learning of the competencies and demonstration of skill

TEACHER MODES



Students attend sessions with teachers focused specifically on the skills they need.

IMPACT	MODALITY	DESCRIPTION
★★★	SMALL GROUP MINI-LESSON	15-20 minute interactive lesson that focuses on teaching a specific learning target (e.g., skill, concept) to students who need it; ends with check for understanding
★★★	1:1 CONFERRING	Checking in or giving academic feedback to a student based on a specific learning target; ends with actionable next steps
★★	SMALL GROUP EXPERIENCE	Teacher-facilitated or student-led small group learning experience (e.g., discussion, assignment or activity)
★★	PEER-TO-PEER EXPERIENCE	Learning opportunities that involve two students working together (e.g., discussion, assignment or activity)
★	WHOLE GROUP EXPERIENCE	Teacher or student led whole group experience (e.g., discussion; housekeeping issues; giving instructions; culture-building activities)
★	CIRCULATION	Circulating around the room looking for opportunities to switch into a different modality just as it's needed.

Facilitation Plans & Modalities for Instruction

Day	Time/Subject Studios	9:56-10:28	10:28-11:00	11:00-11:30	11:30-12:00	12:00-12:30	12:30-1:00
FRIDAY		PREP	Generalist	Generalist	Generalist	Generalist	Sped

Facilitation Plans help us plan out our week and be the most impactful within those modalities. Not only do we plan, but students can see the plan and adjust their week and work accordingly.

Students can also make choices if the skill/ objective is something they are in need of or if there are other opportunities the need that week.

Progress, Not Perfection

Celebrations

Students were able to jump onto studios and start work right away during the pandemic

Studios aligned with competencies & more studio choices than ever!

Mentoring relationships

School-wide celebrations

Teachers investing in the why

What is next?

Using Slate more! More data in dashboards

Slate: New competencies, studios, and ratings

How do we convey the message Portfolio = credit?

Tracking ratings consistently to fill up portfolios

Sessions with teachers



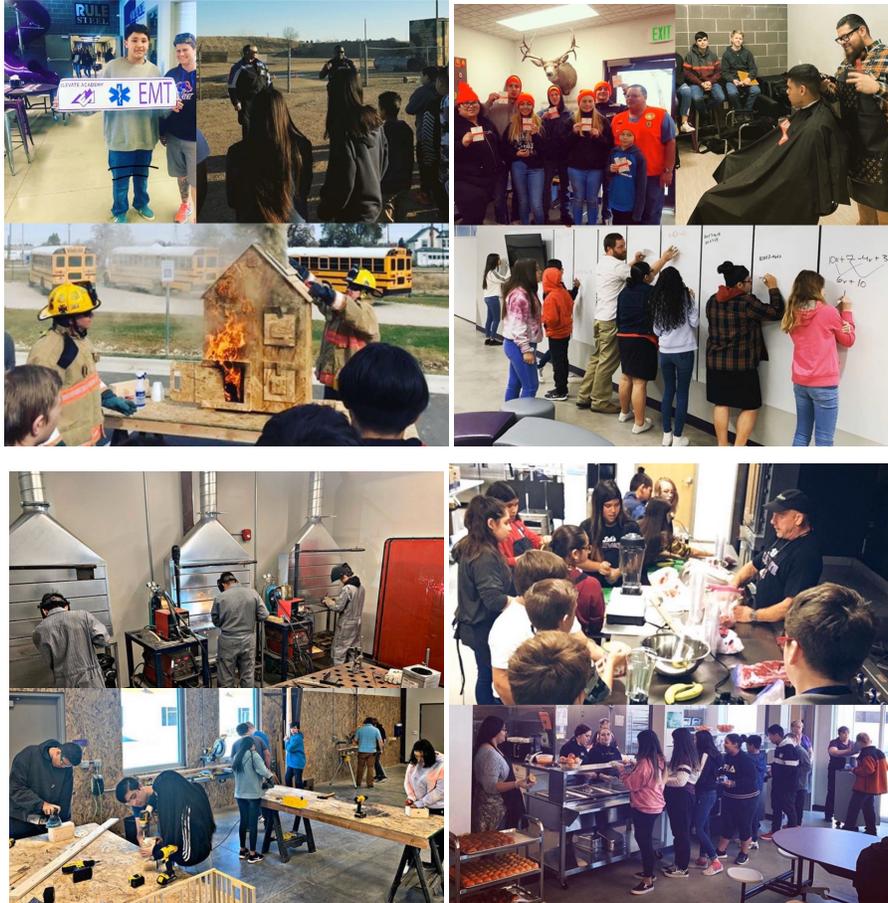
ACTION RESEARCH
6TH-12TH LEARNING PROGRESSION
CTE & CORE STANDARDS

STEP 1: MAP PROBLEM	SET FOCUS
<p>Idaho Career and Technical Education (CTE) Standards are written as general program standards and are lacking a clear progression for 6th-12th CTE Pathways.</p> <p>Elevate Academy is a free public charter school of choice for students who qualify as at risk, according to the State of Idaho's criteria, and are not finding success in a traditional education setting. Elevate Academy's mastery-based program is designed to align industry work with core academic subjects so that students will find purpose behind everything that is learned in the classroom.</p> <p>Having a crosswalk for CTE offerings and core academic subjects in the form of a</p>	<p>The culture of Elevate Academy and the expectations in academic areas in the classroom, will be based on the Workforce Readiness Standards. In addition to industry certification, all students will be expected to graduate from Elevate Academy with their Workforce Readiness Certificate.</p> <p>Elevate Academy opened in the 2019-2020 school year with 320 students (67% Hispanic, 30% White, and 3% Other) and a staff of 40 (core teachers, CTE teachers, support staff). Elevate Academy provides free meals for all students, as 80% qualify for free/reduced.</p>

<p>6th-12th learning progression will provide Elevate Academy students, families, and staff with a needed tool to determine relevant connections, learning growth, and mastery of essential skills.</p>	<p>For the 2020-2021 school year, we will have 44 students in the 6th grade class. The 7th and 8th grade classes will be 66 students. The 9th, 10th, 11th grade classes will have 78 students. Elevate Academy will eventually carry 462 students. Our staff size allows for a 17:1 student/teacher ratio and provides opportunity to personalize and offer needed support for each student.</p>
<p>STEP 2: FUNDS OF KNOWLEDGE</p>	<p>CLARIFY YOUR THEORY</p>
<p>Elevate Academy offers both production and service CTE Pathways.</p> <p>CTE Production Pathways: Welding and Manufacturing, Construction, Culinary Arts, and Graphic Arts.</p> <p>CTE Service Pathways: Medical Arts, Criminal Justice, Firefighting (Land and Civic) and Business/Marketing.</p>	<p>The expectation at Elevate Academy is for all students to earn two Industry Certificates, along with their High School Diploma upon graduation, therefore the 6-12th grade CTE Program Standards and 6th-12th Idaho Content Standards will be aligned and incorporated into the hands-on learning opportunities for students. Resources and support will be offered to ensure mastery of these essential standards.</p>

STEP 3: TURN PROBLEM INTO A QUESTION

What resource can serve as a 6th-12th grade learning progression that aligns CTE pathways (offered at Elevate Academy) and Idaho Content Standards?



STEP 4: GATHER DATA

RESOURCES

<https://cte.idaho.gov/>

<https://cte.idaho.gov/assignment-manual-course-codes/>

<https://www.sde.idaho.gov/academic/standards/>

<https://nextsteps.idaho.gov/program-focus/education-ca>

[reer-pathways/](#)

<https://sites.google.com/view/idaho-mastery-education/building-a-shared-vision/vision-for-a-k-12-graduate>

STEP 5: SORT AND ANALYZE DATA

[Elevate Academy - CTE Pathways](#)

We spent a lot of time navigating the above websites in order to bring clarity to the Idaho CTE and State Content Standards requirements. We found some outdated resources, and some that didn't align. After reaching out to SDE staff, studying Idaho Statute and IDAPA, we were able to begin alignment and create the 6th-12th learning progressions, specific to Elevate Academy's CTE offerings. Elevate Academy's 6th-12th Learning Progressions

STEP 6: TELL THE STORY OF YOUR RESEARCH

Elevate Academy Middle School CTE Pathways

CTE Program Area	Elevate CTE Pathways	Science/Social Studies	6th Grade	7th Grade	8th Grade
Business Management & Marketing	Marketing	Social Studies	Computer Applications	Computer Applications	Computer Applications
Public Safety Education	Criminal Justice	Social Studies	6th Grade Criminal Justice	7th Grade Criminal Justice	8th Grade Criminal Justice
Skilled & Technical Sciences	Construction	Science	6th Grade Construction	7th Grade Construction	8th Grade Construction
Family & Consumer Sciences	Culinary Arts	Science	6th Grade Culinary Arts	7th Grade Culinary Arts	8th Grade Culinary Arts
Public Safety Education	Firefighting	Science	6th Grade Fire Science	7th Grade Fire Science	8th Grade Fire Science
Engineering Technology Education	Graphic Arts	Social Studies	6th Grade Graphic Arts	7th Grade Graphic Arts	8th Grade Graphic Arts
Skilled & Technical Sciences	Manufacturing - Welding	Social Studies	6th Grade Manufacturing	7th Grade Manufacturing	8th Grade Manufacturing
Health Professions	Medical Arts	Science	6th Grade Medical Arts	7th Grade Medical Arts	8th Grade Medical Arts
Skilled & Technical Sciences	Precision Machining	Science	6th Grade Precision Machining	7th Grade Precision Machining	8th Grade Precision Machining

Elevate Academy High School CTE Pathways

CTE Program Area	Elevate CTE Pathways	Science/Social Studies	9th Grade	10th Grade	11th Grade	12th Grade
Business Management & Marketing	Marketing	Social Studies	Business Computer Applications	Business Essentials	Marketing Economics	Business Marketing/School Based Enterprise
Public Safety Education	Criminal Justice	Social Studies	Orientation (10 wk)	Orientation (10 wk)	Law Enforcement, Detention Correction (40 wk)	Law Enforcement, Detention, Correction II (40 wk)
Skilled & Technical Sciences	Construction	Science	Residential A Level 1 (10 wk)	Residential B Level 1 (10 wk)	Residential II (3 wk), Residential 1 (10 wk)	Residential III (40 wk) - SRB
Family & Consumer Sciences	Culinary Arts	Science	Nutrition and Foods	Nutrition and Foods	Introduction to Culinary Arts - Food Program Management	Advanced Culinary Arts - SRB
Public Safety Education	Firefighting	Science	Orientation (10 wk)	Orientation (10 wk)	Essentials of Fire	Fire Fighting II
Engineering Technology Education	Graphic Arts	Social Studies	Media Technology Fundamentals A (10 wk)	Media Technology Fundamentals B (10 wk)	Graphic Communications I (20 wk) Graphic Communications II (20 wk)	Graphic Communications III- SRB
Skilled & Technical Sciences	Manufacturing - Welding	Social Studies	Welding Level 1A	Welding Level 1B	Welding Level 1C (10 wk) Welding II (30 wks)	Welding III (40 wks) - SRB
Health Professions	Medical Arts	Science	Fundamental Health	Fundamental Health (2 - 10 wk blocks) Mid-Term (1 block)	A & P (11th grade) Medical Terminology	Emergency Medical Technician- Capstone
Skilled & Technical Sciences	Precision Machining	Science	Precision Machining Level 1A	Precision Machining Level 1B	Precision Machining Level 2	Precision Machining Level 3

The visuals above show the 6th-12th CTE pathways for Elevate Academy. Each CTE Pathway has a live Google Spreadsheet that CTE teachers and Core Standards teachers are using to map out learning opportunities and projects. Having a resource, like the above, that shows the overarching expectations helps grade level teams to determine levels of mastery for all required standards. Required standards are student-facing and displayed in their Learning Management System, LIFT.

STEP 7: TAKE INFORMED ACTION AND ASK NEXT QUESTION

As Elevate Academy is mastery-based, opportunity and community driven, career tech focus, with an integrated purpose driven curriculum the 6th-12th grade CTE/Core Standards Learning Progression will provide the needed crosswalk to support our team with focusing on how to measure and provide feedback for individual student growth.

Elevate Academy's 2019-2020 Action Research has provided a 6th-12th grade learning progression that aligns with CTE pathways and Idaho Content Standards. Our next question will involve how we provide feedback and offer support along this learning progression.

Contact Information

Monica White

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208-779-4086

Fremont Middle School

IMEN Site: Fremont Middle School

District: Kuna

School Setting: Traditional

Grade levels served: 6th - 8th

Number of students: 564

Number of teachers: 31

Phase of Mastery: PLAN AND DESIGN (Phase 2)

Lead or key contacts: Deb McGrath dmcgrath@kunaschools.org and Tim Jensen tjensen@kunaschools.org

Title: *Mastery Education at Fremont Middle School*

Demographics or Background information/ Setting: Middle School setting, in a team format. Each team and department have taken on different levels of mastery.

Purpose of our Action Research and Research Question(s): The goal this year was to explore how student agency and ownership of the learning affect student achievement, specifically math ISAT scores. Given the impact of COVID-19, we have shifted to still exploring how student agency and ownership may be impacting the learning. Our study has ended up asking: *Are the different ways we are implementing mastery learning strategies meeting the needs of individual students?*

Project Activities: Our data was gathered in two ways: **First (quantitative)** pre and post fraction assessment data for FMS students was collected. In the winter, it was collected on paper in math class. In May, an online post-assessment was given to students who took it at a home (or other non-school) environment. Students were asked to NOT use other people, the internet or other sources for “help” on the assessment. **Second (qualitative)**, specific students were interviewed about their thoughts about instruction and mastery at FMS.

Data Sample: Study participants included all students in grade 7 who were engaged in the online activities for Phase 2 of at-home learning during the soft closure for COVID, and selected representative students in grades 6th - 8th who chose to participate in interviews with teachers. (Non-random sample.)

Key Measures:

- Fractions pre/ post assessment:
- Spreadsheet of activity engaged students during Phase 2 (recommended learning phase)
- Student interview questions

Outcomes or Findings:

Summary of pre/post data

[Fremont Final Presentation \(last page for post analysis\)](#)

Summary of interview data

Sixth, seventh, and eighth grade students from multiple teams within Fremont Middle School were asked three questions: 1) How are you learning and what have you learned about yourself as a learner? 2) When you work with your teachers to meet standards, what does this look like? and 3) Do you feel like your experience with learning this year has been the same as your other classmates? What do you wish you had access to?

After interviewing the students from three grade levels and multiple teams, we have come to the following conclusions:

-
- Mastery learning allows students the opportunity to figure out what type of learner they are. Learning takes all shapes and forms so students during the interviews were able to bring up that learning visually or auditorily was helpful or not, as well as working within groups and being involved in discussions was helpful.
 - Students appreciated being able to “redo” or attempt learning the standard a second or third time. All students voiced that they understood how to check grades and knew that they could try again to meet the standard of learning. It was evident that student empowerment and student choice was strong.
 - The students felt that not all learning experiences were the same for themselves or others depending on the class or standards learned. Some students required more time to learn, or didn’t need the time and could teach others, while others just needed to learn a different way. Almost all students mentioned that they wanted more access to “Check-ins” with their teachers during learning and definitely before summative assessment. These findings allowed us to find further focus points of exploration for our next year working as a Mastery Lab School.

Initial Point

IMEN Site: Initial Point

District: Kuna

School Setting: Alternative

Grade levels served: 09-12

Number of students: 113

Number of teachers: 5.5

Phase of Mastery: PLAN AND DESIGN (Phase 2)

Lead or key contact: Jason Reddy (Principal) jjreddy@kunaschools.org

Demographics or Background information/ Setting: Initial Point is an alternative school serving students in the Kuna School District. Recently there has been significant, and frequent, changes in the leadership of the school. Since May of 2018 six different individuals have been in the leadership role. Therefore, the work this year from the current Principal has focused on establishing relationships and building trust.

The demographics of the school are mostly caucasian students. IPHS has 43% of its students on the Free and Reduced lunch program. As an alternative school students must meet certain criteria to enroll at IPHS. A majority of the students enrolling at IPHS cite anxiety and depression as a primary reason for seeking enrollment in the school. Often student struggles are remedied by a smaller environment and strong relationships with staff.

Purpose of our Action Research and Research Question(s): The goal this year was to explore student agency and ownership for learning by examining our use of proficiency scales in grading. It was a journey of discovery as I was a new principal this year to Initial Point. Our study has ended up being fruitful by asking:

- What is the journey mastery has taken at Initial Point and what have we learned about our grading practices with our population that might help others planning to implement mastery in their school?

Project Activities:

- Establishing staff and PLC norms
- Setting the stage with students for a strong advisory model
 - Our whole staff toured Union High School to learn more about this model and how it could work at IPHS.
- Determining Essential Standards for all 9-12 courses.
 - This was a significant challenge due to some confusion about what work had already been done at the district level.
- Writing proficiency scales for all courses.
 - Our original goal was to have proficiency scale drafts written for half of the courses taught at IPHS by the end of the year. Due to COVID, our team decided to use the extra time to extend the goal and writing proficiency scales for all of our courses.

Data Sample: Study participants included all teachers and administrators (n=5).

Key Measures: Interviews, discussions, reflective writing, Zoom meetings, videos, and observations, bi-weekly meetings called “Mecca of Mastery Monday Meetings”.

Outcomes or Findings:

Doug Reeves states, “If you want to make just one change that would immediately reduce student failure rates, then the most effective place to start would be challenging prevailing grading practices.” This is the area of focus we chose to engage in this work.

To challenge prevailing grading practices, we used the High Reliability Schools model from the Marzano institute; focusing on Level 3 of establishing a “Guaranteed and Viable Curriculum”, we learned that a significant investment in cultivating a strong understanding of this research must begin with staff.

Therefore, we spend our first few months establishing a collective understanding of the vocabulary associated with competency based education and PLC’s. We looked at several models of essential standards, proficiency scales, and unit plans. Throughout this learning process we anchored our focus on the culminating work of Heflebower et al. (2019) *A Teacher’s Guide to Standards Based Grading*.

Our next step was to begin determining our essential standards in order to start writing proficiency scales. This is where the work got confusing.

In previous years the school district worked on determining essential standards but the work was disjointed and confusing. We realized we needed to start by determining our essential standards for each content area and course. Since IPHS is a small school we only have one teacher per content area. Since Dufor and others recommend using a team of people to determine essential standards we didn’t feel it viable to start there with such a small staff.

We decided to pivot in our approach. Our goal was to begin writing proficiency scales so that we could make the learning journey more clear for students. Research tells us this approach will increase student agency for learning. Our problem was the essential standards hurdle. Our solution was to have teachers simply start writing proficiency scales for what they already teach; knowing that we can come back and revise our proficiency scales at a later date when the other secondary teachers in the district are ready to focus on determining what standards are essential.

Meadows Valley

IMEN Site: Meadows Valley School - New Meadows, ID

District: Meadows Valley School District

School Setting: Public

Grade levels served: PK-12

Number of students: 160

Number of teachers: 20

Phase of Mastery: Implementation

Lead or key contact: Dee Fredrickson

Title: Does Strategic Advisory With Mentoring Improve Student Engagement?

Demographics or Background information/ Setting: Meadows Valley School is a pre-kindergarten through 12th grade, all inclusive school. We are set in rural central Idaho in the small town of New Meadows. We are a Title One school in our 4th year of our evolution to a Mastery-based education model. We utilize Summit Learning as a tracking and resource platform to enable personalized instruction and belong to the Place Based Network which has encouraged us to connect the school environment to the community and beyond through an emphasis on Project Based Learning.

Purpose of our Action Research and Research Question(s): The goal this year was to explore the connection between building strong relationships and student engagement. Specifically, we wanted to investigate the relationship between advisory and mentoring and student engagement. We are hoping that through strong relationships, students will better understand their role as independent learners to become well rounded career and college ready successful citizens. Our question is "Have we built better relationships through intentional advisory and mentoring and have these relationships increased student self-efficacy and engagement?"

Project Activities: We started advisory four years ago and have become more intentional in each year since. We started having one-on-one mentoring sessions with mentees from our advisory classes three years ago when we adopted our tracking platform. We added MAP testing in the middle of the academic year four years ago and had already been administering ISATs (K-8th, 10th grades) and tracking early graduations. Our formal behavior tracking system was implemented for 2019-2020.

We first needed to find out whether our advisory and mentoring, and other intentional relationship building efforts had, in fact, resulted in more and better relationships. Our key indicator of our success in relationship building was data from surveys taken at different times over the last four years.

Our most recent survey was created specifically to answer the question "have we built more and better relationships amongst students and adults at the school?" We created this survey to align with the Panorama surveys our school has participated in over the last several years. We modified many of the survey questions to more "kid friendly" vocabulary and, as such, determined that we would have elementary (3rd through 5th), and secondary (6th-12th), as well as staff versions of the survey.

Ultimately, we can use this same survey year after year to obtain *quantitative* data. Since this year has been the first for this exact survey, however, we used Panorama and State Survey data from previous years to obtain more *qualitative* indications of our success in building relationships.

Data Sample:

Link to Elementary Survey Results: <https://bit.ly/3c6dgMr>

Link to Secondary Survey Results: <https://bit.ly/36D3ksE>

Link to newspaper article on our remote success: [Learning Swerve](#)

Key Measures:

Parameter: Stronger relationships

Key Measure: Student and staff survey results, behavior referral data.

Parameter: Student Engagement

Key Measures: Academic success through ISATs, MAP Tests, early graduations,

Outcomes or Findings: Over the course of our Mastery evolution, we have seen our academic success increase as measured by ISATs, growth through percentile bands in MAP Tests, and more students graduating early.

Our survey findings indicate that we have actually been successful in building better relationships with our students through intentional time allotment, curriculum, and schedules, for advisory and mentoring. In addition, these better relationships are reflected in decreases in behavioral issues and improved attendance.

Coincidentally, our recent experience with moving to a remote learning model supports a positive change students have made for a higher level of self-efficacy and student engagement. With the good fortune of already having a tracking and resource platform in place, we not only continued our academic classes, but also our advisory and mentoring. Most important to our success in our remote learning experience, we found that we had the key ingredient of students valuing and WANTING to “finish their work”. Because of the changes we have been making in our evolution to a Mastery-based model, we only lost 4 instructional days, and students were highly engaged and confident in working as part of our whole school community in finishing the school year successfully.

Although our results are mostly qualitative this year, we have concluded that there is a positive correlation between mentoring/advisory and student engagement and we plan to continue with them. We feel that advisory /mentoring has built better relationships, which have promoted self-efficacy and student engagement , which are reflected in our improved academic and behavioral indicators.



Discipline, Accountability, and Structure in a Mastery Based System

A long, strange trip through Mastery Based Education in Middleton, Idaho.

As a Cohort 1 school we have become proficient at the art of reinvention.

Here are just some of the experiences we have had...



MIDDLETON ACADEMY



Middleton Academy

Issues of Concern: Inability to differentiate for all students when reading comprehension levels are well below grade level (especially in an at-risk, alternative high school setting). MAP data illustrated below grade level reading ability. Students struggled with independent practice and self-pacing due to large gaps in their foundational skills.

Action Research Question: Addressing fundamental student skill deficits, how can we integrate guided instruction in a highly structured environment within a competency based education program?



Middleton Academy

Course of Action: Implement a Guided Instruction Model

Here is a list of the changes we plan to make to our program:

1. Core subjects will be scaffolded with Tier 2 interventions connected to the course's 2nd hour of instruction. Each core class will have an intervention portion of the class where paraprofessionals will push-in to work with small groups of struggling students to reach our mastery competencies.
2. Each course/credit will take 6 weeks (the school year will be divided into 6 blocks of 6 week courses) to add a start- and stop-date for organizational and structural needs. Students will not complete a course early and then start on another credit. They also will not complete multiple courses in the same class at the same time. When we have students that are advanced, teachers will use proficiency rubrics to spiral their curriculum into more depth for higher levels of student achievement. Teachers will differentiate by spiraling into more depth with advanced students and not just increasing the rate of course completion.



Middleton Academy

3. Attendance is a requirement to earn credit. We will follow our district attendance policy (students that miss too many days in one 6-week instructional block will be able to take the course again in the next block).
4. Guided Instruction: Teachers will create whole-class Daily Objective(s) and communicate how they plan to assess that objective on their whiteboard. This is part of their teacher evaluation criteria (Danielson's evaluation criteria our state has adopted).
 - a. Differentiation needs to come from direct instruction using Marzano-style research-based achievement rubrics. A teacher that is guiding a whole group through a foundational skill (clustered standard) would use student rubrics to differentiate the levels of proficiency each student would need to demonstrate in order to reach an acceptable level of competency.
5. Students will participate in whole-class, guided instruction. Students will not be using individualized curriculum programs on a laptop in place of daily prepared lesson plans (a lesson plan that factors in the Foundational Standards and daily assessments to gauge for student growth).
6. Limit the amount of Group Work and Independent Practice time to small guided/managed chunks (guided instruction).



Who do we define Guided Instruction?

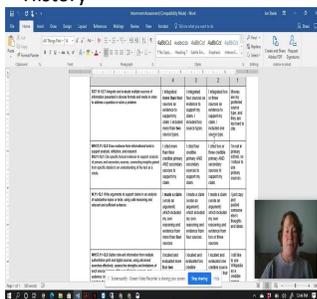
Guided Instruction at Middleton Academy is the process whereby teachers explicitly guide instruction as students participate.

In this model, we are able to observe student engagement, provide students with timely feedback, and then use formative assessments to differentiate learning opportunities.

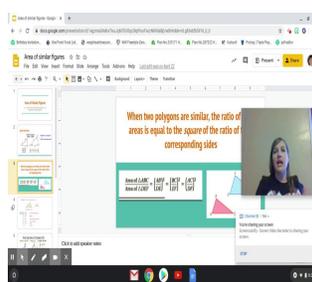


Integrating Guided Instruction into our Mastery Education Program:

History



Math



Science



MASTERY CONFERENCE 2020



Middleton Academy

Does Scheduling Matter?

At Middleton Academy we would say that the core to a good Mastery Based program is the schedule.

On the next slides we have illustrated the different schedules from the last two years and following these is an analysis of the positive impact that direct instruction has had on our At-Risk student population.

MASTERY CONFERENCE 2020



Middleton Academy

2018-2019 Schedule: 9 weeks with two teachers in most classes. Class was 60 minutes, days were flipped for teachers and Wednesday was all electives.

https://docs.google.com/spreadsheets/d/1bhNIBASFZLXwOkKqxTcw-XWuOCHrGR_i5le5RmxVtdY/edit#gid=0

Monday	Owens	Ross	Hershey	Smith	Steele	Diffey	Lawson	Wade
8:15-9:00	Advisory	Advisory	Advisory	Advisory	Advisory	Advisory	Advisory	
9:00-10:00		Prep		Open English w/Hershey	open history w/Owens	Open	Open	
10:00-11:00		English 10 w/Owens		Prep	open history w/Hershey	Open	Open	
11:00-12:05	Prep	English 11 w/Hershey		ENG 12 / SENIOR PROJ	open history w/Lawson	Prog History		
12:05-12:35	LUNCH	LUNCH	LUNCH	LUNCH	LUNCH	LUNCH	LUNCH	
12:35-1:00	Advisory	Advisory	Advisory	Advisory	Advisory	Advisory	Advisory	
1:00-2:00		Speech w/Owens		Open English w/Hershey	Prep	Prog English	Open	
2:00-3:00		Eng 9-12 w/Owens	Prep	Open English w/Lawson	open history	Prep		
3:00-3:10	Advisory	Advisory	Advisory	Advisory	Advisory	Advisory	Advisory	
Tuesday	Owens	Ross	Hershey	Smith	Steele	Diffey	Lawson	Wade
8:15-9:00	Advisory	Advisory	Advisory	Advisory	Advisory	Advisory	Advisory	
9:00-10:00	Geom w/Steele	Prep	Biology w/Smith			Open	Open	
10:00-11:00	Alg A w/Steele		Open science with Ross	Prep		Open	Open	
11:00-12:05	Prep		Earth and Elective Science w/Ross	SENIOR PROJECT	Open	Prog Math	Open	
12:05-12:35	LUNCH	LUNCH	LUNCH	LUNCH	LUNCH	LUNCH	LUNCH	LUNCH
12:35-1:00	Advisory	Advisory	Advisory	Advisory	Advisory	Advisory	Advisory	
1:00-2:00	Alg B w/Ross		Biology w/Smith		Prep	Prog Science	Open	
2:00-3:00	Cons. Math w/Steele	open	Prep	open		Prep	Open	
3:00-3:10	Advisory	Advisory	Advisory	Advisory	Advisory	Advisory	Advisory	

MASTERY CONFERENCE 2020



Middleton Academy

2019-2020 Schedule: 6 week blocks with 45 minutes of core instruction and 45 minutes of intervention with Paraprofessionals rotating in classrooms and a dedicated ISS room.

https://docs.google.com/spreadsheets/d/1QPhlDlodoJhLwP196inj46AuoHpxvnZ_J52Uq0LOBns/edit#gid=0

8 Blocks - Per School Year (6 weeks each)	April 6th - May 22nd	Block #1: August 18th - September 27th	Block #2: September 28th - November 8th	Block #3: November 11th - December 20th	Block #4: January 6th - February 14th	Block #5: February 18th - April 3rd	Block #6: April 6th - May 22nd		
Block #6 (6 Weeks)	April 6th - May 22nd								
Block #5 (6 Weeks)	April 6th - May 22nd	St. George	Hensley	Starks	Simpson	Ross	Smith	Q	Drifby
Core Instruction	7:45-8:45	Prep	Prep	Prep	Prep	Prep	Prep	2nd Hour Class	Prep
Period 1	9:00-9:45	Math 2 - Geometry B	Earth Science B	Social Studies - World History (through Firm)	Progressive Math - Applied Math - Elective	E.A. - English 11a	E.A. - English 1a	Health	SPED
Period 2	9:50-10:35	Math 2 - Geometry B - Core Intervention	Earth Science B - Foundational Skills (years)	Social Studies - World History (through Firm) - Foundational Skills	Math - Applied Math - Elective - Foundational Skills (years)	E.A. 11a - Foundational Skills (years)	E.A. - English 1a - Foundational Skills (years)	Health - Online w/Prep	SPED
Period 3	10:45-11:30	Progressive Math - Applied Math - Elective	Conceptual Chemistry B	Social Studies - Economics	Math 2 - Geometry A	Math 2 - Geometry A	Math 2 - Geometry A	P.E.	SPED
Period 4	11:35-12:15	Math - Progressive Math - Elective - Core Intervention	Conceptual Chemistry B - Foundational Skills (years)	Social Studies - Economics - Foundational Skills	Math 2 - Geometry A - Foundational Skills (years)	Math 2 - Geometry A - Foundational Skills (years)	E.A. - English 11a - Foundational Skills (years)	P.E. - Online w/Prep	SPED
	12:15-12:45	LUNCH	LUNCH	LUNCH	LUNCH	LUNCH	LUNCH	LUNCH	LUNCH
Period 5	1:20-1:45	Math 1 - Algebra 1b	Ecology B	Social Studies - U.S. History 2a	Consumer Math B		E.A. - English 1a		Social Studies - U.S. History 1a
Period 6	1:45-2:30	Math 1 - Algebra 1a - Core Intervention	Ecology B - Foundational Skills (years)	Social Studies - U.S. History 2a - Foundational Skills	Consumer Math B - Foundational Skills		E.A. - English 1a - Foundational Skills (years)		Social Studies - U.S. History 1a - Foundational Skills
Period 7	2:35-3:05	Frederick A. Advisory - Foundational Skills - Core Intervention	Bioprocess Advisory - Emotional Intelligence Class	Junior Advisory - Emotional Intelligence Class	Junior Advisory - Emotional Intelligence Class		Senior Advisory - Emotional Intelligence Class (Priority - Early Release)		SPED - Advisory (Support)

MASTERY CONFERENCE 2020



Middleton Academy

Tangible Impact of Guided Instruction:

School Year	2017/18	2018/19	2019/20
Total Credits Earned	911	512	1,541
Number of Students that Graduated	16	10	43

This chart illustrates two of the major changes that came about as a result of guided instruction and we look forward to eclipsing these numbers next year!

MASTERY CONFERENCE 2020



Middleton Academy

The final four slides detail a few notable highlights from our journey thus far.

We, the students and staff at Middleton Academy have made great strides through Mastery Based Education and are very excited to continue on as we create new learning opportunities and engage in meaningful educational practices.



MASTERY CONFERENCE 2020



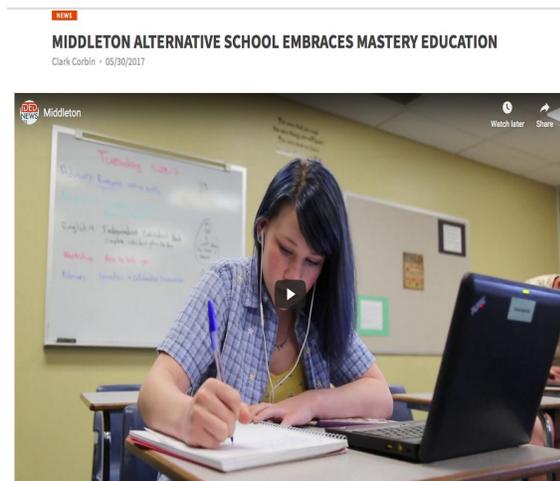
Middleton Academy

IDED News Article:

This video and article was a spotlight on what Middleton Academy was doing in 2017.

<https://www.idahoednews.org/news/middleton-alternative-school-embraces-mastery-education/>

The student pictured here will be entering her Sophomore year at Lewis and Clark State College in the Fall of 2020!





Midleton Academy

T.|Stout

Why Mastery Education Works for Me

Some of you may be asking, "Mastery Education? What's that?" Well, let me tell you what it does and how it works for students like me. I believe that the mastery education system is a great way for students to learn. As a new and fresh student to the mastery education system, I can give a clean perspective on this subject. I have already learned about the benefits this system brings students as they work and learn.

I am here today to tell you why and how this system, in my opinion, is the best way for students to learn and develop their education. When working, the students have to show what they know and that they have mastered the subject. When they understand and "master" that subject, they will be able to receive their credit. Another good reason is that the students get to decide what they work on during what day, what period, and for how long. It relieves the stress of going to the same classes everyday, perhaps even sitting through something the student has already learned. Some may argue that students will never get used to the system since it is such a huge change but I may argue otherwise. Students still are taught things of course, but with this system they will adjust quickly and only do what they need to, as quickly or slowly as they can.

2018 Student Letter:

This student letter gives us the student perspective on learning in a Mastery Based system.

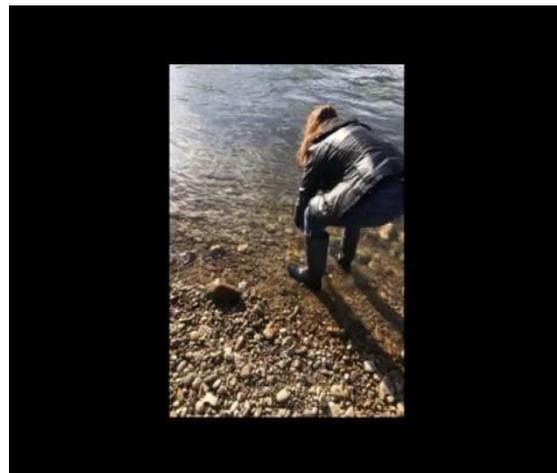
<https://docs.google.com/document/d/1KQI3Vt9HCZoxxFx8isZIT008UcaI9QMYxvOB1pq2sno/edit>



Middleton Academy

2019 IMEN Symposium:

This was a student driven project entitled "Boise River Project" which showcased experiential learning and made its debut at the Egyptian Theater in downtown Boise last June.





Middleton Academy

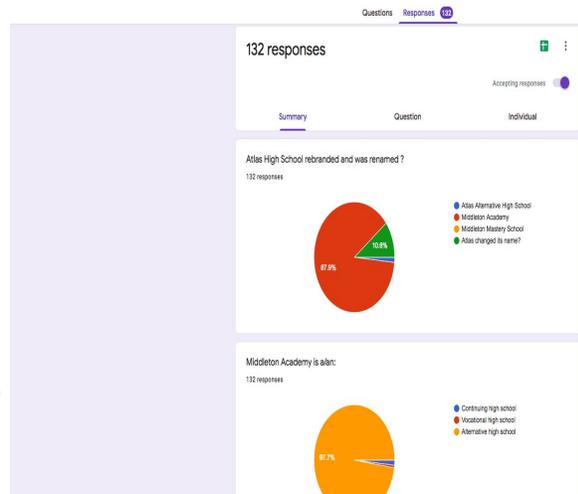
Middleton School District Survey:

MSD Survey Input on Alternative School

This survey was sent out to at the end of the 2019 school year to gauge district staff knowledge of our school.

We are currently creating new surveys for parents and other community stakeholders.

<https://docs.google.com/forms/d/1FgGqyG0GnYm7MKA17ydcvA9paISp2Me8gMf60lBneA4/edit>



Mt. Harrison Jr. High School

IMEN Site: Mt. Harrison Jr. High School

District: Minidoka

School Setting: Alternative

Grade levels served: 3

Number of students: 36

Number of teachers: 4

Phase of Mastery: EXPLORATION (Year 1)

Lead or key contact: Dyann Blood (Principal) dblood@minidokaschools.org

JOURNEY TO MASTERY: TEACHERS LED THE SHIFT

Demographics or Background information/ Setting:

Alternative school established in 2010

Our maximum enrollment is 45 (15 per grade level)

82% free and reduced lunch

23 Special Education students, 14 students on probation, 26 males, 10 females. We receive students from two traditional middle schools in our district.

29 Title 1A students

Purpose of our Action Research and Research Question(s): Our goal this year was to explore whether mastery education was going to be a good fit for our school or not. It was a journey of discovery and teachers led the shift. Our study has ended up being a self-study looking back on this past year and capturing what we have learned by asking:

What is the journey we took, and what could we share that might help others just starting out?

Project Activities: Teachers, administrator, and paraprofessionals all visited one or more of the following to experience firsthand various pros and cons of mastery education: 1) Meridian Academy, Columbia High School, Wilder, Rocky Mountain, Farmington High School (Utah), and Synergy/Fremont; 2) Attended IMEN Summer and Fall Conferences; and 3) Nashville Middle School Conference (AMLE). We then set out to experiment with mastery in our own classrooms and school over the course of the year. We learned there is not one program or platform for “mastery”, instead you have to build it to fit your student needs and your school culture. During the second trimester we tried things we thought would work for us. Some things worked, some things did not. At the end of the year, even with COVID-19 and the closures most of us are enjoying teaching more than before. It has shifted the learning in our school and we love it. It took time to find the right platforms. We discovered an add-on to Powerschool from a school district in Oregon that allows our grading rubrics and standards to interface easily with our district’s Powerschool structure. This was very helpful for ISEE, transfers between schools, etc.

Data Sample: Study participants included all teachers and administrators (n=5).

Key Measures: Interviews, discussions, reflective writing, Zoom meetings, videos, and observations.

Outcomes or Findings: 80% of the sample population is excited by the change and it has been positive.

Mastery is a great fit for us and we are looking forward to next year; however, it is not for everyone.

Unfortunately, one of our staff members is leaving our school because a traditional setting is a better fit for them.

North Valley Academy

IMEN Site: North Valley Academy

District: North Valley Academy

School Setting: Public Charter

Grade levels served: K-12

Number of students: 240

Number of teachers: 18

Phase of Mastery: Implementation (Phase 2)

Lead or key contact: Jeff Klamm – Principal – klammj@nvapatriots.us

Transition from College to Teaching – (Shift Mastery during COVID-19 emphasis on 4 – 6)

Demographics: We are a K – 12 public charter school. We bus students from surrounding towns that include Shoshone, Jerome, Wendell, Gooding, and Bliss. We have been using a mastery-based model in the 7 – 12 setting for the last four years and we are working to add this to our K – 6. It seems that often teachers are taught to teach to the middle, to the average and then differentiate and accommodate for those on either end. At North Valley Academy (NVA), we have found that we have a large group on both ends and very few in the middle. As new teachers join our school this has been one difficulty for them when it comes to teaching the whole class. Using the mastery model we hope to change this from a difficult situation to a situation that inspires teachers and brings them joy in leading students.

Purpose of our Action Research and Research Question(s): Our goal this year was to investigate how much theory of mastery-based education colleges and universities were teaching in order to prepare future teachers. This question came from the last four years of frustration. This frustration is due to having a brand-new teacher come into our school and having to educate them on what mastery is and how it might look in their classroom. We were feeling that new teachers were coming into the profession with little background in the theory of mastery. I spend the first part of the year developing a survey and talking with current staff to learn what background they had in the theories of mastery before coming to NVA. We were in partnership with American Heritage Charter School in Idaho Falls. This partnership will allow us to cover a broad area of colleges and universities

*We have been using a mastery model with students in grades 7 – 12 for the last four or five years. This year we began the journey to incorporate mastery in grades K – 6. When COVID-19 changed how the rest of our school year functioned we decided to push ahead with grades 4 – 6. Our 4 – 6 team moved their curriculum online to our learning management system. We currently use BUZZ from IDLA as our learning management system.

Project Activities: We have spent the year refining our mastery curriculum at the secondary levels. We hope to add the IMEN competencies in the future. We focused on how to evolve the program to include grades K – 6 and had a special emphasis on 4 – 6 in the last part of the year. We hope to move forward with our original idea of evaluating what higher education is teaching future teachers and in turn constructing a guidebook to mastery for brand new teachers.

Data Sample: Our data sample includes all teachers K – 12 this year, our secondary students were part of one group of data and lastly our students 4 – 6.

Key Measures: Interviews with teachers, data from students groups in terms of activity and success rates.

Outcomes and Findings: Throughout the interviews with staff there was a consistent thread when it comes to their knowledge of mastery before coming to NVA and the IMEN group. The was clear across the board with experienced teachers as well as brand new teachers. This common thread is included in both teachers that have gone through a traditional route to obtain a teacher certification as well as those who did it in an alternate route. This common idea has led us to our goal for the next year. That goal is to create a guidebook for our new employees.

The second set of findings we had was how mastery factored in during our change in education due to COVID-19. As NVA provided every student with a device and a Verizon hotspot for internet we knew at that time that all students did have access. It was time to see how mastery did in this environment. To give a little background, for our secondary students we hosted regular class lecture at their normal class time and then open teacher hours to receive help. Our lectures were posted in the learning management system and we removed major due dates, but left a structure of suggested due dates to keep on pace. Students logged their time each day and what they accomplished. If students did not attend their class lectures or record their time log the teachers and the office called home to see how we could help or what was going on. We did have students working full time jobs to help with expenses for their families which resulted in students working on school work during a non-traditional school time. With the senior class we had 100% of students that did as well or better than when they are in the school building each day. With the junior class we experienced 90% (9 of 10) of students doing as well or better than when they were in the school building each day. With the sophomore class we experienced 75% (6 of 8) of students doing as well or better than when they were in the school building each day. With grades 7 through 9 we experienced about 60% of students doing as well or better than when they were in the school building each day. We found that grades 7 through 9 need more structure, more coaching, more mentoring, and more follow through. We started with a blended learning structure and mastery based classroom system using our learning management system for grades 4 through 6 and we did have mixed results.

IMEN Site: Notus Elementary
District: Notus
School Setting: Elementary
Grade levels served: K-6
Number of students: 197
Number of teachers: 15
Phase of Mastery: Implementation
Lead or key contact: Jen Wright

Title: Parent Perceptions on Mastery Based Education

Demographics or Background information/ Setting:

Notus Elementary has been a member of IMEN since its inception. In the 2018-19 school year, we created math competencies and moved to standards based grading in math, music, and PE. In the 2019-20 school year, we created ELA competencies and added ELA to standards based grading.

Purpose of our Action Research and Research Question(s):

Project Activities: The team wanted to know the parent perception and understandings of the shift to standards based grading. We began by sending out an online pre-survey to gain initial understanding and perception. From that information, we created a presentation for our teachers to present at the February parent/teacher conferences. To follow up, we gave an online post-survey to parents to track changes in understanding and perception.

Data Sample: Pre-Survey conducted in January, before parent teacher conferences there were 18 parents that completed the survey. The survey was sent out on two different platforms from the principal. Post-Survey conducted after parent teacher conferences and during COVID19 in April, 14 parents completed the survey. The survey was sent out on two different platforms from the principal. The principal also specifically emailed the pre-survey parents to ensure pre and post data. However, only 4 parents completed pre and post survey.

Key Measures: Online pre and post survey

Outcomes or Findings: Parent participation in the online survey was minimal. Thirty-five percent of parents who answered the survey did not notice a change in the grading system. Sixty-four percent did not increase the frequency in which they checked their student's progress. Seventy-eight percent of students were able to explain their progress to their parents. Forty-three percent of the students represented participated in additional learning opportunities when standards were not met. Furthermore, the post survey data is skewed due to nonalignment of study participants completing both surveys.

Overall, our parents were not as concerned with the change to standards based grading as we thought they might. Efforts to communicate and educate via newsletter, parent brochure, emails, and face-to-face presentations may have answered many questions. It is possible, however, that parents are not as engaged as we would hope. As a positive side-note, students are more able to explain their progress and are becoming more engaged in goal setting and learning. The IMEN team will also utilize survey data to guide IMEN goals for 2020-2021 along with explicit communication with parents.

Salmon Jr./ Sr. High School

IMEN Site: Salmon Jr/Sr High School

District: Salmon #291

School Setting: Middle School and High School

Grade levels served: 6-12

Number of students: 438

Number of teachers: 27

Phase of Mastery: Implementation—Year 4

Lead or key contact: Tracy Burgess—Co-leader of Salmon Mastery Team

tracy.burgess@salmon291.org

JOURNEY TO MASTERY: TEACHERS LED THE SHIFT

Demographics or Background information/ Setting: Salmon is a very remote location. We are 150 miles away from a larger town anyway you travel. We have a large population of our students that are part of the free/reduced lunch program and have very little support at home for education. Because of these factors, we wanted to try something different to help these students rise above and get to college or trade school. Ultimately, our goal is for our students to become critical thinkers via metacognition that conferencing naturally supports, and apply it to their everyday lives.

Purpose of our Action Research and Research Question(s):

1. Provide two professional development days for teachers focusing on conferencing with students
2. Continuing to support the ‘Culture of Revision’
3. Provide tangible feedback for student growth in academic content as well as real-world skills
Incorporate conferencing, minimum twice a year, in the classroom: supporting phase two of our ‘Culture of Revision.’
4. Create a ‘method of operations’ for training purposes as an action research school.

Does conferencing and allowing students to revise work improve their attitudes toward school and learning?

Project Activities:

1. Professional development days are set for: November 15, 2019; March 13, 2019
**We will be focusing on incorporating conferencing with a performance task(s); provide options for conferencing in order to meet the needs of each subject area.
2. Teachers will continue to allow revisions on all assignments, performance tasks, and tests.
**This will be supported by our school-wide revision policy.
3. Teachers will show evidence of conferencing done one per semester.
4. Staff meetings every Wednesday morning: whole staff, PLC groups, department meetings/collaboration time
5. PLC will meet twice a month
6. Mastery team meetings, once or more a month, for planning and teacher support
7. Meeting with Administration: discussing, reviewing, and implementing MBE norms

Data Sample: Study participants included all teachers (27) and students (438).

Key Measures: Monthly SJSHS Mastery team meetings, tracking number of student revisions by each teacher, student attitude survey beginning and end of third quarter

Outcomes or Findings: Based on the data from our teachers, there were 696 total assignments possible from 41 total classes polled. These averages to about 17 assignments per class. The total number of revisions done in these classes was 1514, which averages to 36.9 revisions in each class. The total number of students in these classes was 897, which averages to 21.9. We do not have previous quarter's data to compare this to, but the teachers interviewed believe the number of revisions done by students has significantly increased over the past 2 years.

The student attitude survey given at the beginning of the 3rd quarter had a total of 6 questions that were rated by students on a scale from 1-5. 1 meaning strongly disagree and 5 meaning strongly agree. The questions were as follows: 1) I feel academically supported by the school; 2) I am willing to revise my work; 3) I revise my work; 4) My revision has improved my learning; 5) My revision has improved my GPA; and 6) Teachers are always willing to help me with revisions. There were 389 students that responded to the first survey. The results were averaged for each question. We found the following number data: 1) 3.84, 2) 4.08, 3) 3.77, 4) 3.89, 5) 3.93, and 6) 3.99. The survey was given to students at the end of the third quarter. The same questions were administered. There were 401 students that took the second survey. The average results were: 1) 3.87, 2) 4.06, 3) 3.63, 4) 3.84, 5) 3.88, and 6) 4.20. So we saw increases of .03 for #1 and .21 for #6. We also saw decrease of .02 for #2, .14 for #3, .05 for #4, and .05 for #5. One thing that has altered our data was sending the survey out after we went to soft closure for COVID-19. The students were seriously just trying to survive and get work done. They were not worried about revisions, but mostly just being able to get their classes finished. We believe the increase in #1 and #6 shows how hard the school and teachers have been working through this pandemic to continue students' learning. That is a huge positive that students see. We also look at the data of the number of revisions completed compared to the number of assignments given as a positive that our culture of revision is working. Students are putting in more effort and trying to improve their learning situation. In the end, that is all we can hope for, that our students want to be life-long learners.

Union High School

IMEN Site: Union High School

District: Nampa

School Setting: Alternative/Innovative

Grade levels served: 9-12

Number of students: 160

Number of teachers: 10

Phase of Mastery: Sustain and Scale (Phase 4)

Lead or key contact: Biff Hall bhall@union.nsd131.org

Title: Mastery of Quantitative Reasoning

Background information:

Union High School is a small, innovative, Big Picture Learning school serving at risk students. Each of our teachers works as an advisor with a group of the same 20 students over four years helping them to grow in all academic areas. Our approach to mastery of mathematical skills is a hybrid of skill practice, growth mindset, progress monitoring, reteaching, project based and real world learning approaches. We also have a math specialist who visits each classroom and offers office hours to students for additional math support.

Purpose of our Action Research and Research Question(s):

The purpose of our action research was to effectively use PLC to help students build their math skills.

Our research question was:

Can we significantly improve student math skills by focusing on effective use of the PLC four essential questions?

What do we expect our students to learn? (Goals/Expectations)

How will we know they are learning? (Assessment)

How will we respond when they don't learn? – Intervention.

How will we respond if they already know it? (gifted)

Project Activities:

Union Activities: PD with math manipulatives, growth mindset, switching classrooms with other teachers, bringing in PARA(completing math endorsement) to do mini lessons. Having math specialists do mini lessons and offer support. Having advisor, para and QR specialists do 1:1's with students in need. KHAN academy, math games online and board games, progress monitoring in STAR. Gaining students buy in to testing results by requiring growth in test scores in order to level up. Aligning skills practice to CWI outcomes and objectives. Working as a whole class through one unit in Fox Math together. Allowing students choice to work independently. Identifying skills gaps and grouping then teaching specific targeted intervention skills such as interpreting graphs/charts, fractions decimals, etc...

Mastery projects and activity summary by grade level:

101(Freshmen)- The 101's met and used a direct focus on growth mindset. This was delivered with some frontloaded direct instruction as well as structural change. Our QR (math) time was elongated to 45 minutes daily with several platforms being available allowing for student choice. Rob switched classes with Sarah and he taught writing (his wheelhouse) and Sarah came and helped students with math. We also played math bingo and created incentives for the top three students weekly in Prodigy.

201(Sophomore)- The 201's worked on scaling in their PLC. They used direct instruction, small group instruction, modelling, the Design Thinking process and group practice to improve the students ability in that skill. This PLC wanted students to demonstrate their learning with projects. Unfortunately the closure of school caught many students in the middle of their projects and made it difficult to get their projects completed.

301(Junior)-This year we used pre/post tests, direct instruction, small group instruction, video lessons, practice worksheets, one to one's and group practice to help students improve their QR skills and their understanding of fractions. Our goal was to improve students' performance on DOK levels 1-3 and we were successful in doing so. Before the school closure we were able to use our data to determine which students had mastered the concepts and which students needed additional remedial intervention. We also used Kahn SAT math practice and some kids took college math courses. Students also participated in pre-algebra math skills practice aligned with our local community college. Students ultimately had a choice as to which activities they participated in. Overall growth was measured by looking at test data from each source, including progress monitoring with STAR.

401(Senior)-The 401's used pre and post tests, direct instruction, small group instruction, modelling, one on one's and group practice to improve the students ability to utilize the 4 Depth of Knowledge levels surrounding graphs. Our goal was to increase the students proficiency of DOK level 3 skills from their starting percentage to 80%. We also wanted to increase their proficiency of DOK level 4 skills from their starting percentage to 40% of the class. We used pre tests to determine the students beginning skills. We did notice the level of proficiency for DOK level 3 skills did increase past 80% however the level 4 DOK skill progression didn't meet what we set out to achieve. Both Advisors decided to go back and reteach DOK level 4 skills specifically and only those skills. After the reteaching and retesting the students were able to surpass the 40% proficiency mark set by the Advisors.

Data Sample: Study participants included all teachers and administrators (n= 12).

Key Measures: Interviews, discussions, reflective writing, Zoom meetings, videos, and observations.

Outcomes or Findings:

We have found that student dispositions toward math improves each year. We have found that different platforms, activities, and instructional styles work for different kids. We will continue to provide options for students and differentiate math instruction. Union students are building math skills each year but it is an area we want to continue to work on and perfect.

Whole School STAR Math Data at Union High School Grades 9-12

School Year	Percent of Student with SGP of 45 +	Average Scaled Score Growth	Average Grade Equivalency Growth	Average Percentile Ranking Growth
2015-2016	58%	+6	+0.1	-4
2016-2017	57%	+27	+0.07	+1.9
2017-2018	57%	+31%	+0.9	+6
2018-2019				
2019-2020	66%	NA	+0.6	+2

Looking at our 2019-2020 12th grade cohort, only 30% were at or above benchmark in STAR math their freshmen year. Their senior year 48% are at benchmark.

Grade
12th

School Year	Grade	% Benchmark Distribution	Below 10 PR		10 - 24 PR		25 - 39 PR		At/Above 40 PR		# Students
			Number	%	Number	%	Number	%	Number	%	
2019-2020 School Year	12		8	17%	7	15%	10	21%	23	48%	48
2015-2016	11		10	25%	6	15%	7	18%	17	43%	40
2017-2018	10		6	20%	3	10%	4	13%	17	57%	30
2016-2017 School Year	9		3	30%	3	30%	1	10%	3	30%	10
2015-2016 School Year	8		10	28%	8	22%	4	11%	14	39%	36

Due to changes in how we deliver math instruction this year and COVID 19 the majority of our students did not complete the Fox Math unit post tests. However, we did find that for the ones who were engaged in Fox Math, their growth was statistically significant.

Unit	Average Pre-test Score	Average Post-test Score	Average Growth
1	10%	64%	54%
2	8%	64%	56%
3	0%	66%	66%
6	0%	90%	90%

86% of students who took both pre- and post-tests on Fox Math units demonstrated proficiency on the post-test.

Next Steps: Professional development will be put into place to instruct all Advisors on the new modules in STAR that help with student progress monitoring and catch-up skill assignments. We will continue to provide PD to the whole staff around math teaching strategies provided by the district. PLCs will

continue to work on the 4 PLC questions during the next year to improve student growth and instruction. We will provide PD for LiFT and the use of progressions specific to the use of LiFT with projects.

White Pine STEM Academy

IMEN Site: White Pine STEM Academy
District: White Pine Charter
School Setting: Public Charter
Grade levels served: 7 - 9 (Adding one grade per year)
Number of Students: 140
Number of teachers: 9
Phase of Mastery: Exploration/Implementation
Lead or Key Contact: Devin Tyler

Title: Using Mastery to Increase Student Engagement

Demographics or Background Information: This was our first year as a STEM Academy. Our charter says that we will be a PBL and Mastery based school. We had 140 students in grades 7 - 9. We recruit to keep our demographics in line with the community. We have 34% free and reduced lunch.

Purpose of our Action Research and Research Question:

We would like to increase student engagement by creating a culture in which learning is valued, not just the grade.

Project Activities:

We created a survey to measure student and staff attitudes and knowledge of mastery learning. This survey was administered one time. Then we experienced a lot of staff turmoil followed by virtual learning, so we were unable to determine a time that would be relevant for future administrations of the survey.

We met for one day with Cory Woolstenhulme, the principal from Colombia high school, who helped us clarify our vision and pathway toward mastery.

We met as content area teams to distill all of the standards covered in the class to those standards that we viewed as essential for report card grading.

We created a rubric for mastery grading.

We are purchasing grade level projects that students will complete and be evaluated on the SDE rubric for 21st century skills, keeping a portfolio to demonstrate growth through their middle and high school careers.

Data Sample:

All students were invited to respond to the survey. 73 completed the survey.

Key measures: content area meetings, inservice attendance, survey data, rubric

Outcomes or Findings:

50-60% of students were comfortable with mastery learning. We believe that we can improve that percentage. [Click here for full data.](#)

At this time 100% of staff members are willing to participate in mastery grading. All staff members will use mastery grading next year.

We feel that the [grading rubric is useable by multiple subjects](#).

We were recently accepted by Summit and will begin using their LMS and grading strategies. Currently, we are working with them to learn how the LMS works.

There are a number of staff members leaving and being replaced, which will involve additional training.

Wilder School District

IMEN Site: Wilder School District

District: Wilder School District

School Setting: Public School District

Grade levels served: K-12

Number of Students: 521

Phase of Mastery: Sustain and Scale

Lead or Key Contact: Jeff Dillion jdillon@wilderschools.org

Themes: Ownership of Learning, Work Habits of Success, Attitudes, Behaviors, Support for the COVID-19 Transition.

The Wilder School District teaches each day a habit of mind from the 16 Habits of Mind (Costa & Kallick, 2000) materials to all students. Those habits that need more attention per cohort get reviewed more often. Based upon these habits being exhibited in the classroom and building, student can complete a form and request to “level up”. The form is review of the students’ pace to complete all required work in less than a year, grade is B or better in all subjects, behavior exhibits the Wilder School District handbook expectations, engages in the learning process, and demonstrates the expected Ownership of Learning for Wilder School Districts expectations of Personalized Mastery-based Learning model. The form is reviewed by teachers, educational assistance, parents, administration, and at the high school the student council. If review is validated the student can move up a level. Each level moved up the student receives greater freedoms and flexibility. The highest level at the elementary is known as a “wildcat” and at the mid/high school “level 3”. For the elementary the freedoms include extended flexible seating in the hallways or office areas, additional recess, and the ability to serve others and support staff with special projects. The mid/high school students at the highest level will receive the ability to learn in any area of the building at their choosing, use of their cell phone when needed, listen to music as desired, and less required time on campus.

The combination of the Habits of Mind development in students and their drive for more freedoms has created a dynamic shift in the culture and student drive and effort to own their learning.

Data

Wilder Elementary

82% of the elementary students have demonstrated the ability to earn the highest level.

Mid/High School

87% of the students have demonstrated the ability to earn the highest level.

Results of engaged and students who own learning.

Seamless transition to distance learning.

93% of elementary students are working and staying on pace learning from home.

85% of mid/high students are working 4 to 5 hours a day to stay on pace while working from home.

75% of high school students and 45% of middle school students have chosen to continue to learn during our extended learning summer academy over the summer.

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