2019-2020 Annual Report

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Introduction

The 70th Session (1999) of the Nevada State Legislature passed Senate Bill 555, which, under Sections 16 and 17, authorized the establishment of four Regional Professional Development Programs (RPDPs) in the state. Since that 1999 session, the four programs have been reduced to three. Their collective charge is to support the state's teachers and administrators in implementing Nevada's academic content standards (NVACS) through regionally determined professional development activities. Although the essential mission has remained unchanged, legislative mandates and the pedagogical needs of teachers continue to broaden the program's scope and responsibilities; the programs' expertise is called upon to assist with district and statewide educational committees and assist in statewide efforts to improve instruction through the Nevada Educator Performance Framework (NEPF).

The planning and implementation of professional development services in each region is overseen by a governing body consisting of superintendents in the respective regions, master teachers appointed by the superintendents, representatives of Nevada's higher education system, and the State Department of Education. A nine-member Statewide Coordinating Council, consisting of members appointed by the Governor or legislators, the Superintendent of Public Instruction, and one member from each of the RPDP governing boards oversee the three regional programs.

As outlined in Standards for Professional Learning (Learning Forward, 2011), there is a relationship between professional learning and student results:

1. When professional learning is standards-based, it has greater potential to change what educators know, are able to do, and believe.
2. When educators' knowledge, skills, and dispositions change, they have a broader repertoire of effective strategies to use to adapt their practices to meet performance expectations and student learning needs.
3. When educator practice improves, students have a greater likelihood of achieving results.
4. When student results improve, the cycle repeats for continuous improvement (p. 16).

Figure 1 below is a visual representation of the relationship between professional learning based on the Professional Learning Standards and improved student learning. (Desimone, 2009).

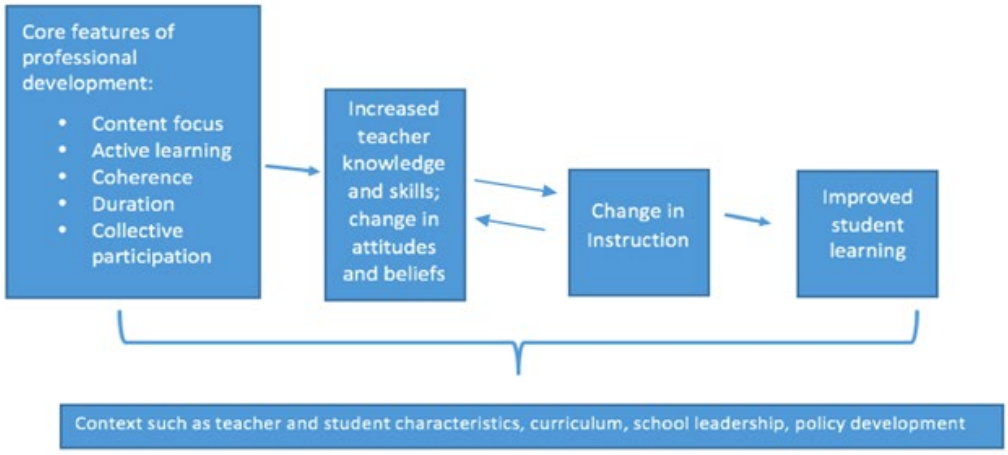


Figure 1 *Conceptual Framework for Studying Effects of Professional Development on Teachers and Students*

The updated Standards for Professional Learning from the national professional development organization, Learning Forward, were adopted by the Regional Professional Development Programs in 2011. In 2017, Nevada included two additional standards to address equity and cultural competency to become the Nevada Professional Development Standards. These nine standards are used synergistically in order to increase educator effectiveness thereby improving students' learning. The standards provide a framework for planning and leading professional learning opportunities.

Part I: NRS 391A.190 1c Evaluation of Regional Training Program

(1) The priorities for training adopted by the governing body pursuant to NRS 391A.175 [391A.175 (a) *Adopt a Training Model, taking into consideration other model programs, including, without limitation, the program used by the Geographic Alliance in Nevada.]*

After conversations with our service requestor to establish the outcome(s) of the professional learning and alignment with the standards for professional development adopted by the State Board, a training model that is best matched to the work is chosen. Training models may include, without limitation, action research, critical friends/professional learning communities, personal learning networks, coaching, mentoring, instructional rounds, lesson study, and educational courses.

391A.175 (b) *Assess the training needs of teachers and administrators who are employed by the school districts within the primary jurisdiction of the regional training program and adopt priorities of training for the program based upon the assessment of needs. The board of trustees*

of each school district may submit recommendations to the appropriate governing body for the types of training that should be offered by the regional training program.

391A.175 (c) *In making the assessment required by paragraph (b) and as deemed necessary by the governing body, review the plans to improve the achievement of pupils prepared pursuant to NRS 385A.650 for individual schools within the primary jurisdiction of the regional training program.*

The assessment of training needs of teachers and administrators is determined through a request for service model. This model takes into consideration the needs of our districts and includes a combination of planning tools and strategies, including but not limited to the following:

- Request for services from district personnel or principals based on School Performance Plans (SPP) and needs of teachers on staff;
- Collaborative meetings with superintendents and/or key district personnel to identify priorities and needs on an annual basis guided by District Performance Plans (DPP);
- Collaborative planning meetings with principals and leadership teams to determine goals and objectives for designing a professional development plan;
- Formal and informal needs assessments as needed with districts, departments, and/or schools;
- Input from the RPDP Governing Boards; and/or
- Collaborative work with the Nevada Department of Education on initiatives to design and implement support or roll-out plans for the NVACS as well as other state initiatives.

Table 1. 391A.190 1c (8) *An evaluation of the effectiveness of the regional training program, including, without limitation, the Nevada Early Literacy Intervention Program, in accordance with the method established pursuant to paragraph (a), and (10) an evaluation of the effectiveness of training on improving the quality of instruction and the achievement of pupils:*

Table 1 *RPDP State Approved Evaluation*

RPDP State Approved Evaluation (5-point scale)	**2019-20**
1. The training matched my needs.	4.50
2. The training provided opportunities for interactions and reflections.	4.80
3. The presenter's/facilitator's experience and expertise enhanced the quality of the training.	4.74
4. The presenter/facilitator efficiently managed time and pacing of activities.	4.74
5. The presenter/facilitator modeled effective teaching strategies.	4.62

RPDP State Approved Evaluation (5-point scale)	2019-20
6. This training added to my knowledge of standards and/or my subject matter content.	4.50
7. This training will improve my teaching skills.	4.49
8. I will use the knowledge and skills from this training in my classroom or professional duties.	4.58
9. This training will help me meet the needs of diverse student populations.	4.38

Table 2. 391A.190 1c (2) Type of training offered through the regional training program in the immediately preceding year.

Table 2 *Type of Training*

	Aggregate	*Elko*	*Eureka*	*Humboldt*	*Lander*	*Pershing*	*White Pine*	*Regional*
Total Trainings	209	51	9	26	29	8	33	53
Instructional[1]	43% n=91	31% n=16	56% n=5	65% n=17	57% n=17	38% n=3	24% n=8	47% n=25
Observation and Mentoring[2]	15% n=31	18% n=9	22% n=2	12% n=3	14% n=4	12% n=1	24% n=8	8% n=4
Consulting[3]	42% n=87	51% n=26	22% n=2	23% n=6	29% n=8	50% n=4	52% n=17	45% n=24

[1]*Presentations, workshops, in-service, and university courses*
[2]*Coaching, classroom observations and feedback, modeling, co-teaching*
[3]*School/district committee or task-force work, email advice, professional conversations, planning for PL with schools/districts*

Table 3. 391A.190 1c (3) *The number of teachers and administrators who received training through the regional training program in the immediately preceding year.*

Table 3 *Number of Teachers and Administrators Who Received Training*

	Aggregate	*Elko*	*Eureka*	*Humboldt*	*Lander*	*Pershing*	*White Pine*
Total Teachers Employed in District	1105	633	31	225	62	63	91

	Aggregate	*Elko*	*Eureka*	*Humboldt*	*Lander*	*Pershing*	*White Pine*
Unduplicated Teachers	674	370	26	101	51	39	87
Duplicated Teachers	795	230	19	85	145	13	303
Total Administrators Employed in District	94	48	3	18	6	5	14
Unduplicated Administrators	69	30	3	8	3	7	18
Duplicated Administrators	118	32	6	2	5	4	69

Table 4. 391A.190 1c (4) *The number of administrators who received training pursuant to [NEPF] in the immediately preceding year.*

Table 4 *Number of Administrators Receiving Training*

	Aggregate	*Elko*	*Eureka*	*Humboldt*	*Lander*	*Pershing*	*White Pine*
Unduplicated Administrators	56	27	3	6	2	3	15
Duplicated Administrators	75	15	3	0	1	0	56

Table 5. 391A.190 1c (5) *The number of teachers, administrators, and OLEP who received training [specific to correct deficiencies in performance identified per NEPF evaluation] in the immediately preceding year.*

Table 5 *Number of Teachers, Administrators, and OLEP*

	Aggregate	*Elko*	*Eureka*	*Humboldt*	*Lander*	*Pershing*	*White Pine*
Teachers, Admin, OLEP	0	0	0	0	0	0	0

Table 6. 391A.190 1c (6) *The number of teachers who received training in [family engagement] in the immediately preceding year.*

Table 6 *Teacher Training in Family Engagement*

	Aggregate	*Elko*	*Eureka*	*Humboldt*	*Lander*	*Pershing*	*White Pine*
Unduplicated Teachers	174	69	6	26	39	1	33
Duplicated Teachers	56	5	1	12	20	0	18

Table 7. 391A.190 1c (7) *The number of paraprofessionals, if any, who received training in the immediately preceding year.*

Table 7 *Paraprofessional Training*

	Aggregate	*Elko*	*Eureka*	*Humboldt*	*Lander*	*Pershing*	*White Pine*
Para-professionals	27	11	1	1	9	0	5

Table 8. 391A.190 1c (9) I & II *Trainings that included NVACS in the immediately preceding year;* III *Trainings that included NEPF in the immediately preceding year;* IV *Trainings that included culturally relevant pedagogy in the immediately preceding year.*

Table 8 *NVACS, NEPF, and Culturally Relevant Pedagogy Trainings*

	Aggregate	*Elko*	*Eureka*	*Humboldt*	*Lander*	*Pershing*	*White Pine*	*Regional*
Total Trainings	*209*	*51*	*9*	*26*	*29*	*8*	*33*	*53*
NVACS	79% n=163	80% n=41	56% n=5	92% n=24	76% n=22	88% n=7	88% n=31	70% n=33
NEPF	55% n=112	45% n=23	56% n=5	54% n=14	64% n=18	38% n=3	85% n=28	42% n=21
Culturally Relevant Pedagogy	15% n=31	10% n=4	22% n=4	12% n=3	21% n=6	0% n=0	9% n=3	23% n=11

391A.190 1c (12) *The 5-year plan for the regional training program prepared pursuant to NRS 391A.175 and any revisions to the plan made by the governing body in the immediately preceding year.*

Five Year Plan

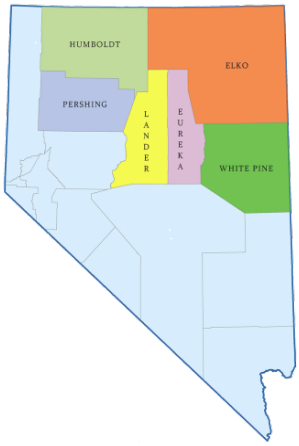
Establishment

The Northeastern Nevada Regional Professional Development Program (NNRPDP) is one of three state-funded professional development programs in the state. The 70th Session (1999) of the Nevada State Legislature passed Senate Bill 555, which, under Sections 16 and 17, authorized the establishment of four Regional Professional Development Programs (RPDPs) in the state; since that 1999 session, the four programs have been reduced to three. Their collective charge is to support the state's teachers and administrators in implementing Nevada's academic content standards (NVACS) through regionally determined professional development activities. The planning and implementation of professional development services in each region must be overseen by a governing body consisting of superintendents in the respective regions, master teachers appointed by the superintendents, and representatives of Nevada's higher education system and the State Department of Education (Section 16.1-16.8).

The NNRPDP work targets three broad categories: 1) Meeting district requests for services (e.g., NVACS, differentiation, student engagement), 2) Fulfilling legislated mandates (e.g., NVACS, NEPF, Parent Engagement), and 3) Supporting individual teachers (e.g., coaching, credit classes, modeling, instructional rounds).

Service Area

The NNRPDP serves approximately 1200 teachers and administrators in schools across six counties in Northeastern Nevada, an area of 51,385 square miles. Schools range in size from fewer than 10 students to over 1,600. The NNRPDP services Elko, Eureka, Humboldt, Pershing, Lander, and White Pine School Districts. Among districts there is considerable disparity in the number of students, ranging from under 300 in Eureka County to over 9,000 in Elko County.



Mission

The NNRPDP provides high-quality professional learning opportunities to enhance student learning within the context of Nevada Professional Development Standards by recognizing and supporting research-based instruction and by facilitating instructional leadership.

Professional Development Standards

The goals, strategies, and outcomes in this five-year plan are couched within the professional learning standards outlined by the Learning Forward organization and two standards legislated in 2017. When professional learning is also standards-based, the increase in educator effectiveness has greater potential for change.

Goals

The mission and governance structure of the NNRPDP guide the goals of the organization by providing a framework around which services are provided. An important aspect of the goals is to meet our organization's charges while continuing to honor and respect the individual regional districts' initiatives, strategic plans, and identities. Ultimately, there are five major goals to improve our performance and meet the needs of our region along with bulleted strategies identified to meet these goals:

- **Provide professional learning opportunities for teachers that strengthens their pedagogical content knowledge**.
    - *Develop positive relationships and trust with teachers*
    - *Create robust professional development and implementation plans with specific outcomes*
    - *Provide professional development for NNRPDP coordinators in order to stay current in their expertise*
    - *Communicate opportunities for professional learning to teachers*
- **Partner with administrators to improve instructional leadership and support teacher content knowledge and pedagogy**.
    - *Develop positive relationships and trust with administrators*

    - *Create robust professional development plans and implementation with specific outcomes*
    - *Participate on district level planning as appropriate*
    - *Communicate opportunities for professional learning to administrators*
- **To provide leadership in interactive and integrative technology.**
    - *Integrate technology within our work, making it explicit*
    - *Use current software platforms for regional professional learning opportunities*
    - *Provide professional development for NNRPDP coordinators in order to stay current in their expertise*
- **Measure the impact of professional development on teacher effectiveness and student achievement.**
    - *Strategically collect and use data to provide direction for the work*
    - *Strategically collect and use data to assess our work*
    - *Apply the model of measurement required for evidence*
    - *Plan time for measurement within the work*
- **Enhance our public profile**
    - *Communicate opportunities for professional learning*
    - *Publicize national presentations*
    - *Create a comprehensive web presence*

Measurement

In order to measure progress of the plan, multiple measures will be used. First the statewide evaluation form will continue to be collected and reported. Second, the five-level evaluation of professional development framework (Guskey, 2002) will guide the assessment of the professional development provided in our region. Third, qualitative documentation of stakeholders and specifically created as-needed surveys will provide measures of progress and success.

The Statewide Council approved an outline structure for RPDP evaluation purposes to include the number of teachers and administrators affected by professional development in the region according to requirements set forth in NRS 391A.190.

<u>A Two-Year Focus (2019-2021)</u>
NRS 391A.175 section 1

(d) (1) An assessment of the training needs of teachers and administrators who are employed by the school districts within the primary jurisdiction of the regional training program;

The assessment of training needs of teachers and administrators is determined through a request for service model. This model takes into consideration the needs of our districts and includes a combination of planning tools and strategies, including but not limited to the following:

- Request for services from district personnel based on School Performance Plans (SPP) and needs of teachers on staff;
- Collaborative meetings with superintendents and/or key district personnel to identify priorities and needs on an annual basis guided by District Performance Plans (DPP);
- Collaborative planning meetings with principals and leadership teams to determine goals and objectives for designing a professional development plan;
- Formal and informal needs assessments as needed with districts, departments, and/or schools;
- Input from the RPDP Governing Boards; and/or
- Collaborative work with the Nevada Department of Education on initiatives to design and implement support or roll-out plans for the NVACS as well as other state initiatives.

(d) (2) Specific details of the training that will be offered by the regional training program for the first 2 years covered by the plan including, without limitation, the biennial budget of the regional training program for those 2 years.

The Northeastern Nevada Regional Professional Development (NNRPDP) is a service organization providing professional learning opportunities to districts and schools within our region. Training programs offered each year vary depending upon the needs and requests of the districts we serve; the NNRPDP does not solely determine those training programs without significant input from our stakeholders. In addition to serving the requests of our districts and schools, the NNRPDP has developed the training programs listed below for teachers and administrators.

Biennial Budget 2019-2021
$2,531,288

NNRPDP Sponsored Training Programs

Teacher Academy

The Teacher Academy focuses on improving instructional pedagogy through Nevada Educator Performance Framework (NEPF) standards. The NNRPDP accepts applications from teachers who want to attend and targets deep learning of the instructional standards. Each full day, whole group learning opportunity is accompanied by a small group Critical Friends Group (CFG) in which connections are made between content and classroom implementation by deprivatizing practice.

Courses for Credit

NNRPDP creates and provides courses for teachers interested in particular topics. These courses are available for credit and provide teachers seeking recertification an avenue for

increasing their learning. In addition, the NNRPDP provides facilitation of courses related to a particular school's desire for content upon request.

Focus Goals

1. **Measure the impact of professional development on teacher effectiveness and student achievement.**
    - *Strategically collect and use data to provide direction for the work*
    - *Strategically collect and use data to assess our work*
    - *Apply the model of measurement required for evidence*
    - *Plan time for measurement within the work*

    A minimum of five projects each year are reported within the context of the work to include extensive measures of teacher and student learning affected by the professional learning provided. Each report is included in the final evaluation of the NNRPDP submitted to stakeholders for accountability purposes.
2. **To provide professional learning opportunities for teachers that strengthens their pedagogical content knowledge**.
    - *Develop positive relationships and trust with teachers*
    - *Create robust professional development and implementation plans with specific outcomes*

    Each long-term professional development request will require an outcomes-based plan developed with the NNRPDP coordinator, requesting administrator, and/or teacher leader team. This plan is built within the constructs of the Nevada Professional Development Standards. Relationships are established through a common understanding of outcomes and relevance to teachers' practice in addition to frequent communication and support.
3. **To partner with administrators to strengthen instructional leadership and support teacher content knowledge and pedagogy**.
    - *Develop positive relationships and trust with administrators*
    - *Create robust professional development plans and implementation with specific outcomes*

    Each long-term professional development request will require an outcomes-based plan developed with the NNRPDP coordinator, requesting administrator, and/or teacher leader team. This plan is built within the constructs of the Nevada Professional Development Standards. Relationships are established through a common understanding of outcomes and relevance to teachers' practice in addition to frequent communication and support.

Part Two: Individual RPDP Information

391A.190 1c (11) *A description of the gifts and grants, if any, received by the governing body in the immediately preceding year and the gifts and grants, if any, received by the Statewide Council during the immediately preceding year on behalf of the regional training program. The description must include the manner in which the gifts and grants were expended.*

The Nevada Regional Professional Development Programs received three gifts and grants in the 2019-2020 academic year: 1) SB313 [Computer Science], 2) SB 314 [Financial Literacy],

and 3) TESLA [Computer Science]. The Southern RPDP served as fiscal agent for the gifts and grants; however, the three RPDPs collectively presented the budget and served the states' educators through our respective regional projects.

SB313 (2019, 80th Legislative Session)

Senate Bill 313 provided $120,000 in funding to the RPDPs to provide professional learning opportunities in Computer Science for FY20 and FY 21. In addition, SB313 provided additional funds whereby districts could apply for grants to provide computer science professional learning. In partnership with the NNRPDP, four of the region's districts submitted a grant that created a regional Computer Science Ambassador program in which 30 educators (Ambassadors) from 19 schools representing 4 districts, Elko, Humboldt, Lander, and Pershing and 2 charter schools, Ely Learning Bridge and Elko Institute of Academic Achievement, participated. The Ambassadors were led by a NNRPDP Coordinator who has received extensive training in computer science.

Funding from the SB313 grant paid for two full-day substitutes for each of the 30 Ambassadors so they could attend professional learning, some districts provided Ambassadors with Chromebooks, and all but one district funded travel costs for Ambassadors to attend the statewide Computer Science Summit held in Reno, Nevada.

TESLA

Twenty-seven teachers received a $150 stipend to educators in our region to attend a one-day workshop with emphasis on code.org computer science curriculum. This workshop was offered on weekends by a certified code.org computer science NNRPDP Coordinator. Plans to offer multiple sessions of this workshop to a broader number of educators were derailed due to COVID-19 closures.

SB314 (2019; 80th Legislative Session)

Senate Bill 314 provided $120,000 in funding to the RPDPs to provide professional learning opportunities in Financial Literacy for FY20 and FY 21. In addition, SB314 provided additional funds whereby districts could apply for grants to provide financial literacy professional learning. In partnership with NNRPDP, three of the region's districts and one charter school submitted a grant that provided stipends for educators to participate in a state-approved online class focused on the Nevada Academic Content Standards (NVACS) in Financial Literacy. Thirty teachers from Elko, Humboldt, and Pershing County School Districts and Elko Institute of Academic Achievement charter school completed the course. Each received a stipend upon completion from their respective districts. The NNRPDP Director facilitated the online experience. Originally, the educators who participated in the learning opportunity were eligible to attend the Financial Literacy Summit hosted by the Nevada Department of Education; however, COVID-19 prevented that Summit from occurring.

Executive Summary

NNRPDP Regional Projects 2019-2020

As outlined in NRS 391A.190, Director Sarah Negrete, Ph.D., directs the in-house evaluation, assisted by support staff who coordinate data collection and compilation. The Director and an external consultant, Margo Teague of Impact Evaluation & Assessment Services, provide support for the rest of the team as they develop logic models, design instruments to gather and analyze data, and create, implement, and write their evaluative regional projects. The regional projects were designed following the seven features of professional learning (Darling-Hammond, Hyler & Gardner, 2017) and aligned with the Five Levels of Professional Development Evaluation (Guskey, 2002) and Standards for Professional Learning (NDE, 2017). These projects provide an in-depth analysis of specific professional development projects while showcasing the diversity and scope of the support provided by the NNRPDP to schools and educators in the region.

These evaluation projects employ both qualitative and quantitative designs and incorporate mixed-methods data collection strategies to assess training outcomes. Collectively, they help to 'tell the story' and document the impacts of the diverse NNRPDP professional development activities this past year. These projects also act as evidence that the NNRPDP follows the five steps required by the Every Student Succeeds Act, (ESSA) with level three, promising evidence supported by one or more well-designed and well-implemented correlational studies.

Regional Project Purpose

Over several years, the NNRPDP has used regional projects to document its professional development activities. The NNRPDP has as its practice an internal evaluation model, which incorporates studies from projects throughout the region to document not only the diversity and wide-ranging impact of the work, but also, in some cases, to document the long-term effects of the support provided to teachers in the region. Evaluative regional projects facilitate exploration of complex phenomena within their contexts—in this case, professional development (PD) within schools and districts--using a variety of data sources. This ensures that PD is not explored through one lens, but rather through a variety of lenses, which allows training effectiveness to be revealed and understood more fully (Darling-Hammond, et al, 2017; Guskey, 2002). NNRPDP staff actively design and implement each evaluative regional project that seeks to illustrate changes in teacher practice and student learning as a result of the diverse professional learning activities employed over the past year. Thus, the following regional projects are focused evaluation investigations that incorporate mixed-method research designs to illustrate the breadth of training, variety of topics, and depth of consultation employed by NNRPDP staff over the past year. Each regional project also has a logic model attached that was developed to guide the evaluation of the regional project and illustrates the short and long-term outcomes expected from the professional development project.

Key Findings from 2019-20 NNRPDP Evaluation Activities

Summary of Participant Engagement

Professional development services were conducted in all six districts that comprise NNRPDP, reaching a total of 743 unique teachers and administrators during 2019-20. Because professional development covers varied training topics and consulting services, and educators often attend multiple trainings, the total number of duplicated teachers and administrators receiving services was 913. Others, which include substitutes, counselors, and district personnel includes an additional 27. Overall, 62% of the approximate 1,199 teachers and administrators employed in the region (as reported by each district) participated in programs provided by the NNRPDP during 2019-20

Regional Project Outcomes

Regional project evaluation data reveal a variety of positive outcomes across the five NNRPDP 2019-20 regional projects. Foci of projects were on supporting Literacy Specialists as coaches to support K-2 reading teachers, family engagement, teacher knowledge in classroom assessment to drive instruction, teaching middle school math, and teacher knowledge of the Smarter Balanced Assessment in mathematics and English Language Arts. Of the five regional projects, two provided statistically significant results with the remaining projects reporting positive trends. Examples of favorable effects for each regional project follow.

K-2 Literacy Support

Statistically significant increase in reading benchmark levels for kindergarten, first, and second graders, (<.000). Positive change noted in all variables measured. COVID-19 related closures prohibited the administration of final reading assessments.

Family Engagement

A statistically significant increase in participants' self-reported level of confidence in increasing family engagement (<.0001). Positive change noted increased levels of knowledge. Levels of implementation of Family Engagement were unchanged, likely hindered by COVID-19 closures

Collaborative Inquiry Teams

No statistical analysis was performed due to the small sample size. Positive overall change noted in teachers' abilities to interpret and compare data and implementation of new teaching strategies targeted to areas identified by data. Overall gains in student assessments were noted for grades 2, 3, 5, and 6, other grade's assessments were relatively static. Final assessments were not completed due to COVID-19 closures.

Middle School Math Fellows

No statistical analysis was performed due to the small sample size. Positive change noted in 4 of 6 short-term variables measured. Long-term variables could not be measured due to COVID-19 closures.

Smarter Balanced Assessment

No statistical analysis was performed due to the small sample size. Positive overall change noted in teachers' abilities to interpret and compare data and implementation of new teaching strategies targeted to areas identified by data. Long-term variables could not be measured due to COVID-19 closures.

Participant Ratings of Quality

Participant ratings of the quality of professional development trainings performed by NNRPDP staff reveal consistent and very high satisfaction ratings over the past year (all mean ratings of trainings are between 4 and 5, on a 5 point scale. During 2019-20, this included high mean ratings from educator participants regarding the expertise of the facilitators and the quality of the delivery of instruction during trainings (4.74), particularly in providing opportunities for interaction and reflection (4.8). In addition, educator participants again indicated overwhelmingly that they will use the knowledge and skills learned from NNRPDP trainings in their classrooms (4.58).

Professional Learning Delivery

Professional services this past year were predominately delivered at school sites, professional learning sites, or online using both synchronous and asynchronous structures in the form of in-service classes and workshops. Content focused mainly on the Nevada Academic Content Standards (NVACS) in the areas of Literacy/English, Mathematics, Science, Social Studies, Family Engagement, and Multicultural Education. The remaining areas of focus were diverse and included training of the Nevada Educator Performance Framework (NEPF), Computer Science, PreK-Third Grade Reading support, PreK-Fifth Grade Writing support, Computer Education, and Technology, and Leadership Development.

Response to COVID-19 School Closures

Timely and nuanced supports were provided during the unexpected pandemic-related school closures beginning mid-March through the end of the school year. NNRPDP supported teachers and administrators with the abrupt shift from in-classroom instruction to distance-learning in several ways. Primarily, to address the information overload educators experienced from the flood of online teaching resources, weekly roundups of resources were vetted for quality and shared through email and social media. To address the increased anxiety and stress levels reported by educators weekly Brené Brown Bookclub meetings were hosted. Additional efforts in helping to reduce educator stress and anxiety during these uncertain times were daily online meditation sessions. Finally, “Professional Learning Snapshots”, 5-hour sessions each lasting one week were created and offered for teachers to deepen understandings of the many facets related to transitioning to and from remote learning.

Regional Projects

Family Engagement Course: Inaugural Year

The Northeastern Nevada Regional Professional Development Program (NNRPDP) Family Engagement web-based course is provided for regional educational professionals. This course may support their professional learning, licensure renewal, or removal of a provision on their license. Nevada legislative requirement for educational licensure are the primary impetus for providing this course. This approved 3-credit course is required for all teachers and other educational professionals (school nurses, counselors, psychologists, literacy strategists) applying for a "Standard" educational license in Nevada after July 1, 2015 (Nevada Revised Statutes 391.019, 2015 & NAC 391.030, 2015).

The Nevada Regional Professional Development Program (RPDP), which includes the Northwest, Southern, and Northeastern groups, was approved to provide the course as of January 1, 2019. Any licensed educational personnel within the NNRPDP region (Elko, Eureka, Humboldt, Lander, Pershing, and White Pine counties) are able to register for and complete the course. NNRPDP partners with the University of Nevada, Las Vegas to facilitate the course, and provide an opportunity for course participants to earn 3-graduate level credits.

NNRPDP offered two sessions of the family engagement course for the region; once in the fall of 2019, and again in the spring of 2020. The Family Engagement web-based course was facilitated online over nine weeks, including online interactive sessions that allow course participants to engage in discussion with the course facilitator and other participants. The course instructor has thirteen years teaching experience between K-16 contexts of which four years included teaching online college courses, has a Master of Science in Equity and Diversity in Education, and is a member of the Nevada Family Engagement Birth - 12 Framework Committee. Family engagement, in theory and practice, has been an integral component of the instructor's professional work and current role as a regional coordinator for the NNRPDP.

The course content included three primary components: 1) a series of online family engagement training modules developed collaboratively by the RPDP regional groups, 2) a course text, *Powerful Partnerships* (Mapp, Carver & Lander, 2017), and 3) research-based articles and texts featuring recommended best practices for effective and meaningful family engagement across educational contexts.

Course participants completed a variety of learning tasks throughout the nine weeks in order to make connections between their learning and their educational context. These tasks included synthesizing research, analyzing current practices using self-assessment tools, critical self-reflection, discourse with other participants, locating and organizing evidenced-based practices to be integrated into the current educational context. Course participants also completed

a Family Engagement Inquiry project where learning is applied, evaluated, and used to determine "next steps" for changes in instructional and professional practice.

Initial Data and Planning

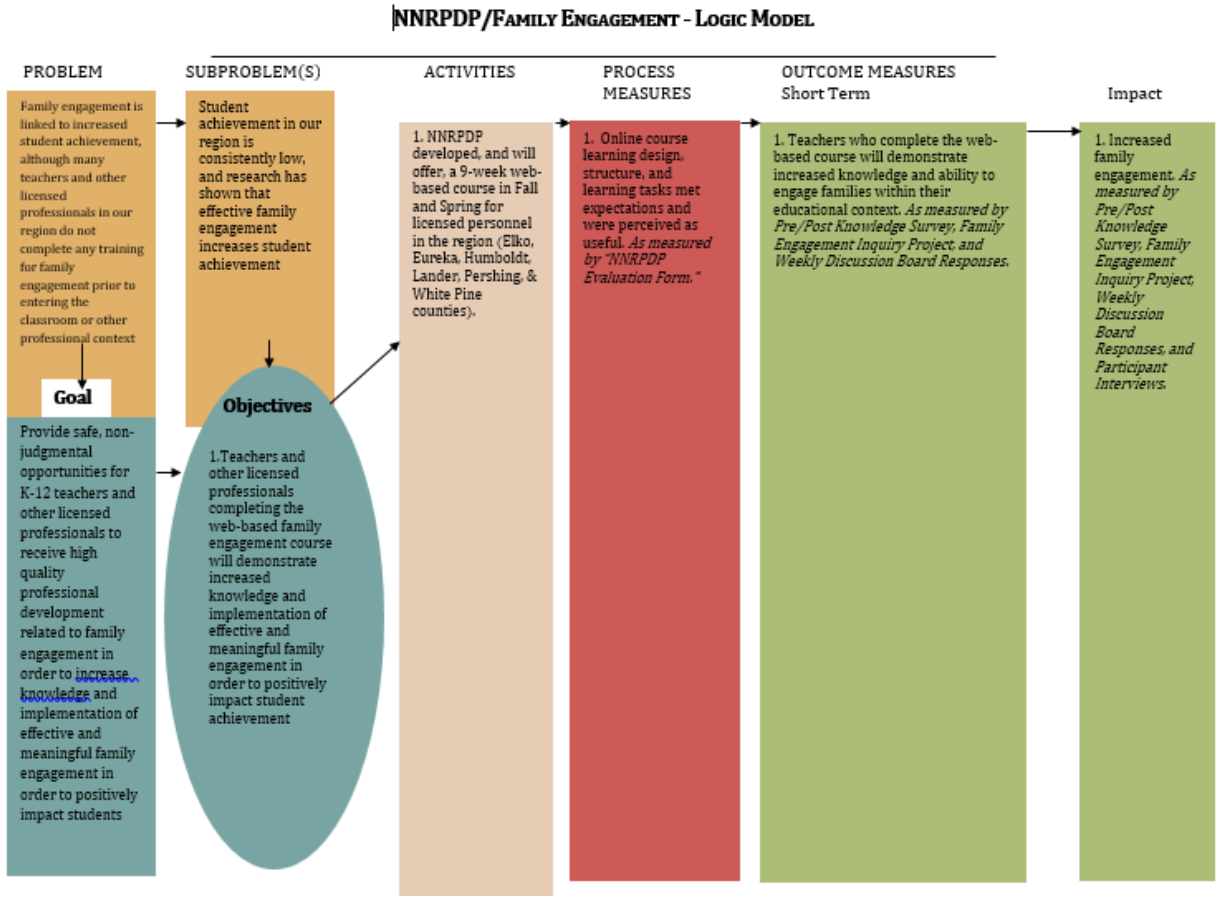
Effective family engagement has been linked to increased student achievement (HFRP, 2011; Wood & Bauman, 2017), school improvement (Wood & Bauman, 2017), and has been proven to be one of the "most powerful predictors of children's development, educational attainment, and success in school and life" (Weiss, Lopez & Caspe, 2018, p. 1). Surprisingly, national, and global research revealed that many teacher-preparation programs did not include any focused learning or training in family engagement prior to the completion of the college/university preparatory program (Spielberg, 2011; Mapp & Kuttner, 2013). As a matter of fact, training in family engagement was not required for educational professionals licensed in the state of Nevada until 2015 (Nevada Department of Education, n.d.). Thus, many educational professionals lacked the necessary knowledge, skills and training to effectively implement best-practices identified by researchers (Spielberg, 2011, Mapp & Kuttner, 2013).

In 2015, Nevada legislators approved NRS 392.457, which outlined a family engagement policy for the state of Nevada which included six standards for Parental Involvement and Family Engagement (PIFE) (Nevada State Board of Education, 2015). These standards mirrored the National PTA (n.d.) standards. These six standards include 1) welcoming all families, 2) communicating effectively, 3) supporting students' well-being and academic success, 4) speaking up for every child, 5) sharing power, and 6) collaborating with community (NSBE, 2015). In addition, legislators approved changes to teacher licensure, which required all new applicants for licensure to complete an approved, three-credit family engagement course in order to receive a standard license (Nevada Revised Statutes 391.019, 2015 & NAC 391.030, 2015). The Nevada Department of Education Office for Parental Involvement and Family Engagement was granted authority to approve and monitor course providers' fidelity to the requirements outlined in the legislation (n.d.).

Therefore, the NNRPDP Family Engagement course was designed to address two primary goals: First, to meet the legislative requirements mandated in 2015 for educational licensure (Nevada Revised Statutes 391.019, 2015 & NAC 391.030, 2015); and second, to increase family participation in student learning in order to positively impact student growth and achievement (Spielberg, 2011; Flamboyan Foundation, n.d.; United States Department of Education, n.d.; Mapp & Kuttner, 2013; NDE Office for PIFE, n.d.; Weiss, Lopez & Caspe, 2018; Wood & Bauman, 2017). These primary goals were addressed through effective professional learning and development (Darling-Hammond, Hyler & Gardner, 2017; Guskey, 2002; Learning Forward, 2011; Nevada Department of Education, 2017; Murray, 2014) for educational professionals in the region.

The Family Engagement course learning outcomes address seven requirements from the legislative text (Nevada Revised Statutes 391.019, 2015 & NAC 391.030, 2015). These requirements are as follows: 1) demonstrate knowledge of the National Standards for Family-School Partnerships (PTA, n.d.), 2) demonstrate knowledge of the expectations of the Nevada Educator Performance Framework (NEPF) Professional Standard for Family Engagement (NDE, 2019), 3) demonstrate knowledge of the Dual Capacity-Building Framework (Mapp & Bergman, 2019; Mapp & Kuttner, 2013), 4) reflect on and evaluate current family engagement efforts (PTA, n.d.), 5) research effective strategies, activities, resources, and materials to enhance their current family engagement efforts, 6) design a plan for effective family engagement, with action steps that may be taken immediately, in the near future, and in the distant future, and 7) implement methods and strategies for effective family engagement. Figure 2 provides a logic model used to guide the evaluation of the Family Engagement Course implementation.

Figure 2 *Family Engagement Course Logic Model*



Method

Learning Design

Darling-Hammond, Hyler and Gardner (2017) describe effective professional development "as structured learning that results in changes to teacher knowledge and practices and improvements in student learning outcomes" (p. 2). Learning Forward (2011) argues that professional development must emphasize professional learning so that "learning for educators leads to learning for students" (p. 12). Murray (2014) adds that effective professional learning "is learning from the work teachers do" (p. xvi-xvii). With this in mind, the Family Engagement course structure was designed to include opportunities for participants to increase their knowledge of effective family engagement, thus impacting student learning. Specifically, participants had the opportunity to identify and expand their understanding of effective family engagement strategies, assess their current family engagement practices, and apply their learning through an inquiry project in their unique educational context.

The *Family Engagement Course Professional Learning Plan* 2020 (Appendix L) describes the course learning outcomes and evidence of participant learning, strategic design and structure of the course learning opportunities. The learning plan also addresses the roles and responsibilities of stakeholders in the learning as aligned with Standards for Professional Development (Learning Forward, 2011; NDE, 2017). See Figure 3.

Figure 3 *Family Engagement Course Design, Roles and Responsibilities Aligned with the Standards for Professional Learning (NDE, 2017)*

Standard	Alignment
LEARNING COMMUNITIES: Professional learning that increases educator effectiveness and results for all students occurs within learning communities committed to continuous improvement, collective responsibility, and goal alignment	• Course instructor/facilitator created a collaborative "space" for building a learning community with course participants through sharing of personal and professional experiences, guided discussions, and collective feedback through weekly video conference interactive sessions • Course participants participated in a collaborative learning community throughout the course during weekly video conference interactive sessions where participants: reflected on their learning, shared changes in practice, applied learning to specific contexts and provided feedback for all members of the learning community

Standard	Alignment
LEADERSHIP: Professional learning that increases educator effectiveness and results for all students requires skillful leaders who develop capacity, advocate, and create support systems for professional learning.	• Course instructor/facilitator provided opportunities for course participants to develop their own capacity for effective family engagement, including knowledge and implementation of research-based practices and outcomes, shared approaches course participants might use to advocate for students and families to be partners in the learning process, and provided an opportunity for course participants to gather a collection of research-based practices and resources to further their professional learning and application of learning • Course participants developed their capacity for effective family engagement through reading research-based practices and outcomes aligned with the National Standards for Family-School Partnerships, identified areas for improvement within their educational context along with the advocacy approach that could be utilized to address the necessary improvement, and created a list of research-based practices and resources for professional growth beyond the course
RESOURCES: Professional learning that increases educator effectiveness and results for all students requires prioritizing, monitoring, and coordinating resources for educator learning.	• Course instructor/facilitator curated additional research, resources and course materials in response to course participants progress, unique educational contexts and observed/identified barriers to practice and/or implementation of effective family engagement approaches • Course participants shared weekly feedback about which resources were most beneficial to their unique educational context, and what questions or concerns remained, which was used by the course instructor/facilitator to provide responsive feedback, support, and curate/include additional materials within the course
DATA: Professional learning that increases educator effectiveness and results for all students uses a variety of sources and types of student, educator, and system data to plan, assess, and evaluate professional learning.	• Course instructor/facilitator integrated multiple opportunities for self- assessment using a variety of assessment tools, including the Nevada Educator Performance Framework Professional Standards, the Dual Capacity-Building Framework, and National Standards for School-Family Partnerships aligned with professional learning within the course structure as well as beyond the course • Course participants shared self-assessment data, alongside evaluation that designated areas of strength and areas for improvement / continued professional learning

Standard	Alignment
LEARNING DESIGNS: Professional learning that increases educator effectiveness and results for all students integrates theories, research, and models of human learning to achieve its intended outcomes	• Course instructor/facilitator integrated course participants' current educational contexts, learning goals and content-specific learning tasks in order to make the learning relevant and action-oriented, utilising research that supported the course learning objectives in conjunction with research-based located and identified by each course participant • Course participants shared learning goals based on their current educational contexts in order to identify their desired outcomes for their learning and student/family outcomes
IMPLEMENTATION: Professional learning that increases educator effectiveness and results for all students; applies research on change and sustains support for implementation of professional learning for long-term change	• Course instructor/facilitator provided strategic, and ongoing, opportunities for course participants to critically reflect on current family engagement practices through self-assessment, using a variety of assessment tools, alongside reading and analysing research-based family engagement practices in order to support participants' in identifying and implementing changes in practice based on their learning and reflection • Course participants completed weekly self-assessments of current family engagement practices in comparison to research-based, effective family engagement practices using a variety of assessment tools in order to identify areas of strength and areas for improvement, wherein course participants identified potential changes in practice that could be implemented in order to increase meaningful and effective engagement of all families in the learning process
OUTCOMES: Professional learning that increases educator effectiveness and results for all students focuses on equitable access, opportunities and outcomes with an emphasis on achievement and opportunity disparities between student groups.	• Course instructor/facilitator integrated research that demonstrated links between effective family engagement practices and increased positive academic, social, emotional and development outcomes in conjunction with critical reflection tasks that provided opportunities for course participants to reflect on the current, or future, integration of effective family engagement practices by evaluating current outcomes against desired outcomes • Course participants read and analysed research that demonstrated links between effective family engagement practices and increased positive academic, social, emotional and development outcomes and completed critical reflection tasks that helped participants identify current, or future, integration of effective family engagement practices through evaluation of current outcomes against

Standard	Alignment
	desired outcomes, leading to identification of changes in practice with potential to achieve the desired outcomes
EQUITY: Professional learning that increases educator effectiveness and results for all students focuses on equitable access, opportunities and outcomes with an emphasis on achievement and opportunity disparities between student groups.	• Course instructor/facilitator guided discussion, both synchronous and asynchronous, designed to support course participants' identification of inequities within school systems that impact families' inclusion in the learning process, as well as students' academic growth in conjunction to evidence on practices that address and reduce inequity across educational/school systems • Course participants individually and collectively identified inequities within school systems that impact families' inclusion in the learning process, as well as students' academic growth, through self-assessment and case study examples, and in response, identifying evidence-based practices that could be integrated to address and reduce inequity across educational/school systems
CULTURAL COMPETENCY: Professional learning that increases educator effectiveness and results for all students facilitates educator's self-examination of their awareness, knowledge, skills, and actions that pertain to culture and how they can develop culturally-responsive strategies to enrich educational experiences for all students.	• Course instructor/facilitator implemented and facilitated course learning tasks that: allowed course participants to examine explicit and implicit bias of students and families, provided research on existing disparities in effective engagement of all families in the learning process, and outlined potential action steps participants could take to eliminate barriers to effective family engagement • Course participants examined bias, both explicit and implicit, in their beliefs about families' strengths and capacities, their beliefs about families' involvement in the learning process, and their beliefs about their role in reaching out to and including all families in the learning process as partners in order identify specific action steps that they could take to address their bias, and thus, the barriers to effective family engagement

Participants and Procedure

The Family Engagement course was open to any educational professional in the NNRPDP region during the fall of 2019 and the spring of 2020. The NNRPDP region encompasses six districts across six counties, and covers a large rural geographic area in northeastern Nevada. NNRPDP is an approved provider for the family engagement course that applies toward removal of the PIFE provision on educational licenses issued after 2015 (NRS 391.019, 2015 & NAC 391.030, 2015). Course information was distributed to the entire region through an email sent four weeks prior to the start date of each session, both in the fall and the spring. Participants could register to complete the course for three graduate-level credits in

partnership with the University of Nevada, Las Vegas (UNLV), or, for a 45-hour Certificate of Professional Learning (COPL) from NNRPDP. Participants choosing to complete the course for graduate-level credit submitted the initial registration form online as well as an additional registration process through UNLV; those choosing to complete the course for a COPL from NNRPDP completed only the initial online registration step. Participants earning credit through UNLV paid $165.00 while those earning a Certificate of Professional Learning did not have to pay a fee. The course text, *Powerful Partnerships* (Mapp et al., 2017), had to be purchased by each participant and cost approximately $30.00. The overall cost of the course ranged between $30.00 and $195.00. This is a significant attractant for participants as approved courses range in cost from $63.00 to $1,700.00 dollars (J. Briske, personal communication, May 4, 2020).

Twenty-seven participants altogether enrolled in the fall and spring courses; four participants withdrew, one participant failed the fall course and re-enrolled in the spring course, and 22 participants successfully completed the course earning either the graduate-level credits or COPL. Participants elected to enroll in the family engagement course for a variety of reasons. Of the 22 participants enrolled, 19 completed the course in order to remove the PIFE provision on their educational license (NRS 391.019, 2015 & NAC 391.030, 2015). Two completed the course in order to earn credits that could be applied toward renewal of their educational license. One participant completed the course for their own professional learning. Course participants came from a variety of educational backgrounds beyond elementary, middle, and secondary educators. Professional roles included administrator, counselor, specialist (Physical Education, Music, & Art), career and technical educator (Health), special education instructor, school social worker, school nurse, and school psychologist.

In order to maximize accessibility for the geographic distance of the region and best meet the needs of educational professionals the course was facilitated using online tools. The online tools and technology included CANVAS learning management system, Google documents, and Google Meet interactive video conferencing. The nine-week family engagement course included both asynchronous learning tasks and synchronous interactive discussions. The Nevada Parental Involvement and Family Engagement Training Modules (RPDP, n.d.) was a primary component for accessing evidence-based research and best practices for effective family engagement.

Measurement

The overarching goals of the family engagement course were to increase participants' knowledge of effective, research-based family engagement, and to increase family engagement through implementation of research-based strategies through effective professional learning.

These goals were measured through evidence collected using basic descriptive statistical analysis of pre- and post- questionnaire responses, NNRPDP evaluation form, and participant

demographic information. Goals were also measured using qualitative textual analysis of final discussion responses, open-ended textual responses within the questionnaire, evaluation form and Family Engagement Inquiry Project document. Goals were also measured using a basic, paired t-test to determine if there was a statistically significant difference between the means of two groups of data, in this case, between participants' responses on the pre- and post-questionnaire (Appendix A).

Firstly, evidence for increased participant knowledge was measured through a pre- and post- knowledge questionnaire developed within the RPDP using Likert-scale response options (Appendix B) alongside textual analysis of the course learning tasks in relation to the participant learning outcomes (Family Engagement Course Professional Learning Plan, 2020: Appendix L). The pre- and post- questionnaire was developed for use collaboratively amongst the RPDP groups. The small sample size (n = 22) in the first year of implementation does not allow for an assessment of the validity and reliability of the questionnaire. However, the questionnaire does provide evidence of participants' perceptions of their growth, learning, and application of their learning.

Secondly, evidence for implementation of effective family engagement strategies was gathered through analysis of the Family Engagement Inquiry project. This project was three-fold. First, participants integrated an evidenced-based change in practice in their unique context. Second, participants collected data and evidence to evaluate the effectiveness and impact of the change in practice. Third, participants analyzed the data and evidence in order to determine changes in practice to implement in the future (Darling-Hammond et al., 2017; Guskey, 2002; Murray, 2014). Finally, evidence for participant satisfaction along with perception of the course impact on student learning were measured through the end-of-course evaluation form and final discussion responses (Guskey, 2002).

Overarching participant perceptions of the course, learning, and implementation were also gathered by a third-party, independent evaluator who conducted verbal interviews with randomly selected participants and shared textual analysis from the interviews while maintaining anonymity (M. Teague, personal communication, May 6, 2020). Figure 4 outlines the five levels of professional development evaluation alongside corresponding measurement tools, in conjunction with a brief description of how the evidence will be used in relation to evaluation of the effectiveness of the Family Engagement course.

Figure 4 *Five Levels of Professional Development Evaluation (Guskey, 2002)*

Evaluation Level	What Questions Are Addressed?	How Will Information Be Gathered?	What Is Measured or Assessed?	How Will Information Be Used?
1. Participants' Reactions	*Did this course meet my needs?* *Did the course instructor's expertise and experience impact the learning process?*	*NNRPDP Evaluation Form, Pre-/Post- Knowledge Questionnaire, Third-party independent evaluator interviews of participants*	*Participants' initial satisfaction with the experience and perceived benefit*	*To improve program design and delivery*
2. Participants' Learning	*Did participants acquire the intended knowledge and skills?*	*NNRPDP Evaluation Form, Pre-/Post- Knowledge Questionnaire, Family Engagement Inquiry Project, Final Discussion Board Responses, Third-party independent evaluator interviews of participants*	*Knowledge of 6 Standards for Family-School Partnership and research-based practices for effective and meaningful family engagement*	*To improve program content, format, and organization*
3. Organization Support & Change	*Was implementation advocated, facilitated, and supported?* *What was the impact on the organization?* *Did it affect the organization's climate and procedures?*	*Family Engagement Inquiry Project, NNRPDP Evaluation Form, Final Discussion Board Responses*	*The organization's advocacy, support, accommodation, facilitation, and recognition of participants' implementation of family engagement*	*To document and improve organization support* *To inform future change efforts*
4. Participants' Use of New Knowledge and Skills	*Did participants effectively apply the new knowledge and skills?*	*Family Engagement Inquiry Project, Pre- and Post - Knowledge Questionnaire, Final Discussion Board Responses, NNRPDP Evaluation Form, Third-party independent evaluator interviews of participants*	*Degree and quality of participants' implementation of family engagement in their educational context*	*To document and improve the implementation of program content*

Note: Bold text is taken directly from Guskey's framework outlining the five levels of professional development (2002). Italicized text is the description of evidence collected by the instructor.

Results

The mixed methods evaluation process included both quantitative and qualitative analysis utilizing various data sources, including pre- and post- questionnaire responses (Appendix C), NNRPDP evaluation form (Appendix B), discussion responses, Family Engagement Inquiry Projects, and third-party independent anonymous interviews with randomly selected participants (M. Teague, personal communication, May 6, 2020). Statistical analysis was completed by the course instructor. Textual analysis was conducted by the course instructor and third-party evaluator in collaboration. Results were sorted into four thematic categories based on the analysis: 1) general course outcomes, 2) increased knowledge, 3) increased implementation, and 4) perceived impact on student learning.

General Course Outcomes

Twenty-seven participants enrolled in and started the course; four participants withdrew, one participant failed the fall section of the course, and 22 participants completed the course. Of participants who completed the course, 19 earned a final course grade of "A," one earned a final course grade of "B," one earned a final course grade of "D," and one earned a final course grade of "F."

Twenty of the 22 course participants completed the NNRPDP evaluation form upon completion of the course. Ninety percent of participants reported that the course matched their needs (NNRPDP Evaluation Form, Appendix C) "to a great extent," while ten percent of participants reported that the course matched their needs "to some extent" (NNRPDP Evaluation Form, Appendix C). One hundred percent of respondents reported that the course instructor's experience and expertise enhanced the quality of the course (Appendix C). Textual analysis of the NNRPDP Evaluation Form (Appendix C) responses revealed that 80 percent of participants enjoyed the course, perceived it to be beneficial, and identified specific strategies that were already being implemented or would be implemented in the near future in their educational contexts (Appendix A).

Increased Knowledge

Twenty of the 22 course participants completed the NNRPDP evaluation form (Appendix C) upon completion of the course. Ninety percent of participants reported they could use knowledge and skills obtained in their educational context (Family Engagement Course Data, Appendix A) "to a great extent," while ten percent of participants reported they could use

knowledge and skills obtained in their educational context "to some extent" (Appendix A). Eighty percent of participants reported that the course added to their knowledge of the standards and skills for family engagement "to a great extent" while 20 percent of participants reported that the course added to their knowledge of the standards and skills for family engagement to "some extent" (Appendix A).

Textual analysis of the pre- and post-questionnaire responses (Appendix B), the NNRPDP Evaluation Form (Appendix B), Family Engagement Project Inquiry (Appendix D), and interview responses (M. Teague, personal communication, May 6, 2020) provided evidence of participant increased knowledge in multiple areas. For example, participants increased knowledge in components of effective family engagement (PTA, n.d.) related to the Family-School Partnership Standards adopted by Nevada (NSBE, 2015; PTA, n.d.). They also learned about research pertaining to family engagement, specific family engagement strategies, cultural aspects of families, and an expanded understanding of "who" is included in the "family" partnership and collaboration.

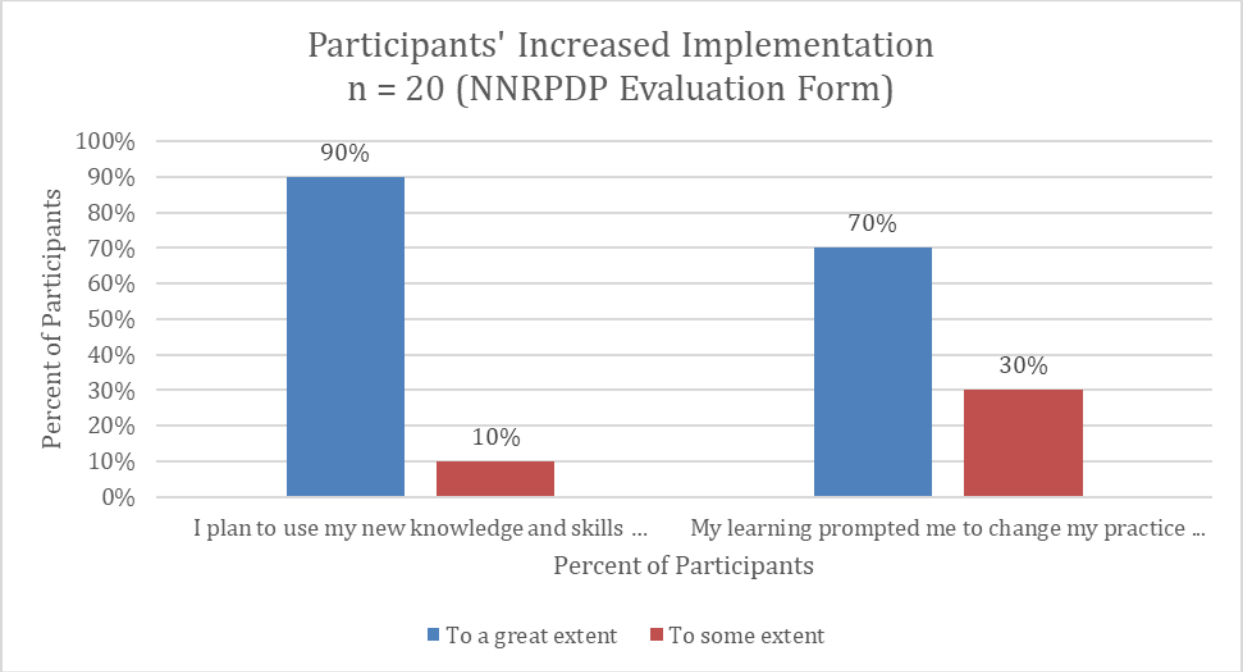
Textual analysis of the same items also uncovered shifts in participants' beliefs from the beginning of the course, to the end of the course (M. Teague, personal communication, May 6, 2020). Participants shifted from deficit-based views of families' capacities to asset-based views of families' capacities. They also shifted from one-sided perspectives to collaborative perspectives with all stakeholders (school staff, students, families, community). Participants shifted their thinking of family engagement as an "add on" to family engagement that is embedded within the learning process. They also shifted from a sense of isolation to a shared belief that all stakeholders are working towards the same goal of student success. The change in beliefs also related to participants' perception of barriers. Perceptions shifted from a substantial list of valid and misperceived barriers related to family engagement at the beginning of the course, to a similar list of valid barriers with a lens of possibility in addressing or removing the barriers. They also adopted an equity lens, in acknowledging that the barriers result in inequitable opportunities for students and families, and that the school must work to address those barriers systemically in order to realize the full potential of every child. One participant interviewee succinctly captured this shift in belief, stating "I didn't realize what a resource the parents can be to tap into. I just wanted them to show up before. Now I see they can actually help me teach" (M. Teague, personal communication, May 6, 2020).

Increased Implementation

Analysis of the NNRPDP Evaluation Form (Appendix B) showed that of the 20 respondents, 90 percent of participants plan to use their new knowledge and skills from the Family Engagement course in their educational context "to a great extent" and ten percent of participants plan to use their new knowledge and skills from the Family Engagement course in

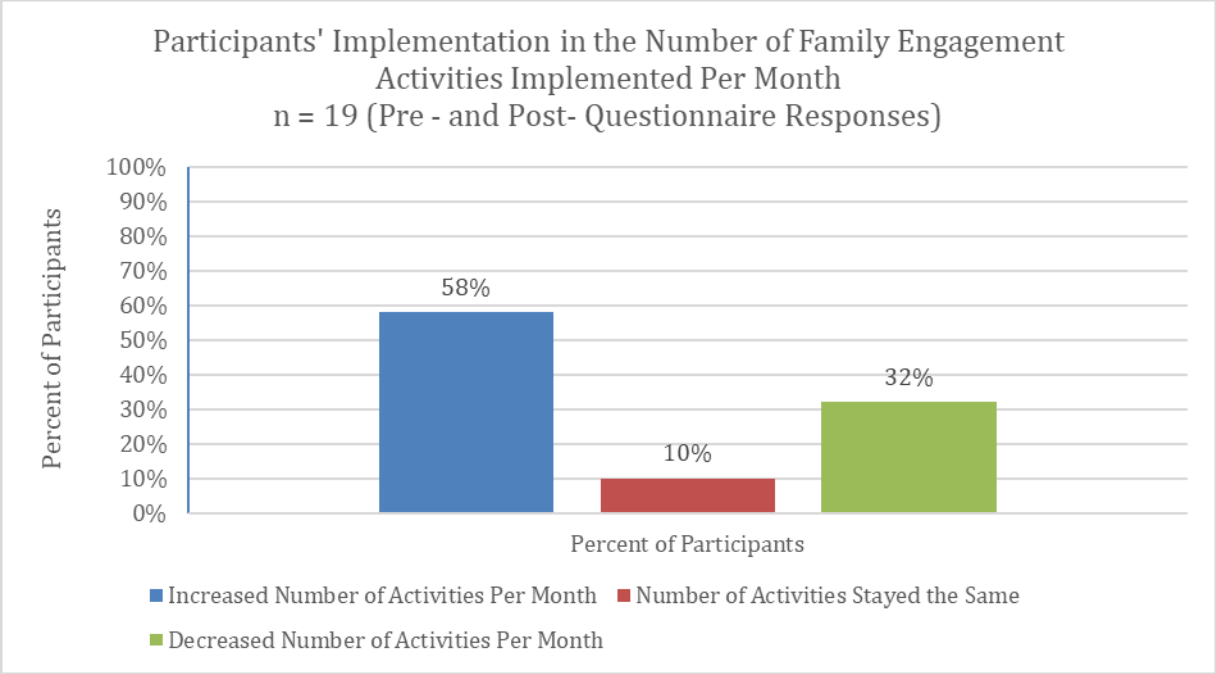
their educational context to “some extent” (Family Engagement Course Data, Appendix A). Seventy percent of participants acknowledged that their learning prompted them to change their practice “to a great extent” while 30 percent of participants acknowledged that their learning prompted them to change their practice to “some extent” (Appendix A). See Figure 5.

Figure 5 *Participants’ Plans for Increased Implementation*



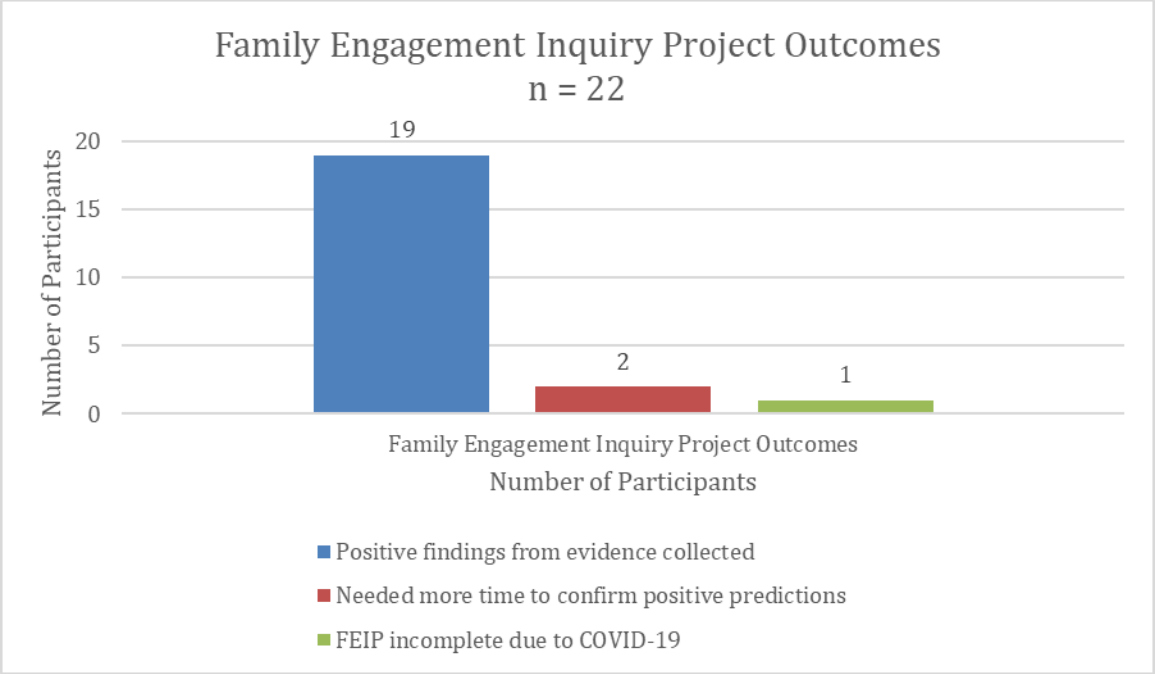
Analysis of the pre- and post-questionnaire (Appendix B) responses showed that of 19 respondents, 58 percent of participants increased the number of family engagement activities implemented each month, while ten percent of participants continued to implement the same number of family engagement activities after completing the course as they did prior to the course, and 32 percent of participants reported a decrease in the number of family engagement activities implemented each month after completing the course (Appendix A). The average number of family engagement activities initiated and implemented by respondents prior to the course was 2.5, whereas the average number of family engagement activities initiated and implemented by respondents after completing the course was 2.6 (Appendix A). See Figure 6.

Figure 6 *Participants’ Implementation of Family Engagement Activities Per Month*



Analysis of the Family Engagement Inquiry Projects (Appendix D) demonstrated increased implementation of evidence-based strategies within all 22 participants' educational contexts. Of the 22 participants, ten implemented a strategy intended to address Family-School Partnerships Standard (FSPS) 2: *Communicating Effectively* (NSBE, 2015; PTA, n.d.). Nine implemented a strategy intended to address FSPS 3: *Supporting Student Success* (NSBE, 2015; PTA, n.d.). One participant implemented a strategy intended to address FSPS 1: *Welcoming All Families* (NSBE, 2015; PTA, n.d.). One participant implemented a strategy intended to address FSPS 6: *Collaborating With Community* (NSBE, 2015; PTA, n.d.). And, one participant implemented two strategies intended to address both FSPS 2 and FSPS 3 (NSBE, 2015; PTA, n.d.). Of the 22 participants completing the Family Engagement Inquiry Projects, 19 collected evidence that showed a positive impact on students and family's engagement in the learning process. Two participants collected evidence that demonstrated a need for additional time to collect evidence before making a determination about the effect of the implemented strategy. One participant's Family Engagement Inquiry Project was abruptly ended due to the COVID-19 school closures (Elko County School District, communication, March 15, 2020) and the participant was unable to implement the selected strategy altogether. See Figure 7.

Figure 7 *Participants' Family Engagement Inquiry Project Outcomes*



Textual analysis of the NNRPDP Evaluation Form (Appendix B), Family Engagement Inquiry Projects (Appendix D), discussion responses, and participant interviews (M. Teague, personal communication, 2020) also highlighted participants' plans for future implementation of family engagement practices. All participants described their plan to continue implementing, modify, or add to the initial strategy selected for the Family Engagement Inquiry Projects. Participants also described their intention to apply their new knowledge through implementation in multiple ways. Positive two-way communication, relationship-building strategies, shared decision-making, and surveys to elicit feedback from families related to the learning were listed. Participants also mentioned implementing a partnership approach to supporting student success through shared knowledge and goal-setting, collaborative connections with the community, and family training events (NNRPDP Evaluation Form, responses, Appendix B). Several participants also noted that they plan to expand implementation from their educational context into the broader school-wide context through invitations to colleagues. These invitations included options to partner, welcome, and invite families into the school and learning community. Participants also expressed intentions of sharing their new knowledge by presenting to colleagues and administrators during staff training days, and collaborating together with colleagues to provide resources and support to families. The implementation of learning, both in knowledge and skills, was revealed in a snapshot from a participant interview:

> Interviewer: I guess you didn't have much time from the time you took the class until the COVID-19 closures happened. Were you able to implement anything with families before that time?

Participant: I've actually spent more time communicating with parents since the closures than I did before.
Interviewer: What have you been doing?
Participant: I've used a lot of the techniques to help families problem solve different situations until we get back to school next fall. I'm actually thinking that this virus and closures may create a lot more opportunities for family engagement. (M. Teague, personal communication, May 6, 2020)

Successful implementation of family engagement requires educational professionals to be able to execute their plan, and to identify potential barriers and then remove those barriers. Nineteen of the 22 course participants completed the pre- and post-questionnaire (Appendix B). Analysis of the pre- and post-questionnaire responses revealed that 90 percent of participants felt more confident increasing family engagement in their educational context after completing the course. Five percent of participants reported maintaining the same confidence level both prior to and after the course, and five percent of participants reported decreased confidence increasing family engagement after completing the course (Family Engagement Course Data, Appendix A). This initial finding was confirmed to be statistically significant (p-value < 0.0001) using a paired t-test to analyze participants' increased confidence for increasing family engagement, wherein 19 participants' initial confidence levels (M = 3.37 SD = 0.68) increased after completing the course (M = 4.47 SD 0.61). See Table 9.

Table 9 *Participants' Increased Confidence for Increasing Family Engagement*

	Mean	***Standard Deviation***
Pre -	3.37	0.68
Post -	4.47	0.68

p-value < 0.0001 (Using conventional criteria, this indicates extreme statistical significance)

Fifty-eight percent of participants reported increased confidence removing barriers to family engagement. Thirty-seven percent of participants reported decreased confidence removing barriers to family engagement, and five percent of participants reported their confidence level remained the same prior to and upon completion of the course (Appendix A).

Perceived Impact on Student Learning

Analyzing student learning, student progress, or other measures of student success were not a specific goal measured or evaluated in relation to the Family Engagement course. However, analysis of several data sources uncovered participants' perceptions of how their increased knowledge and implementation of family engagement will positively impact student learning.

Analysis of the NNRPDP Evaluation Form (Appendix C) responses revealed several important connections between participants' learning and perceived impact on student learning. Firstly, 100 percent of respondents reported that the course would help them meet the needs of diverse student populations "to a great extent" (Appendix A). Secondly, participants also ranked their belief that their learning will affect student learning; 80 percent of participants believe their learning will affect student learning to "a great extent" while 20 percent of participants believe their learning will affect student learning to "some extent" (Appendix A). Thirdly, participants described how implementation of their learning would affect student learning. Textual analysis highlighted participants' perceptions that student success would increase, that improved relationships would positively affect student learning, that student academic achievement would increase because families would know how best to help at home. Further, student learning will be positively impacted because research links higher levels of family engagement to higher levels of student success and achievement.

Analysis of the Family Engagement Inquiry Projects (Appendix D) unveiled one participant's collection of evidence that showed a positive impact of family training nights on students' math achievement scores using pre- and post- assessments. Two participants implemented a strategy, Academic Parent-Teacher Teams (Paredes, 2010), that research links to increased student academic achievement. Although, neither collected evidence of student learning in relation to the implementation of the strategy during the course.

Textual analysis of the discussion responses corroborated participants' perceptions that their increased learning about, and implementation of, family engagement would increase student learning and success. These perceptions were linked to specific actions or strategies that would be required in order for the positive impact to be realized. These actions included increased support for families linked to student learning standards and benchmarks, increased collaboration with families linked to learning objectives and goals, and increased student participation and engagement when families are included in learning.

Textual analysis of the pre- and post- questionnaire (Appendix C) responses show that participants believe family engagement ensures student success, is integral for student learning, improves outcomes for students now and in the future, and a catalyst for improving schools. One participant interview confirmed the perception that increased learning and implementation positively impacts student learning:

> Interviewer: It seems as though these Family Engagement techniques you're telling me about all take a lot of time.
> Participant: They do. A little extra time every day.
> Interviewer: So is it worth it?

> Participant: Yes! I'm seeing a direct correlation between me sending families these little, bite-size ideas tailored to how they can help their child at home and student achievement. I'm not spending as much time going back over things, those things are being reinforced at home. I'm introducing new concepts. (M. Teague, personal communication, May 6, 2020)

Discussion

Guskey (2002) suggested that "through evaluation, you can determine whether these [professional development] activities are achieving their purpose" (p. 46). The purpose of the Family Engagement course was to increase participants' knowledge and implementation of family engagement using evidence- and research-based sources and strategies.

The primary findings from analysis of the evidence collected prior to, during, and after the course suggest that for the first year of implementation, the Family Engagement course succeeded in increasing participants' knowledge and implementation of family engagement. The primary findings also revealed areas for improvement that could be used to guide revisions for course improvement. The small sample size (n = 22) allowed for basic data analysis, while a larger sample size in the future would allow for the integration of correlational analysis. Next is a detailed description of both positive and negative preliminary findings alongside Guskey's (2002) framework for evaluation of effective professional development.

Guskey (2002) proposed five levels of critical information that must be collected and analyzed in order to assess the professional development's effectiveness in achieving its intended purpose or goal. Each level increases in complexity and sophistication in relation to the type of evidence gathered, what the goal is for that particular professional development participant outcome, and how the evidence is used to measure effectiveness of the professional development.

Level One analyzes participants' "reactions to the professional development" (Guskey, 2002, p. 46). To address this level, the Family Engagement course focused on participants' perceived learning, perceived benefit or value, and perceived learning experience in relation to the instructor's experience and expertise. Ninety percent of participants reported that the course matched their needs "to a great extent" while ten percent of participants reported that the course matched their needs to "some extent" (NNRPDP Evaluation Form, Appendix B). Also, 80 percent of participants reported that they enjoyed the course and found it to be beneficial (Appendix A). These findings suggest that the course design and facilitation satisfied the majority of participants. In addition, 81 percent of participants enrolled in the course, completed the course, wherein completion was concluded to be those participants who completed the course with a passing grade and those who did not withdraw. Only 19 percent of participants did not complete the course with a passing grade or opted to withdraw. The low attrition rate adds

support for participants' satisfaction with the course as Bawa (2016) notes that online courses typically have an attrition rate of 40 to 80 percent. Additionally, while 86 percent of participants earned a final course grade of "A" which may seem to imply participants' satisfaction, this finding might also suggest that participants' satisfaction with their final course grade influenced their evaluation of the course more than other factors (VanMaaren, Jaquett & Williams, 2016). Therefore, any correlation between final course grades and course satisfaction must be undertaken with the knowledge that other factors might influence the positive correlation.

Evidence and analysis that measures participants' increased knowledge and skills gained from professional development is the second level according to Guskey (2002). The majority of Family Engagement course participants reported that the course increased their knowledge of the standards and skills for family engagement "to a great extent." They also reported the ability to use knowledge and skills obtained through the course in their educational contexts, and that their confidence to increasing family engagement grew after completing the course. These findings were statistically significant (Appendix A). These findings also show that course participants' overall self-efficacy increased, which is an important aspect of effective implementation of family engagement. According to the American Psychological Association (2020) "self-efficacy reflects confidence in the ability to exert control over one's own motivation, behavior, and social environment." Thus, increased confidence has positive implications for participants' increased implementation of family engagement.

Participants also demonstrated increased knowledge of components of effective family engagement related to the National School-Family Partnership Standards/Nevada Standards for Family-School Partnerships (NDE, 2015; PTA, n.d.), research pertaining to family engagement, specific family engagement strategies related to the standards, the importance of honoring families' cultural identities, and an expanded perspective of "who" is included within the family partnership and collaboration efforts (Appendix A). For example, one participant, when asked to reflect on their learning in the course, wrote "Implementing more family engagement strategies will hopefully lead to a higher level of family engagement overall. Research shows that higher levels of family engagement lead to higher levels of student success and achievement" (2019).

Participants' also revealed positive shifts in their beliefs about families' capacities for supporting their student(s), the need for two-way collaboration and communication, and the necessity for embedding family engagement within the learning process so that every stakeholder is working towards the same goal -- student achievement (Appendix A). Rosenthal and Jacobson (1968) argue that beliefs determine actions, which underscores the importance of teachers and other educational professionals believing that families are capable, and an important part of the learning process if they are to take action to successfully engage families in the learning process. Mapp et al. (2017) also notes that teachers must hold positive beliefs about families in order to effectively develop mutually trusting and collaborative partnerships with them focused on

student learning. These findings suggest that the Family Engagement course was designed and facilitated in such a way as to positively increase participants' knowledge and skills for family engagement, including changed beliefs that will positively influence future actions for family engagement.

Participants reported greater awareness of the importance of removing barriers. Fifty-eight percent of participants reported increased confidence removing barriers to family engagement after completing the course, five percent maintained the same level of confidence before and after the course, and 37 percent of participants reported decreased confidence removing barriers to family engagement after completing the course (Appendix A), suggesting that participants' increased knowledge and skills did not always correlate with their confidence to remove barriers, which has implications for implementation of family engagement in participants' educational contexts as well as future iterations of the course. While it is crucial that educational professionals be able to identify potential barriers to effective family engagement, it is also imperative that educational professionals feel confident removing those barriers, which requires having both self-efficacy and skills that allow them to do so. This finding also has important implications for participants' abilities to increase implementation of family engagement.

Guskey (2002) argues that participants' increased knowledge and skills must integrate, or be aligned, with organizational support and change in order for the benefits of professional development to be successful [Level 3]. Organizational support for change is crucial if the professional development is to be successfully implemented into participants' classrooms or educational contexts. Resistance to change from the organization, systemically, essentially nullifies any positive changes initially correlated to the professional development (Guskey, 2002).

While the Family Engagement course design and facilitation did not include specific collection of evidence related to organizational support and change, some unintended evidence emerged through participants' discussions, Family Engagement Inquiry projects, and written responses in the evaluation form and questionnaires. These findings suggest participants were aware of this critical connection. For example, every participant identified steps they could take to extend their learning and implementation from their individual context out into the broader school context. One example from a participant's reflection on their learning illustrates this finding: "I plan on using the strategies I learned in this course to enhance my own and my school's family engagement practices" (2020). Some participants described their intention to invite their colleagues to collaborate with them in family engagement efforts, while others explained their plan to share their new knowledge and skills with colleagues and administrators through presentations given during staff training days. Several participants noted actions they could take to better include their administrator in their future family engagement efforts and

activities (Appendix A; M. Teague, personal communication, May 6, 2020). For example, one participant reported "I will try to involve families more. I know there are things we need to help families become more aware of what is available for them. Sharing those resources is part of our responsibility" (2020). These implicit connections suggest that explicit attention to this aspect of professional development in future Family Engagement courses could prove to be an important area for improvement in order to develop participants' capacity to implement their learning strategically, within organizations open to change and those resistant to change.

In the fourth level of professional development evaluation, Guskey posits that participants' must apply their learning within their educational contexts in order to provide participants' opportunities to use their new knowledge and adapt new skills for the unique aspects of their setting (2002). The Family Engagement Inquiry Project (Appendix D) provided participants' a structured learning opportunity to implement, modify, and evaluate the effectiveness of a specific family engagement strategy within their educational context. During the inquiry process, participants received feedback from peers, and coaching from the instructor.

All but one participant was able to complete the inquiry process, which revealed that many of the strategies required modification in order to meet the unique needs of the context. Overall, all but two participants collected evidence that suggested a positive impact on students and families directly related to implementation of the selected strategy. One participant was not able to complete the inquiry process due to the sudden school closures necessitated by the COVID-19 crisis. However, it is important to add that this participant described a specific plan of action to follow through with the inquiry during the next school year. This intention suggests that they perceived value in the Family Engagement Inquiry Project process for their own learning, even though they have no obligation to do so in respect with the course. One participant wrote "The Inquiry Process was the most effective part of this class since I was able to use it within my daily teaching. I saw the immediate effects of utilizing family engagement on a large scale" (2019). These findings suggest that the Family Engagement Inquiry Project was an effective component of the course as it provided participants hands-on experience "trying out" a new family engagement strategy with support and coaching thereby enhancing the possibility for a positive implementation experience.

Increased implementation of family engagement was also evident in other measures. After completing the course, 58 percent of participants increased the number of family engagement activities each month they facilitated. Seventy percent of participants reported that their learning prompted them to change their practice to "a great extent", and 100 percent shared that they planned to use their new knowledge and skills in their context to "some extent" or to a "great extent" (Appendix A). One participant noted "I can connect to parents and families in so many ways. The tools and ideas shared in class were hands on [sic] for immediate use" (2019). These findings suggest that participants increased implementation during the class and intend to

continue those efforts beyond the class. Although, the degree and quality of implementation was not specifically measured for this report which provides an area for improvement for future courses.

The ultimate goal of professional development is to positively impact student learning (Darling-Hammond et al., 2017; Guskey, 2002; Murray, 2014). Guskey states that the fifth, and final level of professional development evaluation measures student learning outcomes related to the goals of the specific professional development (2002). For the purposes of this report goals were increased knowledge and implementation of family engagement. These goals were not evaluated in relation to student learning outcomes within each participant's educational context. However, participants did provide evidence of perceived, or potential, impact on student learning, providing valuable information for the course instructor to use for future course revisions and modifications. One participant did collect evidence that the implemented family engagement strategy positively affected students' performance on a math assessment. All other perceptions of impact on student learning were based on participants' reflection, observations and presumption of impact based on specific research that linked certain actions for family engagement to increased student achievement. One participant stated "It will greatly affect student learning when families are more involved!" (2020). Although this anecdotal evidence does not meet Guskey's (2002) guidelines for Level five evaluation, this evidence does suggest that future revisions to the course, with these guidelines in mind, could yield significant evidence for the overall impact of the Family Engagement course.

Conclusion

Family Engagement is linked to increased student achievement (HFRP, 2011; Wood & Bauman, 2017), however, many teachers and other educational professionals receive little or no formal training in effective family engagement prior to entering their professional field (Spielberg, 2011; Mapp & Kuttner, 2013). Thus, the NNRPDP Family Engagement Course is intended to build educational professionals' capacity for effective family engagement through increased knowledge and implementation of family engagement within their unique educational contexts (Figure 2. NNRPDP Family Engagement Logic Model).

Evaluation of the first year of the course revealed positive outcomes for participants, including increased knowledge and increased implementation of family engagement. These findings suggest that the initial course structure, design and facilitation were effective. The primary component of the course is the Nevada Parental Involvement and Family Engagement Training Program (n.d.). Initial evidence from this evaluation seems to indicate that using this program leads to increased knowledge of family engagement as participants work through the modules. The course instructor, while designing the course noted that the modules did not

include specific activities for implementation. Therefore, the Family Engagement Inquiry Project component was added in order to address that gap in course design.

The course also included synchronous and asynchronous discussions, reflection tasks, and a small research component where participants located five evidence-based practices or strategies for family engagement aligned with each of the six Standards for Family-School Partnership (NSBE, 2015; PTA, n.d.). Based on the evidence for increased learning and implementation of family engagement, these course components might be carried over for future Family Engagement courses.

Overall, participants' satisfaction with, and perceived benefit of the Family Engagement course indicate that the professional development was effective in meeting participants' needs, and increasing knowledge and implementation of family engagement. Several participants' statements captured their overall perception of the course. One participant shared "I can connect to parents and families in so many ways. The tools and ideas shared in class were hands on for immediate use." (2019). Another stated "Implementing what I have learned will have a positive affect [sic]" (2019). A third participant said "This class was very helpful in presenting and stressing the importance of family engagement within the educational setting. Furthermore, it helps to generalize learning by providing us with strategies that we can implement at our schools" (2020).

However, the lack of evidence and findings related to organizational support for change and student learning illuminate critical areas for improvement if the course is to continue to be offered next year. In addition, the findings that revealed participants' lack of confidence removing barriers to family engagement also highlight another vital area for improvement. Thus, the course instructor might carefully consider adding measurement tools to determine the organizational support for change in relation to each participant prior to starting the course. Such information may better support the integration of potential interventions or approaches into the course learning opportunities. With regard to organizational support for change, it is imperative to add that this aspect of professional development poses the greatest challenge to the facilitator as it is the factor of professional development over which the facilitator potentially has the least amount of influence (Guskey, 2002). The course instructor might explore ways to support participants' development of necessary skills to identify and remove barriers to more effectively implement family engagement.

It would also be extremely important for the course instructor to determine, what if any, evidence should be collected by participants related to student learning outcomes as the goal of all professional development should be to positively impact student learning (Darling-Hammond et al., 2017; Guskey, 2002; Learning Forward, 2011; NDE, 2017). There are many factors that influence student learning, and family engagement is but one of the factors. This poses

challenges for evaluation related to student learning as evaluating student learning in relation to the Family Engagement course would require significant planning in order to reduce external variables, along with integration of control or comparison groups. However, the benefit of evaluating the effectiveness of the Family Engagement course through its impact on student learning would certainly be worthwhile for demonstrating to participants and other essential stakeholders the value for the course, and ultimately, for family engagement training that expands out beyond the course.

The evaluation process also revealed the critical need for identification and integration of a valid and reliable instrument for measuring participants' increased knowledge, implementation, and change in beliefs or practices related to family engagement. The integration of a valid and reliable instrument would increase the significance of future findings about the effectiveness of the Family Engagement course.

Barriers and possibilities for future Family Engagement courses must also be considered. Potential barriers are many. For example, the addition of other approved courses promoted within the region by district leaders, the unknown number of educational professionals still needing to remove the PIFE provision from their educational license, and the COVID-19 crisis which has required educational professionals to significantly alter their current practices. Amidst these challenges, there are potential possibilities for future Family Engagement courses. Examples include the possible adoption of a regulation by the state that would remove the credit-requirement for the PIFE provision and allow participants to complete the course for a Certificate of Professional Learning instead. This would reduce the cost of the course significantly as participants would only need to purchase the course text (approximately $25.00). Additional examples include course promotion by past satisfied participants, and increased knowledge and experience for the course instructor.

Overall findings reveal that educational professionals in the NNRPDP region benefited from completing the new Family Engagement course offering. This claim is evidenced through increased knowledge and implementation of family engagement, during the initial year of implementation of the course. Findings also provided valuable insight for the course instructor to consider during the revision process for future course offerings that could increase the effectiveness of the professional development course (Darling-Hammond et al., 2017; Guskey, 2002). The link between effective family engagement and student success is clear (Flamboyan Foundation, n.d.; Mapp et al., 2017; Mapp & Kuttner, 2013; Paredes, 2010). Therefore, it is imperative that all educational professionals in the region have access to a quality, and contextualized, professional learning opportunity (Spielberg, 2011; Weiss et al., 2018; Wood & Bauman, 2017) such as this course. Thus, capitalizing on the positive relationship between increased family engagement and increased student achievement.

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K-2 Literacy Support

Because literacy is fundamental for success in college, career, and civic life, it is crucial to support strong literacy development in the early grades (National Early Literacy Panel, 2008). It has been said that students "learn to read" in kindergarten through third grade and then "read to learn" in grades four and beyond. While this statement is inaccurate -- even beginning readers read to learn and learning to read is a process that continues through high school and beyond -- the importance of early literacy learning as a foundation to meet the increasingly complex literacy demands beyond the primary grades cannot be overstated (Duke, 2019). Recognizing the importance of early literacy as a gateway to ongoing success, the Nevada legislature enacted SB391 also known as "Read by Grade Three" in the spring of 2015. As of the 2019-2020 school year, the bill requires each elementary principal to designate a full time Literacy Specialist to support teachers at the school site to work with the school administrator and teachers, serve as a resource for professional development, and build master reading teachers to improve student reading achievement.

The Literacy Specialist position requires the integration of a myriad of skills, strategies, and dispositions (Standards for the Preparation of Literacy Professionals, 2017) starting with deep pedagogical and content knowledge in literacy combined with experience teaching students. In addition to the ability to teach students, Literacy Specialists must master the andragogical skills, strategies, and dispositions of teaching adult learners. While Literacy Specialists work in many capacities, the role of coach is prominent. Many schools and districts hire coaches in literacy or other content areas with the assumption that, because they are excellent classroom teachers, they will also make excellent coaches. However, without providing coaches a strategic learning pathway for the additional skills needed to become an effective coach of adult learners, the transition from classroom teacher to coach can be a frustrating experience (Aguilar, 2013).

Prior to the start of school in 2019, Humboldt County School District (HCSD) requested professional development services from the Northeastern Nevada Regional Professional Development Program (NNRPDP) to support the Literacy Specialists at three elementary schools. The district was in the second year of implementing a new literacy curriculum for kindergarten, first, and second grades. The three Literacy Specialists had the demanding task of mastering navigation of the new curriculum, gaining a deep understanding of each literacy component and the ways components are integrated to support early literacy, and to support all K-2 teachers in implementing the curriculum to meet the needs of all students.

Two knowledgeable and experienced NNRPDP Coordinators were chosen to lead the work, one with extensive experience teaching literacy in the primary grades and the other with experience teaching both elementary and secondary literacy. This combined experience brought to the work a necessary close lens of teaching beginning readers and writers as well as a broad

lens of teaching literacy beyond the primary grades. Additionally, both Coordinators have coaching training, skills, and experience. Coordinators' coaching training includes participation in multiple intensive institutes in coaching literacy including digital literacy. Both have studied and applied multiple coaching methods including Elena Aguilar's transformational coaching method (TCM), Cathy Toll's problem-based coaching (PBC) methods, and Jim Knight's Impact Coaching (IC) method. Both Coordinators are experienced in coaching teachers one-on-one, and in group and lab settings.

To accomplish the goals of the project, Coordinators needed to dedicate the time to plan, coordinate, and facilitate monthly coaching institutes, curate learning resources aligned with Literacy Specialists' stated goals that aligned with school and district goals, facilitate weekly virtual PLC meetings, and be responsive to the dynamic needs of the Literacy Specialists. The Coordinators supported the Literacy Specialists' learning of the knowledge and skills necessary to coach and facilitate adult learners. Literacy Specialists then applied those coaching and adult facilitation skills to support the growth of K-2 teachers in their teaching of literacy. To accomplish this, Coordinators implemented a three-part plan: First, Coordinators planned and facilitated monthly two-day coaching institutes. Each day of the institute consisted of a half day of learning coaching content and a half day lab experience of applied coaching in various contexts and configurations. Secondly, Coordinators facilitated weekly virtual Professional Learning Community (PLC) (Vescio, Ross & Adams, 2008) meetings that fostered collaboration among Literacy Specialists and were tailored to meet the ongoing and dynamic needs of the Literacy Specialists. The Literacy Specialists' PLC focused on collaborative learning, collaborative planning, solving professional dilemmas, and district alignment of practice. Coordinators ensured the work remained productive through following carefully planned agendas and the use of protocols. Finally, Coordinators provided just-in-time coaching support to literacy specialists to address individual needs as they arose.

Because this project was cut short due to the COVID-19 global pandemic, the last two coaching institutes were not held nor was the final planned observation of Literacy Specialists conducted. With school closures, the Nevada Superintendent of Public Instruction announced that students would not take end of the year standardized tests. Therefore, the planned student achievement data analysis comparing the beginning of the year and end of the year MAP scores was not available for this report; instead, the Coordinators compared the available MAP scores from fall and winter. The Coordinators also included reading record data (Ross, 2004) from assessments administered by classroom teachers across the course of the year to show student reading achievement and growth.

Initial Data and Planning

All three elementary schools asserted increased achievement in reading as their number one priority as stated in school improvement plans. Each school outlined specific goals to that end including reducing the number of students scoring below the 40th percentile by 10% in each grade level and increasing the percent of students proficient overall. Literacy Specialists have the potential to impact all K-2 teachers, and thus all K-2 students. Thus, schools identified supporting Literacy Specialists work with K-2 teachers to effectively implement the district literacy curriculum as key to improving instruction to meet the needs of all students.

While the Literacy Specialists had spent a great deal of time learning the curricular components and system, because they were not in the classroom teaching students, they lacked first-hand experience using the materials for instruction. Acknowledging this lack of actual classroom use of the materials, they elected a different learning focus. Rather, they identified their most pressing need as developing the coaching and facilitation knowledge and skills to work effectively with adult learners. According to coaching expert Elena Aguilar (2013), coaches are generally hired because of their skill and effectiveness in the classroom, without consideration of the separate, equally important, and complex skills of working with adult learners, and without a designated path to acquire these additional competencies. These Literacy Specialists were no exception. They were hired because they were exceptional classroom teachers; however, they had no formal training in coaching and facilitating the learning of adults.

To address acquiring first-hand experience with the curriculum, Literacy Specialists began the school year spending a portion of the day using the new materials to teach small groups of struggling readers. When the Coordinators began the work, they observed each Literacy Specialist in small group sessions with students. These observations, which took place after Literacy Specialists had been working with students for about a month, revealed that the Literacy Specialists had the necessary skills to apply the new curriculum with students and were confidently using the materials along with their professional skill and judgment to meet the needs of students.

Supporting the Literacy Specialists to broaden and continuously recalibrate their focus from teaching students to teaching adults became a key coaching point for the Coordinators. The Literacy Specialist position required by RBG3 legislation came with the expectation that the Literacy Specialists work full time in the role of supporting teachers to become more effective at teaching literacy. In the instance of teaching small groups of students each day, Literacy Specialists needed to either conclude their work with students in order to carve out more time to coach teachers or continue teaching small groups of students but shift the focus to adult learners by inviting teachers to co-plan, observe, or co-teach the session followed by reflection and

debrief. Strategic use of time and resources to impact adults was a major focus of the intervention.

Initial gathering of information revealed that the intervention plan would need to provide space for, and promote, Literacy Specialists' autonomy to apply the skills and strategies learned to their unique contexts. While the plan would need structure and consistency, a one-size-fits-all approach would not be efficacious. While similar in many respects, each of the three schools differ as well. The schools are led by administrators with different values and ideas regarding professional learning; varying philosophies of teaching and learning prevail at each school; the teaching staff as a whole, grade level teams, and individuals at each school site differ significantly. Some school staff, teams, and individuals whole-heartedly embraced learning opportunities offered by Literacy Specialists or required by administrators; others were more reluctant. Some teachers viewed the Literacy Specialists with skepticism indicating a need to develop trust and to be convinced of the efficacy of the learning in order to progress to the next step in a coaching relationship. To meet the various needs of teachers at each school, Literacy Specialists needed to tailor the way they implemented skills and strategies with a differentiated approach.

As Coordinators met with the Literacy Specialists and with administrators to gain an understanding of the strengths and challenges of each school, it became apparent that, in order for Literacy Specialists to have the greatest impact, stakeholders would need to broaden their definition of coaching (Moody, 2019) from one-on-one interactions with a single teacher to include coaching groups of teachers as well as all other interactions with teachers. Each school's expectations for Literacy Specialists differ slightly and Literacy Specialists fulfill many duties beyond what might traditionally be considered coaching including facilitating staff professional learning sessions, facilitating small-group grade-level PLCs, leading Instructional Consultation Meetings (ICAT) and assisting with developing intervention plans, entering and analyzing data, and parent communication, in addition to one-on-one coaching sessions. While some Literacy Specialists' tasks could be adjusted or schedules changed to allow more one-on-one coaching opportunities, many could not. Thus, the intervention plan needed to fit within, and maximize use of, existing schedules and structures common to, as well as unique to, each school. For the greatest impact, Literacy Specialists needed to expand upon and enhance opportunities to work with teachers, treating every interaction with teachers as an opportunity to facilitate teacher learning and growth.

To assess where to begin support for Literacy Specialists to develop the complex knowledge and skills to coach and facilitate the learning of teachers in their building, Coordinators used a tool designed by Elena Aguilar (2013), creator of the Transformational Coaching Model (TCM). The Transformational Coaching Rubric identifies a wide range of skills within six essential components of an effective coach: knowledge base, relationships, strategic

design, the coaching conversation, strategic action, and coach as learner. The use of the Transformational Coaching Rubric in the project was multi-faceted. Coordinators used the tool to help guide planning as well as utilizing the rubric as an observation tool. The Literacy Specialists used the tool as a self-assessment at the beginning and mid-year. They also collectively chose skills within each component on which to focus. Initial observations of Literacy Specialists in their coaching role using the Transformational Coaching Rubric along with Literacy Specialists' self-assessment data allowed Coordinators to plan next steps and to exercise a responsive approach to learning. Table 10 identifies skills the Literacy Specialists chose to work on in each component along with needs identified by the Coordinator.

Table 10 *Chosen Components of the Transformational Coaching Rubric*

Transformational Coaching Rubric Component	Skills the Literacy Specialists chose to work on	Additional needs the NNRPDP Coordinator observed
Knowledge Base	Coaching approaches Adult learning theory Inquiry lens	Shift from teaching students to coaching teachers Shift from collaborator to coach
Relationships	Enrolling a client (beyond compliance)	Build a coaching culture
Coaching Conversation	Range of approaches Entry points	Strategically lead conversations through questioning and other strategies
Strategic Design	Data Goals Theory of action	Creatively use existing schedules and structures to impact more teachers more often. Focus more on working with teams of teachers.
Strategic Action	Feedback Reflective Analyzing data Modeling Coaching activities Gradual release Client needs	Implement structures such as peer learning labs allowing teachers to learn from and with each other in settings that are job-embedded and close to practice.
Coach as Learner	Collaborates with other coaches Solicits feedback Reflects on coaching practice Seeks professional learning opportunities	

To address needs identified by the Coordinator as well as skills chosen by the Literacy Specialists, an intervention was designed consisting of three components: 1) monthly two-day coaching institutes, 2) weekly virtual Professional Learning Community meetings, and 3) "just-in-time" individual coaching for Literacy Specialists.

Monthly coaching institutes addressed the need to support the Literacy Specialists to collectively build knowledge, skill, and capacity around coaching adult learners. A growing number of schools are implementing some form of instructional coaching to support teacher development, and, according to a meta-analysis of 60 studies conducted by Kraft and Blazar (2018), coaching works! Coaching has been shown to have a significant impact in teacher

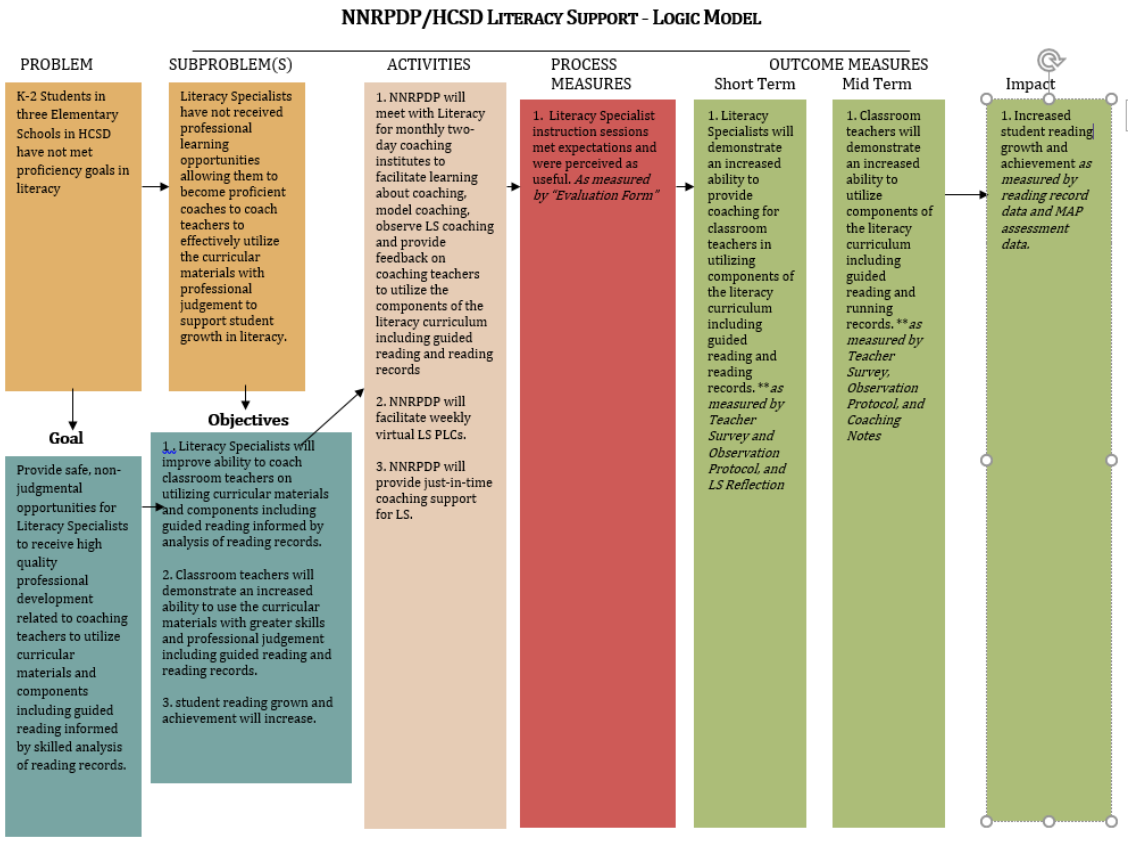
practice and a smaller, but measurable impact on student achievement (Kraft & Blazar, 2018). Literacy coaching in particular has been shown to have a significant impact on student reading achievement (Elish-Piper & L'Allier, 2011). However, coaching is also an expensive form of professional development given the time and expertise required to provide one-on-one support for teachers. Because one-on-one coaching is expensive, one way to fulfill the promise of coaching impact is through coaching teams of teachers (Moody, 2019). Peer learning labs (Patterson & Tolnay, 2015) in which coaches facilitate and impact the learning of multiple teachers at once were also incorporated in the monthly coaching institutes as a vehicle for team learning. Peer learning labs provide an authentic shared experience for teachers to explore the links between planning, instruction, and assessment while gaining a collective vision for what works in teaching and learning. Teams of teachers began by analyzing reading records to determine a learning focus followed by careful planning of a guided reading lesson. After this planning session, the team entered a classroom to teach or observe the lesson, followed by a reflection and debrief session.

Weekly virtual Professional Learning Communities (PLC) meetings sustained and deepened an already-established collaborative relationship between Literacy Specialists while being responsive to ongoing dynamic needs. Research shows that well-developed Professional Learning Communities have a positive impact on both teaching practice and student achievement (Ross & Adams, 2008; Hargreaves & O'Connor, 2018) and are a powerful collaborative team structure (Fulton & Doerr, 2010). Effective PLCs build collective efficacy, an influence in education shown to have a very high effect size according to the meta-analysis of researcher John Hattie who placed collective efficacy as the number one influence in 2016. With collective efficacy, a team adheres to a belief that together, they can impact the teaching and learning process over and above any negative influences. Because Literacy Specialists work as coaches and facilitators to support the learning of teachers in their building, the focus of their work is distinct from classroom teachers. While they might participate in or facilitate the work of grade level teams, they are not part of the team in the same way which creates a feeling of isolation. The opportunity to collaborate weekly with others in the same role was an essential component of the learning design of the intervention.

"Just-in-time" coaching is an approach that has become popular across professions offering in-the-moment focused coaching as challenges arise rather than waiting for regularly scheduled sessions which may or may not address specific needs. This component allowed Literacy Specialists to reach out via phone call or video platform with imminent needs such as rehearsing an upcoming conversation with a client, refining plans for a professional learning session with a team of teachers, or planning a peer learning lab.

The initial data and planning resulted in the logic model shown in Figure 8. This model outlined identified outcomes, the learning needs of those involved, along with planned intervention approaches.

Figure 8 *HCSD and NNRPDP Logic Model*



Local Resources and Capacity

Humboldt County School District entered the professional learning with the necessary resources and ample capacity to accomplish the work. Literacy Specialists were eager to work with Coordinators and enthusiastically committed to the significant amount of time required for learning and applying new skills, as well as demonstrating the willingness to be vulnerable to receive and provide feedback. Each of the three Literacy Specialists came to the work with extensive knowledge in the education field reflected in master's degrees, two in literacy, as well as skills gained from over twenty years' experience teaching literacy in grades K-2. Throughout their careers, the Literacy Specialists have sought out and completed a broad range of literacy training including balanced literacy through CELL/EXLL, guided reading through the Bureau of Education and Research, participation in the Nevada Reading Excellence Act, National Board certification, as well as extensive reading, classes, and conferences.

Administrators agreed to support the work by providing Literacy Specialists the necessary time away from their regularly-scheduled duties. Each administrator met with Coordinators and the Literacy Specialists from the school multiple times to coordinate and recalibrate efforts. When the monthly coaching institute was held at a particular school, the administrator assisted with planning and coordinating the event and welcomed Coordinators and Literacy Specialists from throughout the district to share in the learning.

The district office supported the learning by setting up initial meetings and providing an agreed-upon text, The Art of Coaching (Aguilar, 2013), that helped provide a framework for the learning.

A Professional Learning Plan (see Appendix M) was created and shared. The plan outlined basic details of the project. Details included outcomes and evidence, and the agreed-upon roles and responsibilities of each collaborative entity described in Table 11.

Table 11 *Roles and Actions of Educators*

NNRPDP Coordinators	Literacy Specialists	Administrators	K-2 Classroom Teachers
• Facilitate weekly PLC meetings • Plan and facilitate monthly 2-day coaching institutes. • Curate and provide coaching content • Model coaching • Coordinate opportunities for LS to practice coaching • Coach LS as they coach teachers • Provide just-in-time support for LS as needed	• Attend and participate in weekly PLC meetings • Attend and participate in monthly coaching institutes • Increase opportunities to impact teachers • Apply skills and strategies in coaching teachers including providing and receiving feedback	• Allow time for LS to attend PLC meetings • Allow time for LS to attend monthly 2-day coaching institutes. • Meet with LS and NNRPDP Coordinator when needed.	• Willingly and actively participate in coaching opportunities both individually, as teams, and as a whole group • Provide as well as receive feedback

While coaching is a costly professional learning model in terms of time and fiscal investment, particularly when focused on one-on-one interactions between coach and teacher, the district had already allocated funds for Literacy Specialists' salaries in accordance with state legislation. Despite being an expensive model, coaching has the potential for greater impact on changing teacher practice and raising student achievement in comparison to other professional learning models (Kraft, Blazar & Hogan, 2018). Research on coaching specific to reading in the early grades suggests that coaching contributes to significant reading gains (Elish-Piper & L'Allier, 2011).

The intervention design supported the overall strategic goal of all the elementary schools to increase the effectiveness of Tier one instruction with full implementation of the new literacy curriculum. Tier one instruction refers to instruction provided in the regular classroom to meet the needs of all students. The implementation model, which included safe supported interactions between Literacy Specialists and Coordinators, and between Literacy Specialists and teachers, also supported the three Humboldt County School District goals laid out by the school board of trustees: 1) improve academic achievement at all levels for all students 2) develop capacity for leadership at all levels 3) establish safe, respectful and supportive learning environments in all sites, schools, and classrooms.

A "gradual release of responsibility framework" was implemented to assist Literacy Specialists as they assumed more leadership and responsibility for continuing the work once it was begun. This framework purposefully shifts responsibility from teacher to learner, or in this case to Literacy Specialists. Coordinators began the year by modeling structures and strategies, then including Literacy Specialists in planning and facilitating, and then observing the Literacy Specialists implementing structures and strategies while providing feedback. It is the hope that the intervention will last longer than one year. Research indicates that many years of sustained implementation are necessary to yield results (Borman et al, 2003; Borman & Hewes, 2002; Doss, Akinniranye, & Goke, 2020).

Method

Learning Design

The intervention design included three key components:

1. A monthly two-day coaching institute designed to acquire and apply new knowledge of coaching and facilitation of adult learning. Institutes included various application structures such as peer learning labs where teachers and coaches collectively experience the fundamental components of teaching: data analysis, planning, teaching, and reflecting.
2. Weekly virtual Literacy Specialists PLC meetings designed to foster collaborative culture of shared practice.
3. Just-in-time coaching to provide relevant, in-the-moment coaching to solve current challenges.

The learning design components, each with a different purpose, take into account the three theories of adult learning and align with the seven features of effective professional development advanced by The Learning Policy Institute (Darling-Hammond, Hyler & Gardner, 2017). The design also accounts for Nevada's Standards for Professional Learning (Nevada Department of Education, 2017).

Three major theories of adult learning have emerged over the past quarter of a century. These theories include the theory of andragogy, the theory of self-directed learning, and the theory of transformational learning (Corley, 2008). From the **theory of andragogy**, the learning design for this intervention included opportunities for Literacy Strategists to *co-construct learning objectives* by choosing aspects of the Transformational Coaching Rubric on which to focus. Literacy Strategists in turn offered this same opportunity to teachers at their schools by sending out a survey. This survey allowed teachers to identify components of the literacy curriculum they most wanted to focus on with coaching support. Literacy Strategists also had an opportunity to *collaboratively select methods, materials, and resources*. Each monthly coaching institute and weekly PLC, while following a consistent structure, allowed for collaborative planning between Coordinators and Literacy Strategists in order to meet the dynamic learning needs of the group as well as those of teachers at their schools. Each Literacy Specialist's learning experience also included opportunities for evaluating *the learning experience and making adjustments* as needed. Coaching institutes were refined and adjusted based on reflection on previous institutes. From the **theory of self-directed learning**, the learning design of the intervention included *self-assessment* and *negotiating learning goals and strategies*. From the theory of **transformational learning**, *creating a climate of trust, participation, and problem-solving* were prioritized on all levels.

The Learning Policy Institute (Darling-Hammond et al., 2017) defines seven features of effective professional learning based on extensive study of the research. The learning design of this intervention embodies all seven features. The intervention is **content focused** (p. 5, 2017) on literacy. The intervention **incorporates active learning** (p. 7, 2017) where Literacy Specialists and teachers try the strategies and skills of teaching and coaching in classroom settings. The intervention **supports collaboration** (p. 9, 2017) in all aspects as Literacy Specialists collaborated with Coordinators, with one another, and with teachers sharing practice to positively impact instruction. The intervention **uses models of effective practice** (p. 11, 2017) using research supported components of a comprehensive literacy approach while building professional knowledge and judgment of when and how to effectively use various approaches. The intervention **provides coaching and expert support** (p. 12, 2017) which is the central component of the design. Literacy Specialists receive coaching and expert support from Coordinators and in turn, they coach and support the individual and collective needs of K-2 teachers at their school. The intervention **provides opportunities for feedback and reflection** (p. 14, 2017). Coordinators integrated opportunities for feedback and reflection in every interaction with Literacy Specialists and with teachers. This included written feedback and reflection as well as ongoing dialogue. This intervention was of **sustained duration** (p. 15, 2017) with short and longer regular and consistent interactions over the course of a school year.

The intervention also aligns with Nevada's Standards for Professional Learning (NDE, 2017) as shown in Table 12.

Table 12 *K-2 Literacy Support Aligned with the Standards for Professional Learning (NDE, 2017)*

Standard	Alignment
LEARNING COMMUNITIES: Professional learning that increases educator effectiveness and results for all students occurs within learning communities committed to continuous improvement, collective responsibility, and goal alignment	NNRPDP Coordinators provided multiple opportunities for LS to form and benefit from a productive and collaborative learning community. In weekly virtual PLCs, LS came together on a regular basis to discuss ways to increase their effectiveness and impact across school contexts and to align literacy and coaching goals. Participation in monthly coaching institutes provided LS an opportunity to learn content together, distilling a shared understanding of best practice in literacy learning, best practice in coaching, and space to apply content in a supportive context.
LEADERSHIP: Professional learning that increases educator effectiveness and results for all students requires skillful leaders who develop capacity, advocate, and create support systems for professional learning	NNRPDP Coordinators provided opportunities for LS to develop leadership capacity. As LS became more knowledgeable and skilled in working with adult learners and more confident in coaching, they also gained greater capacity assuming greater responsibility for developing the teaching capacity within the school and district.
RESOURCES: Professional learning that increases educator effectiveness and results for all students requires prioritizing, monitoring, and coordinating resources for educator learning	NNRPDP Coordinators curated relevant research-based texts and materials. They provided materials to build upon the current knowledge and skills of LS and to respond to the collective and individual needs of LS as they arose.
DATA: Professional learning that increases educator effectiveness and results for all students uses a variety of sources and types of student, educator, and system data to plan, assess, and evaluate professional learning.	LS participants collaboratively chose elements of Elena Aguilar's Transformational Coaching Rubric on which to focus and gain proficiency. This rubric served as a self-assessment tool, a guide to content, and an observation tool for NNRPDP Coordinators to use when observing LS. A teacher survey gave LS and NNRPDP coordinators an opportunity to reflect on the effectiveness of their work and to make adjustments. Student data in the form of running records gave teachers, LS, and NNRPDP coordinators continuous formative data on which to base next steps in instruction.
LEARNING DESIGNS: Professional learning that increases educator effectiveness and results for all students integrates theories, research, and models of human learning to achieve its intended outcomes	NNRPDP Coordinators designed this professional learning opportunity utilizing adult learning theory, and research-based practice in coaching. The design focuses on developing the specific knowledge and skills necessary to effectively coach teachers. It incorporates active learning as LS are able to try new coaching strategies in authentic, job-embedded contexts. Consistent with current best practice for adult learners, the learning design calls for collaborative practice, gives opportunities to co-

Participants and Procedure

This initiative focused on supporting three Literacy Specialists at three K-4 elementary schools in one district. Each of the three schools serves between 350 and 520 students with approximately ten to fifteen K-2 teachers at each school for a total of thirty-seven teachers.

Measurement

Objective One

Literacy Specialists will demonstrate an increased ability to coach and facilitate classroom teachers' skills with teaching the literacy components of the chosen curriculum, particularly guided reading informed by reading records. To determine the correlation between the intervention provided by Coordinators and the growth of Literacy Specialists as coaches, the Coordinators conducted a textual analysis of the Coordinators' notes, Literacy Specialists' reflections, teacher survey data, and notes from a focus group interview with the Literacy Specialists conducted by an outside evaluator. Additionally, the Literacy Specialists completed a self-assessment at the beginning and mid-year using the Transformational Coaching Rubric.

Objective Two

Classroom teachers will demonstrate an increased ability to use the curricular materials with greater skill and professional judgment including guided reading and reading records. To determine the correlation between the literacy specialists' increased capacity as coaches and the growth of K-2 teachers, the Coordinator conducted a textual analysis of a teacher survey, Literacy Specialists' reflections, and notes from a focus group interview with the Literacy Specialists conducted by an outside evaluator.

Objective Three

Students will demonstrate increased growth and achievement in literacy. To determine the correlation between teachers' increased ability to provide effective literacy instruction and increased student reading achievement, the Coordinator examined student achievement and growth data from two sources: 1) reading records performed by classroom teachers and 2) Measures of Academic Progress (MAP) reading assessment.

Reading record assessments (Ross, 2004) are conducted by classroom teachers, with individual students, using a coding system to measure reading accuracy, fluency, and comprehension. Skilled classroom teachers use the results of the reading record to determine next steps for teaching individuals and small groups of students. The Coordinator used data from reading records conducted in January and February for Kindergarten students and in October and February for first and second grade students.

Measures of Academic Progress (MAP) is a computer adaptive, normative assessment. The original plan prior to the global pandemic was to compare MAP reading data for fall and spring. However, MAP data were only available for fall and winter. Kindergarten does not complete the fall MAP assessment; Kindergarten winter MAP scores are not included.

The various measurement methods and tools used to provide evidence of meeting these objectives are shown in Table 13, aligned with Guskey's five levels of professional development (Guskey, 2002).

Table 13 *Five levels of Professional Development Evaluation (Guskey, 2002)*

Evaluation Level	Questions Addressed	How Will Information be Gathered?	What is Measured or Assessed?	How Will Information Be Used?
1. Participants' Reactions	*Training expectations, presenter skills, increased knowledge, motivation to improve*	*NNRPDP Evaluation Form*	*Initial satisfaction with the experience*	*To improve program design and delivery*
2. Participants' Learning	*Did participants acquire the intended knowledge and skills?*	*NNRPDP observation notes of LS as coaches aligned with elements of the Transformational Coaching Rubric* *LS reflections during the year* *LS end of the year focus group interview conducted by an outside evaluator* *HCSD K-2 teacher survey* *LS self-assessment using the Transformational Coaching Rubric.*	*LS as coaches ability to coach classroom teachers in utilizing components of the literacy curriculum including guided reading and reading records*	*To improve program content, format, and organization*
3. Organization Support and Change	*Was implementation advocated, facilitated, and supported? Was the support public and overt? Were problems addressed quickly and efficiently? Were sufficient resources made available? Were successes recognized and shared? What was the impact on the organization's climate and procedures?*	*Teacher survey*	*The organization's advocacy, support, accommodation, facilitation, and recognition*	*To document and improve organization support* *To inform future change efforts*
4. Participants' Use of New	*Did participants effectively apply the new knowledge and*	*NNRPDP observation notes of LS as coaches aligned with*	*LS ability to coach classroom teachers in utilizing components*	*To document and improve the implementation of*

Note. Italicized text is the Coordinators' description of evidence collected during the course.

Unless otherwise noted, qualitative responses are only included in this report if they are representative of a larger pattern of responses. In other words, the statements included are from one person, but they represent the opinions of multiple individuals.

Results

Objective One

Literacy Specialists demonstrated an increased ability to coach and facilitate classroom teachers' skill with teaching the literacy components of the chosen curriculum, particularly guided reading informed by reading records. Textual analysis of multiple sources and perspectives including the Coordinators' notes, literacy specialists' reflections, teacher survey data, as well as notes from a focus group interview with the Literacy Specialists conducted by an outside evaluator provided evidence suggesting that the Literacy Specialists grew as coaches in all components of the transformational coaching rubric. Themes that emerged in each component of the Transformational Coaching Rubric (Aguilar, 2013) are shown in Tables 14, 15, 16, 17, 18, and 19 along with support from the perspectives of the Coordinators, the Literacy Specialists, and classroom teachers.

Table 14 *Knowledge Base Component of the Transformational Rubric*

Theme	Source: NNRPDP Coordinators' Notes	Source: Literacy Specialists Reflections & Interviews	Source: Classroom Teacher Surveys
The LS understood and assumed the role of coach and facilitator of adult learners. This profound paradigm shift propelled the LS from teacher of students to teacher of teachers and from collaborator to coach.	*LS wearing a "coaching hat" as opposed to a "teaching hat" was noted in peer learning labs as LS focused on teacher learning, noting student learning, but more importantly, what teachers noticed about student learning.*	*"We've re-defined our roles this year; instead of being collaborative supporters, we've moved into the coaching goal with the outcome of improving teacher practice and impacting students."*	*"S sat in on some of my Guided Reading lessons and provided feedback and possible adjustments throughout."*
The LS increased knowledge of adult learning theory provided a foundation for coaching and facilitation.	*LS provided teachers autonomy in their learning; Teachers were given opportunities to express their learning needs and LS responded.*	*"I have designed and facilitated all day grade level PLC meetings with teachers and have used my knowledge of adult learning theory to increase teacher learning."*	*"J has been helpful with book clubs this year" This statement captures an instance of teachers exercising choice around which literacy component on which to work.*
The LS increased knowledge of coaching led to a greater variety of coaching approaches including skillful questioning, modeling, and building on successes and strengths.	*Coordinator noted LS "meets the teacher where she is - does not give her answers; asks good questions."*	*"I taught the teachers to ask questions and think ahead."*	*J often pops into my room and leaves me a little note of something I am doing well and either a question (guided question) or small suggestion/tweak to improve my teaching.*
The LS increased knowledge of coaching led to greater ability to ascertain teacher needs and strategic responsiveness to those needs.	*LS focused on why as well as how to use the literacy materials. Discussions with teachers, planning with teachers, all became opportunities for formative assessment of teacher learning needs.*	*"The teachers were going through the motions of the curriculum. They were using it, but they weren't digging in deep and really using it for what it can do."*	

Table 15 *Relationships Component of the Transformational Coaching Rubric*

Theme	Source: NNRPDP Coordinators' Notes	Source: Literacy Specialists Reflections & Interviews	Source: Classroom Teacher Surveys
The LS consistently adopted a supportive and strengths-based stanced with teachers	*Coordinator notes use the words safe, positive, warm, and support to describe LS interacting with teachers. LS asks "What contributed to your success?"*	*"I always try to honor teachers' time by finding out what they already know before I design PD or start a coaching cycle."*	
Teachers began to reach out for support	*The coordinator noted that as relationships of trust developed, teachers reached out to LS more readily with concerns.*	*"I feel like there was a success in my coaching in this interaction before I even made contact with the teacher because it was the teacher who made the request for help!"*	*"I would like to see individual and group coaching continue."*

Table 16 *Coaching Conversation Component of the Transformational Coaching Rubric*

Theme	Source: NNRPDP Coordinators' Notes	Source: Literacy Specialists Reflections & Interviews	Source: Classroom Teacher Surveys
The LS intentionally used a variety of strategies to support teacher learning	The coordinator scribed the following pieces of conversation: "I don't want to set a goal for you - you need to set a goal that is meaningful to you." "Where can I support you?" "What contributed to your success?"	*One of the more important things I learned this year was getting my client to reflect and speak first following my observation. I'd ask, "So how do you feel the lesson went?" ... Often, through her talking first, she would come to a solution, idea, or future modification to the perceived issue in her lesson.*	

Table 17 *Strategic Design Component of the Transformational Coaching Rubric*

Theme	Source: NNRPDP Coordinators' Notes	Source: Literacy Specialists Reflections & Interviews	Source: Classroom Teacher Surveys
The LS incorporated a goal-oriented approach with teachers and for themselves	*The Coordinator noted that LS begin conversations by restating goals.*	*Goal for the week: fine-tune PD with K-w teachers*	
The LS maximized the use of existing structures and schedules to impact more teachers more often more effectively	*The Coordinators observed that LS impacted more teachers more often by facilitating grade-level PLC planning days, using coaching moves in ICAT meetings, creative scheduling of peer learning labs to avoid having subs.*	*I have started a group ICAT case with my coachee, so hopefully that will increase opportunity.*	

Table 18 *Strategic Action Component of the Transformational Coaching Rubric*

Theme	Source: NNRPDP Coordinators' Notes	Source: Literacy Specialists Reflections & Interviews	Source: Classroom Teacher Surveys
LS maximized impact on K-2 teachers by coaching and facilitating teams of teachers rather than relying solely on one-on-one coaching. Peer learning labs were one structure for team learning.	*LS continually looked for opportunities to maximize impact on teachers. Peer learning labs allowed LS to facilitate the learning of one or more teams of teachers in a morning addressing data analysis, planning, teaching, and reflecting.*	*I've been able to conduct another learning lab with 1st grade.*	*The learning lab helped with Guided Reading.*
LS facilitated teachers' analysis and utilization of student data including reading records to plan responsive instruction.	*Coordinator noted that the LS demonstrates will not only in analyzing the reading record, but in the use of questions to help the teacher recognize possible teaching points.*	*During most of our coaching sessions we...looked at some type of student work. This was important as it guided our direction for future meetings.*	*Because of the training ...on using a students'...reading record to direct [the] next teaching moves with that student or group, it made me more aware of …. how to move forward with the student/group.*
LS were strategic in their coaching and facilitation actions in response to teacher learning needs.	*Coordinator noted that where LS often chose effective actions initially, they became more intentional and strategic in those actions thinking about how different actions would impact teacher learning.*	*There is not a one size fits all approach. Every interaction whether it's whole staff, group, or individual needs to be right for the situation.*	

Table 19 *Coach as Learner Component of the Transformational Coaching Rubric*

Theme	Source: NNRPDP Coordinators' Notes	Source: Literacy Specialists Reflections & Interviews	Source: Classroom Teacher Surveys
LS engaged in consistent and deliberate reflection on their coaching practice noting two related ideas - they have grown a great deal and there is so much more to learn.	*LS were open to and often asked NNRPDP for feedback and were open*	*The rubric was an excellent tool for me to use as a reflection piece at the end of this school year. I have learned so much through the work with NNRPDP, but I feel I'm just starting to put it together. I sincerely hope this work continues; though the work is challenging, it pushes me to grow.*	
LS consistently and purposefully collaborate with other coaches	*LS expressed appreciation for the opportunity to meet weekly with other coaches.*	*I feel like my geocaching toolbox has expanded and that I have support! In the past, I felt like I was on an island by myself when it came to coaching. Now I feel like there is a team of people that are there for me to reach out to.*	

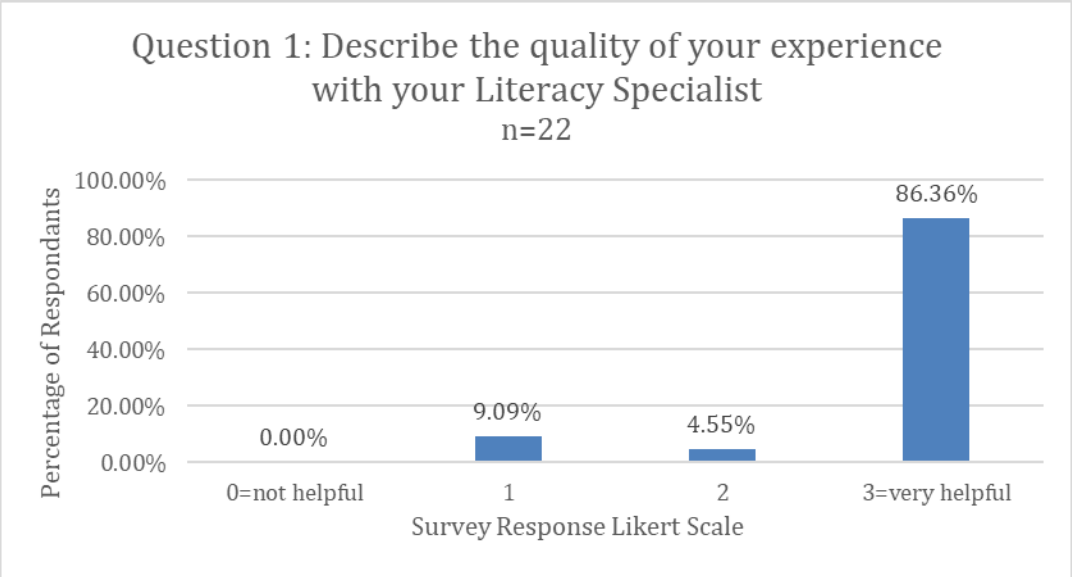
The Literacy Specialists completed a self-assessment using chosen components of the Transformational Coaching Rubric at the beginning of the intervention and again mid-year. The Literacy Specialists rated themselves on a scale of one to five with one indicating "beginning", two indicating "emerging", three indicating "developing", four indicating "refining", and five indicating "modeling." In the two areas related to literacy -- guided reading and reading records -- the Literacy Specialists rated themselves with scores of four (refining) and five (modeling). In the remaining skill, all related to coaching, Literacy Specialists' self-assessment scores note growth in almost every area, rating themselves with beginning scores mostly ones and ending scores mostly threes, with frequent increases of two or more levels. The Coordinator observed Literacy Specialists growth across all components and skills with notable growth in the areas of strategic design and strategic action.

Objective Two

Classroom teachers demonstrated an increased ability to use the curricular materials with greater skill and professional judgment including guided reading and reading records as

measured by a teacher survey and Literacy Specialists' observations. Twenty-two of thirty-seven teachers solicited completed the six-question survey as shown in Figure 9.

Figure 9 *Question One: Describe the quality of your experience with your Literacy Specialist*



Question Two

When you think about GUIDED READING or other FPC systems [district-selected curriculum], what is one thing you are doing differently as a result of either individual or group coaching with your Literacy Specialist?

Forty-two percent of teachers surveyed indicated that as a result of Literacy Specialists coaching, they are more intentional and responsive in their teaching including analysis of reading records, use of professional judgment, and purposeful planning. Other teachers indicated affective components of confidence and excitement.

Question Three

How do you think that change in your teaching practice around GUIDED READING or other FPC systems [district-selected curriculum] has/will impact student achievement?

Teacher responses included phonics, fluency, and comprehension as well as meaningful conversations, overall student achievement, and higher level thinking. Other responses addressed the affective component of student reading achievement including enjoyment of reading and comfort level with reading.

Question Four

When you think about analyzing and using READING RECORDS to inform your teaching, what is one thing you are doing differently as a result of either individual or group coaching with your Literacy Specialist?

Sixty-eight percent of participants indicated that, as a result of individual and/or group coaching with the literacy specialist, they are now intentionally analyzing reading records to inform teaching and respond to student needs. Increased collaboration was also mentioned as was frequency of collecting and using reading record data.

Question Five

How do you think that change in your teaching practice around the use of READING RECORDS has/will impact student achievement?

Eighty-six percent of teachers surveyed indicated confidence that the practice would promote student achievement, growth, and affective elements such as engagement and love of books.

Question Six

Do you have any recommendations to improve either the individual or group coaching you received from your Literacy Specialist?

Thirty-six percent of teachers surveyed provided recommendations to the literacy specialists including more support, modeling, more individual and group coaching, and more time.

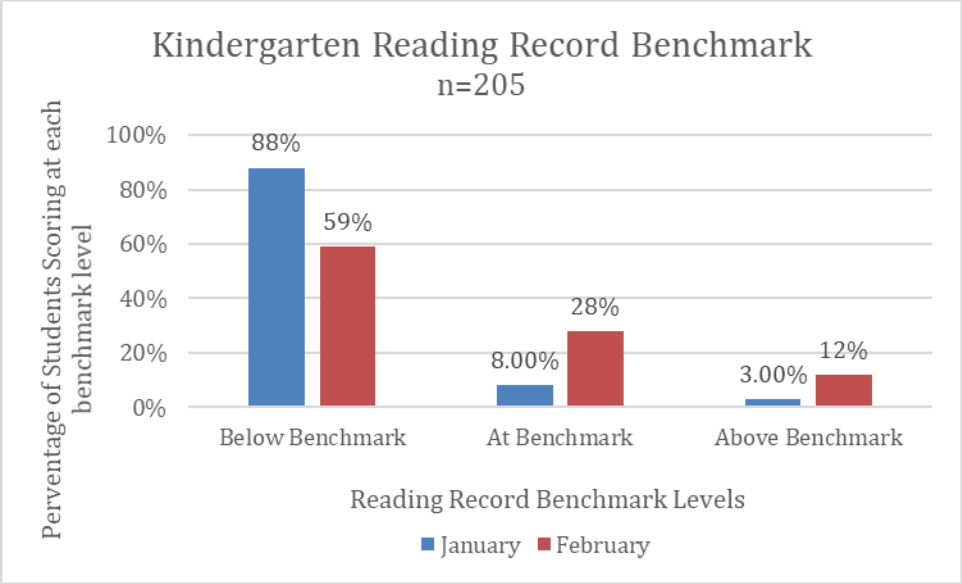
Literacy Specialists' Observations of Changes in Teacher Practices

When asked if they noticed changes in teacher practice as a result of coaching, the Literacy Specialists focus group noted that teachers "were starting to ask better questions" and that teachers "were being more reflective in their planning."

Objective Three

Students will demonstrate increased growth and achievement in literacy. Teachers began collecting reading record data on kindergarten students in January. Figure 10 shows a comparison of January to February indicating that the number of kindergarten students below benchmark in January decreased significantly, the number at benchmark increased as did the number above benchmark.

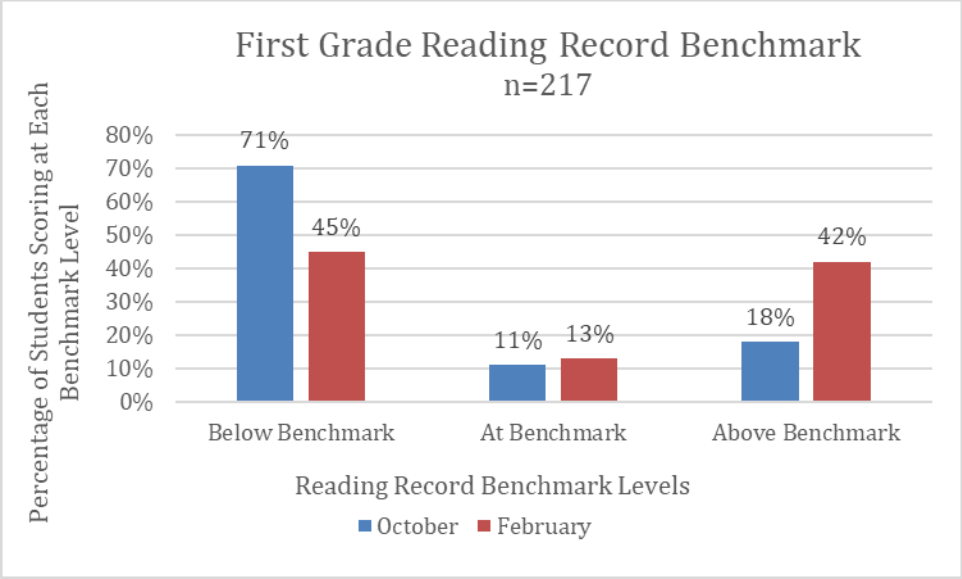
Figure 10 *Reading Record Data*



Note. Unmatched pairs were discarded.

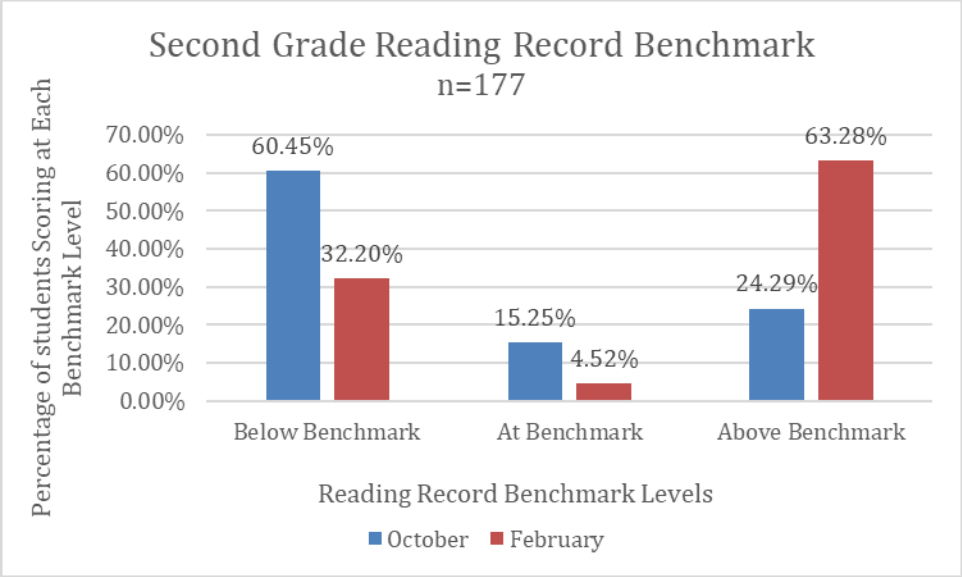
First grade reading record data collected in October and February shows a significant decrease in the number of students scoring below benchmark, a slight increase in the number at benchmark, and more than twice as many students above benchmark as noted in Figure 11.

Figure 11 *First Grade Reading Record*



Second grade reading record data shown in Figure 12 indicates that half as many students scored below benchmark in February, far fewer students scored at benchmark, and more than twice as many students scored above benchmark.

Figure 12: *Second Grade Reading Record*



MAP reading scores

MAP assessment data for first and second grades compare fall-to-winter scores as the global pandemic and resulting suspension of all statewide assessments by the Nevada Superintendent of Public Instruction for the spring precluded the intended comparison between

fall, winter, and spring. Kindergarten scores are not included as the students only completed one MAP assessment in winter.

First grade MAP scores in Figure 13 show a fairly static percentage of students in each percentile band. The Coordinator originally intended to use MAP data from fall and spring extending the learning time between assessments. Negative growth on the winter MAP assessment can be due to a relatively short interim between fall and winter assessments.

Second grade MAP scores shown in Figure 14 remained static across percentile bands in fall and winter. The Coordinators originally intended to use MAP data from fall and spring extending the learning time between assessments. However, due to the global pandemic, spring MAP scores were unavailable.

Figure 13 *First Grade MAP Scores Fall to Winter 2019*

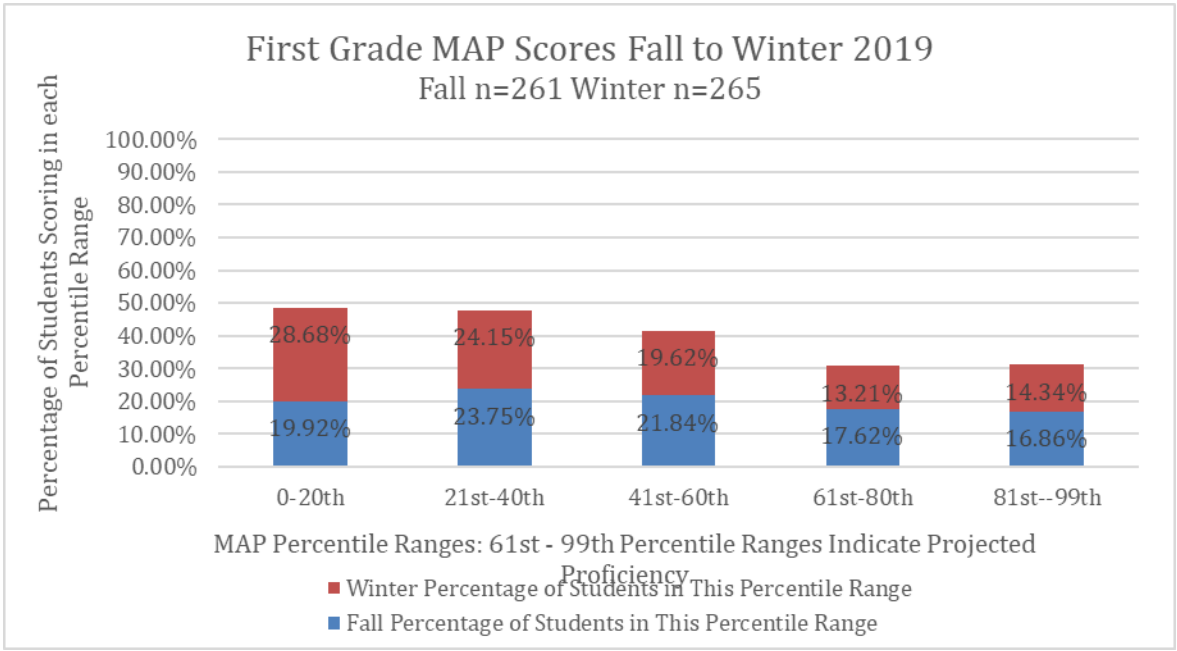
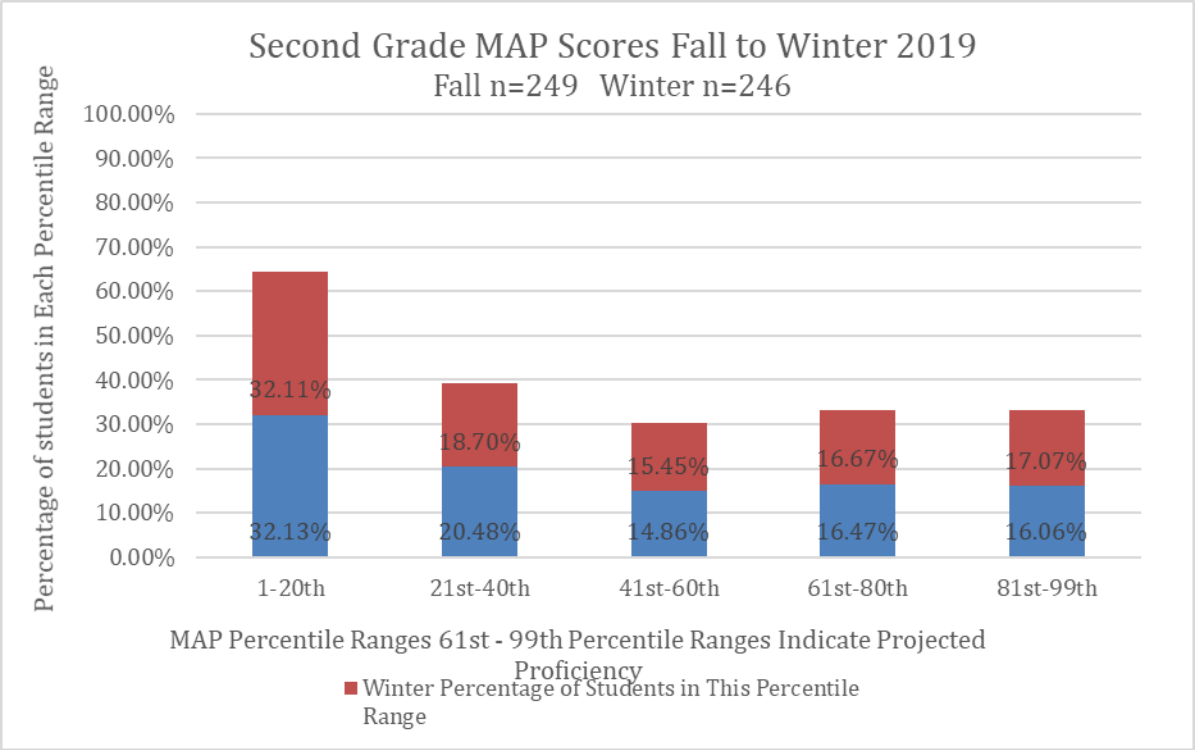


Figure 14 *Second Grade MAP Scores Fall to Winter 2019*



NNRPDP Evaluation Completed by Literacy Specialists

All three Literacy Specialists completed the NNRPDP Evaluation form (see Appendix B). On all eleven questions using a Likert-scale from one, not at all to five, to a great extent, all three Literacy Specialists rated the training with a five, to a great extent. Among the results, the Literacy Specialists indicated that the training matched their needs, provided opportunities for interactions and reflections, and that the [Coordinators'] experience and expertise enhanced the quality of the training.

All three Literacy Specialists responded to the open-ended questions with positive comments including:

> [NNRPDP Coordinators] have been working with me pretty much the whole year around improving my skills as an ELA coach. I cannot say enough about the work that I have done with them this year. I have grown so much and especially in my coaching skills. They have helped me with one-on-one coaching, coaching and PD with small groups, and coaching and delivering PD to whole staff!! Because of the work that I have engaged with from Treena and Ketra I have been able to more confidently engage teachers and staff in the area of ELA.
>
> I've been attending professional development learning workshops/classes for the past twenty-six years and this experience through NNRPD with Treena and Ketra has been one

> of the most beneficial professional development opportunities I've participated in as a teacher. I've grown in my ability and confidence to coach fellow colleagues while strengthening my relationships with the other literacy specialists in my district through the careful and thoughtful facilitation/leadership of Ketra and Treena. My hope is that we'll continue to be able to work together during the upcoming school year. The coaching I learned this year will support teachers which will then support student learning (NNRPDP Evaluation Form).

Discussion

From an Evidence-Based Intervention (ESSA) standpoint, the intervention shows Promising Evidence at Tier Three.

Goal

There is substantial evidence that the overall goal of the intervention was met. Literacy Specialists were provided safe, non-judgmental opportunities to receive high-quality professional development related to coaching teachers to utilize curricular materials and components including guided reading informed by reading records.

Objective One

The intervention objective that Learning Specialists will demonstrate an increased ability to provide coaching for classroom teachers in utilization of components of the literacy materials including guided reading and reading records was achieved. Evidence suggests that the Literacy Specialists' knowledge and skill advanced in every component of the Transformational Coaching Rubric. While acknowledging notable growth, the Literacy Specialists themselves argue that there is a need for "coaching 2.0."

Objective Two

Evidence indicates that significant progress was made on objective two -- teachers increased their ability to exercise professional judgement and responsive teaching while utilizing the district curriculum. Many teachers attested to their growing ability and confidence to analyze reading data and use formative data to inform responsive instruction. Some expressed appreciation for the Literacy Specialist and attributed their growth to the work the Literacy Specialists did to help them improve.

Objective Three

Evidence from reading records benchmarks suggests that progress was made on objective three --student growth and achievement in reading. Data from reading records shows positive statistical significance in all three targeted grade levels -- kindergarten, first, and second. MAP score evidence did not show student achievement or growth in alignment with the third objective; however, it is unknown if this finding can be considered reliable as students did not complete the third assessment in the spring due to the global pandemic.

The intervention was successful overall with a positive impact on Literacy Specialists' ability to coach and facilitate teachers' learning, on classroom teachers' ability to utilize the literacy materials provided by the district while responding to student learning needs, and on student literacy growth and achievement.

Conclusion

Coaching is a professional learning model that, particularly in concert with other effective structures such as PLC and peer learning labs, is clearly promising (Kraft, Blazar & Hogan, 2018). However, many teachers are hired as coaches with no clear path for acquiring the andragogical skills, strategies, and dispositions that will make them successful. The intervention implemented by NNRPDP Coordinators was intended to chart a path to support Literacy Specialists in Humboldt County School District to gain knowledge of coaching and facilitating adult learners and to apply new knowledge in authentic settings. The premise of the intervention was that gaining and applying these skills combined with broad literacy knowledge and experience, Literacy Specialists would impact all K-2 classroom teachers at their school site to be better equipped to utilize curricular materials in literacy with professional skill and judgment and that student achievement and growth would increase.

Evaluation of the first year of implementation of support for Literacy Specialists suggests positive implications for Literacy Specialists, for classroom teachers, and for students. The positive trends noted in this report suggest that continued implementation would positively affect students. As Literacy Specialists continue to develop and refine coaching and facilitation abilities, they will impact teachers' continued improvement in practice, thus leading to an increase in students' reading growth and achievement.

While the basic structures of this intervention could be replicated with success in other settings -- monthly coaching institutes, weekly PLCs, and just-in-time coaching support, a critical theme of the work was the idea of reciprocal responsive teaching and learning. Coordinators were responsive to the learning needs, interests, and goals of the Literacy Specialists. Literacy Specialists were responsive to the learning needs, interests, and goals of classroom teachers. And classroom teachers were responsive to the learning needs, interests, and goals of students. These needs, interests, and goals, must be ascertained and plans negotiated to work within existing school structures and contexts.

A large part of year one of this intervention included breaking through barriers in attitudes toward coaching. In the education profession, coaches have often been assigned to ineffective, struggling, or new teachers or even as a means of documenting poor performance in order to remove a teacher. Shifting toward the belief that everyone can benefit from coaching, carefully creating cultures of coaching and of improved practice, is not achieved overnight and the work, as Literacy Specialists and teachers alike noted, was in the initial stage. Thus, continued momentum in the intended direction is necessary to further evaluate the effectiveness of the intervention.

Should the intervention continue next school year, it would likely be necessary to consider ways to support the work of Literacy Specialists, classroom teachers, and students in online, blended, and face-to-face settings with a plan for smooth transitions. Because of the global pandemic, the intervention was cut short and the ways in which NNRPDP provides professional learning for educators and the ways educators provide instruction for students will likely change significantly in the upcoming school year. Modifications may be needed particularly in the delivery of the implementation since much of the work took place in face-to-face settings. For instance, coaching institutes may need to move to a virtual platform.

If time and other resources allow, a next step, which would facilitate evaluation at a higher level, could include tracking the progress of classroom teachers who work closely with the Literacy Specialists opposed to a control group, possibly in a similar district or school, who do not receive this targeted coaching support. The intervention could also be tried in a content area other than literacy to determine whether the intervention is transferable in that way.

It is the hope of the Coordinators that the intervention continues into year two and beyond in order to maintain the momentum achieved in year one. Year two could build on current foundations already in place: first, Literacy Specialists' increasing ability to coach and facilitate the effective professional practice of classroom teachers; second, with individual and team coaching structures in place at school; and third, a growing culture of accepting and embracing coaching as individuals and teams. Thus, continuing the intervention into year two would include the benefits of additional time, experience and professional learning that would further increase the positive impact on K-2 teachers and students.

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Middle School Math Fellowship: Year 2

Nevada's mission is to improve student achievement and educator effectiveness by ensuring opportunities, facilitating learning, and promoting excellence. To achieve this mission, Nevada has set aggressive goals to improve student performance; one of which is to increase Nevada's middle school students' proficiency rates as measured by Smarter Balanced Assessment Consortium (SBAC) criterion referenced tests. In the New Nevada Plan, Nevada identified the goal to improve math proficiency from the 27% baseline proficiency rate to a 46% proficiency rate by 2022. The New Nevada Plan identifies the Northeastern Nevada Professional Development Program (NNRPDP) as a crucial partner in reaching this goal. As a crucial partner, the NNRPDP created the Middle School Math Fellowship (Fellowship) to support Nevada's educators and students in achieving Nevada's goal by providing professional development supports to deepen understandings of student achievement targets outlined by SBAC and to strengthen instructional practice.

Initial Data and Planning

Nevada earned a D ranking, second to last in the nation, from the 2019 Quality Counts report. The Nation's Report Card reported Nevada at a 27% proficiency rate for eighth grade mathematics. Compared to 13 states in the consortium, Nevada ranked near the bottom for performance on the SBAC 6-8 grade mathematics assessments with a 32% proficiency rate in 2017-2018 and a 33% proficiency rate in 2018 - 2019. Proficiency rates for the northeast region were comparable in 2018 - 2019 with Eureka County at 44%, Lander County at 37%, Elko at 34%, Humboldt County at 34%, White Pine at 24%, and Pershing County at 22%. The Nevada Every Student Succeeds Act (ESSA) Advisory Group (2019) recommended Nevada strive to increase mathematics proficiency rates to 46% proficiency by 2022. The regional professional development programs are identified in The New Nevada Plan as an instrumental component in leading the charge to achieve Nevada's goals (2017, p. 38).

Potential root causes identified for the middle school students' mathematical proficiency ratings is the lack of understanding of the necessary instructional shifts associated with the Nevada Academic Content Standards for Mathematics (NVACS-M) Major Works of the Grade and the SBAC Claims. Indeed, in *Principles to Actions*, the National Council of Mathematics identified the need for instructional shifts to occur in order to improve students' mathematics achievement as "too much focus is on learning procedures without any connection to meaning, understanding, or the applications that require these procedures" (2014, p. 2). Mathematics educators need to be aware of and understand these shifts and become inspired to employ them in their practice. Recognizing a lack of understanding of the instructional shifts undermines the ability to improve instructional practices and impact student performance. The NNRPDP was employed as the intervention to support middle school math teachers' understandings of the NVACS-M Major Work of the Grades and the SBAC Claims.

The NNRPDP has three Mathematics Specialists on staff who possess the capacity to support educators throughout the region. In addition to graduate degrees in mathematics and National Board Certification in Adolescent Mathematics, the specialists have served on SBAC committees, such as performance assessment writing committees, achievement level setting committees, and the State Network of Educators for the Digital Library. The Mathematics Specialists have participated in work with the mathematics standards at the local, state, national, and collegiate level. The NNRPDP Mathematics Specialists have presented at local, state, and national conferences and have facilitated innumerable courses, workshops, and professional development opportunities related to NVACS-M across the region.

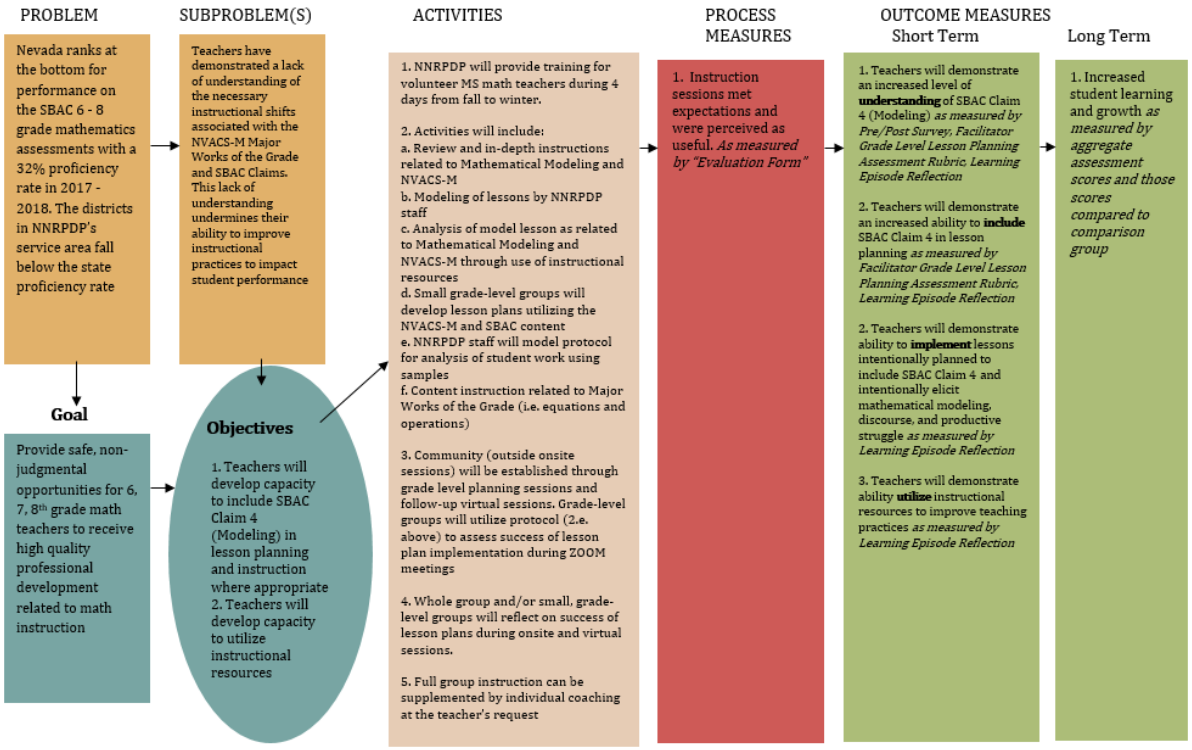
The ultimate goal for the Fellowship was to increase students' mathematical proficiency levels by improving educators' ability to create and deliver rigorous instruction aligned with the NVACS-M. The NNRPDP Mathematics Specialists' expertise served to inform the planning of the ongoing and sustained professional development structure of the Fellowship, which included:

- Defining measurable goals
- Obtaining director approval
- Earmarking funding for substitutes
- Securing an online platform for planning and debriefing meetings
- Reserving a venue for full day sessions
- Obtaining the approval and support of superintendents of the region's six counties
- Recruiting Efforts:
    - Flyer, Registration Form, and Process
    - Emailing superintendents and/or curriculum directors (dependent on district personnel) and principals in region to generate awareness of learning opportunity for middle school math teachers
    - Follow up with Fellows who participated in Year 1 of the Fellowship via an email to inform how feedback from Year 1 of the Fellowship was used to inform the design of Year 2 of the Fellowship and invite to participate in Year 2
    - Personal conversations with middle school math teachers as opportunities arise to invite to participate
- Obtaining Southern Utah University (SUU) credit for Fellowship participation
    - Draft and submit course proposal for SUU credits
    - Draft directions for how to enroll and apply for SUU credits
    - Establish a MySchoolBucks account for SUU credits to be processed and paid for by the participant
    - Monitor fulfillment of course requirements
- Planning Fellowship sessions with NNRPDP Mathematics Specialists
- Meeting with curriculum directors, contacting Data Recognition Corporation (DRC), contacting the Nevada Department of Education (NDE) assessment department to determine what SBAC data are, or can be, made available to teachers
- Generating session structures:

    - Whole-group presentation on the concepts associated with the Major Works of the Grade the Grades to deepen participants' understanding of misconceptions, progressions, instructional methods
    - Grade level lesson planning breakout sessions for grade level teams to plan a lesson in a unit of instruction that lends itself to mathematical modeling
- Examining, reflecting, revising, and adjusting the Fellowship
- Reporting results

The Mathematics Specialists' objectives for Year 2 of the Fellowship included developing the fellows' capacity to incorporate SBAC Claim 4: Mathematical Modeling and Data Analysis into lesson planning and instruction where appropriate and to utilize related instructional resources. To achieve the objectives, the Mathematics Specialists established roles and responsibilities, implementation timelines, resources, and monitoring strategies as outlined in the following Logic Model (Figure 15):

Figure 15 *Middle School Math Fellowship: Year 2 Logic Model*



Method

Learning Design

The NNRPDP is called upon by members in the region and the state as an intervention measure to impact desired outcomes. The effectiveness of the NNRPDP is evidenced in annual reports to stakeholders and outlined in professional learning plans based on research-based practices. The NNRPDP Mathematics Specialists' learning design of the Fellowship was informed by the New Nevada Plan (2017), Nevada's Standards for Professional Development (2018), Guskey's Five Levels of Professional Development (2002), the U.S. Department of Education's guidance document, Non-Regulatory 2 Guidance: Using Evidence to Strengthen Education Investments (2016), and effective teacher professional development research. The content and foci of the Fellowship was informed by the Nevada Academic Content Standards for Mathematics (NVACS-M), the National Council of Teachers of Mathematics, Institute of Education Sciences, SBAC, Achieve the Core, and research from mathematics leaders in the field.

The Mathematics Specialists' constructed a Professional Learning Plan delineating the Fellowship's goals and alignment with the Nevada Standards for Professional Development (see Appendix N) to formulate the design of the Fellowship. The Mathematics Specialists' learning design of the Fellowship incorporated the seven elements of effective professional development (Table 20) identified in a review of 35 studies conducted by Darling-Hammond, Hyler, and Gardner, with assistance from Espinoza (2017).

Table 20 *NNRPDP's Incorporation of the Seven Elements of Effective Professional Development*

Professional Development Element	Fellowship Design: Element Alignment Evidence
Content Focus	The Fellowship's intentional focus on discipline-specific curriculum development and pedagogies is reflected in: • Focus on SBAC Claim 4 (mathematical modeling) • Focus on implementation of SBAC Claim 4 (Mathematical Modeling) into instructional episode • Focus on instructional resources
Active Learning	The opportunity for engagement in active learning in the Fellowship is reflected in: • Mathematical modeling lessons modeled by NNRPDP mathematical specialists • Model lesson analysis
Collaboration	The creation of space for sharing ideas and collaboration in the Fellowship is reflected in: • Model lesson analysis • Content learning • Planning learning episodes • Debriefing learning episodes • Analyzing student work
Models of Effective Practice	The modeling of effective practice in the Fellowship is reflected in: • Model lessons • Learning episode planning considerations and resources content and organizers • Learning episode planning • Student work analysis
Coaching and Expert Support	The sharing of expertise and best practices targeting individual needs in the Fellowship is reflected in: • Learning episode planning • Student work analysis • Individual supports offered outside of the official sessions via classroom visits, emails, and/or virtual meetings
Feedback and Reflection	The facilitation of reflection and solicitation of feedback in the Fellowship is reflected in: • Model lesson analysis • Content focus debrief • Learning episode planning • Learning episode debrief • Student work analysis
Sustained Duration	Adequate time to learn, practice, implement, and reflect is evidenced in the Fellowship reflected in: • Ongoing over two academic school years • Multiple sessions offered during school years

Participants and Procedure

In the 2018 - 2019 school year, 20 middle school math teachers and two principals from districts in NNRPDP's region (i.e. White Pine, Eureka, Humboldt, Elko, Lander, and Pershing County) participated in Year 1 of the Fellowship. Approximately 50 middle school mathematics teachers from these same districts were invited to participate in Year 2 of the Fellowship during the 2019 - 2020 school year. Out of the 14 Fellows registering for Year 2 of the Fellowship, one was a middle school principal, five were 6th grade mathematics educators, three were 7th grade mathematics educators, one was an 8th grade mathematics educator, and four were 6-8 grade mathematics educators. Seventy-one percent of the Year 2 registrants had also participated in Year 1 of the Fellowship. Seventy-nine percent of the Fellows were from Elko County School District, 7% from White Pine School District, 7% from Humboldt County School District, and 7% from charter schools. Nine of the 14 registrants attended all of the Fellowship sessions. Of the five registrants not attending all of the sessions, three stated issues relating to health as the cause and one stated travel concerns as a reason for not attending all of the sessions. The Fellowship impacted approximately 700 students the nine Fellows collectively teach.

Registration for the Fellowship opened in August 2019. The first session was held in September 2019, and the Fellowship ended in December 2019. The overarching intentions of the Fellowship were to deepen understandings of the interconnections of SBAC Claims and the Nevada Academic Content Standards for Mathematics to inform and strengthen practice in order to impact student achievement. The Fellowship involved four on-site full-day sessions held in the central location for the region, Elko, Nevada, and three virtual sessions using the Zoom platform. To gain insights from national perspectives, the structure (Table 21) was also adapted to include optional attendance to a presentation on rigor given by a national speaker at the Teacher Academy in Elko, NV.

Table 21 *Fellowship Session Structure and Session Overview*

Session Structure	
On-site/Full Day	**Virtual**
9:00 - 11:45: Whole-group presentation on the concepts association with the major of the grade(s) to deepen participants' understanding of misconceptions, progressions, instructional methods	4:00 - 4:30 Debrief Implementation
11:45 - 1:00: Lunch	4:30 - 6:00 pm Student Work Analysis
1:00 - 3:00: Break out into grade level teams to intentionally plan a learning episode that incorporates SBAC Claim 4: Mathematical Modeling.	

Session Overview

Date	Type	Focus
September 23, 2019	On-site/Full day	Whole Group Session • Overview of SBAC Claims • SBAC Claim 4 Model lesson Grade Level Planning Breakout Sessions • Introduction of intentional lesson planning structure with analyses of SBAC Claims via model lesson analysis • Introduction of intentional planning structure and considerations of rigor, Major Work of the Grade, SBAC Claims, productive struggle, productive discourse, resources • Introduction to student work analysis protocol • Overview of resources
October 7, 2019	On-site/Full day	Whole Group Session • Incorporation of modeling (SBAC Claim 4) via lesson modifications Grade Level Planning Breakout Sessions • SBAC Claim 4 intentional planning
October 23, 2019	Virtual	Grade Level Sessions • Lesson implementation debrief • Student work analysis
November 4, 2019	On-site/Full day	Whole Group Session • Model lesson • Distinguishing problem solving (SBAC Claim 2) from modeling (SBAC Claim 4) Grade Level Breakout Sessions • SBAC Claim 4 intentional planning
November 19, 2019	Virtual	Grade Level Sessions • Lesson implementation debrief • Student work analysis
December 3, 2019	On-site/Full day	Whole Group Session: • Model lesson • Defining and incorporation mathematical modeling and data analysis into instruction (SBAC Claim 4) • Productive Struggle Grade Level Breakout Sessions: • SBAC Claim 4 intentional planning
December 18, 2019	Optional: On-site/Full day presentation on rigor	Teacher Academy • Defining rigor and incorporation into instruction
January	Final	Lesson implementation and student learning analysis

Measurement

The long-term goal of the Fellowship is to address middle school mathematics achievement levels by deepening middle school mathematics teachers' understandings of student achievement targets outlined by SBAC in order to strengthen instructional practice by increasing rigor. The long-term outcome and overall measure of the Fellowship is to:

1. Increase student learning and growth as measured by aggregate assessment scores from participating educators, and those same scores analyzed against a comparison group.

Year 2 of the Fellowship targeted the objectives to develop the Fellows' capacity to include SBAC Claim 4 (Mathematical Modeling) in lesson planning and instruction where appropriate and utilize instructional resources. The short-term outcomes and measures of the Fellowship are as follows:

1. Fellows will demonstrate an increased level of understanding of SBAC Claim 4 (Mathematical Modeling) as measured by the Pre/Post Survey, Facilitator Grade Level Lesson Planning Assessment Rubric, Learning Episode Reflection, and Claim Identification.
2. Fellows will demonstrate an increased ability to include SBAC Claim 4 (Mathematical Modeling) in lesson planning as measured by Facilitator Grade Level Lesson Planning Assessment Rubric and Learning Episode Reflection.
3. Fellows will demonstrate ability to implement lessons intentionally planned to include SBAC Claim 4 (Mathematical Modeling) and intentionally elicit mathematical modeling, discourse, and productive struggle as measured by Learning Episode Reflection.
4. Fellows will demonstrate the ability to utilize instructional resources to improve teaching practices as measured by the Facilitator Grade Level Planning Assessment Rubric and Learning Episode Reflection.

Qualitative and quantitative measurements were used to assess the following variables:

- **Increased levels of awareness:** Teachers who have completed Fellowship will demonstrate an increased level of awareness of NVACS-M Major Works of the Grade and SBAC Claims, in particular SBAC Claim 4 (Mathematical Modeling).
- **Increased levels of understanding:** Teachers who have completed Fellowship will demonstrate an increased level of understanding of NVACS-M Major Works of the Grade and SBAC Claims, in particular Claim 4 (Mathematical Modeling).
- **Increased ability to create lesson plans:** Teachers who have completed Fellowship will demonstrate increased ability to create lesson plans that are intentionally planned with NVACS-M Major Works of the Grade and SBAC Claims, in particular Claim 4 (Mathematical Modeling)
- **Increased ability to implement lesson plans**: Teachers who have completed the Fellowship will demonstrate increased ability to implement lesson plans utilizing components of NVACS-M Major Works of the Grade and SBAC Claims, in particular Claim 4 (Mathematical Modeling).
- **Increased ability to Assess Student Work:** Teachers who have completed the Fellowship will demonstrate an increased ability to assess student work in relation to

NVACS-M Major Works of the Grade and SBAC Claims, in particular Claim 4 (Mathematical Modeling).

- **Increased ability to Utilize Instructional Resources:** Teachers who have completed the Fellowship will demonstrate an increased ability to utilize instructional resources to improve teaching practices.

The variables informed the evaluation plan based on Guskey's (2002) Five Levels of Professional Development. See Table 22. Note that no analysis was conducted to determine significance of associations due to the low *n* value. Italicized text is specific to this intervention.

Table 22 *Five Levels of Professional Development Evaluation (Guskey, 2002)*

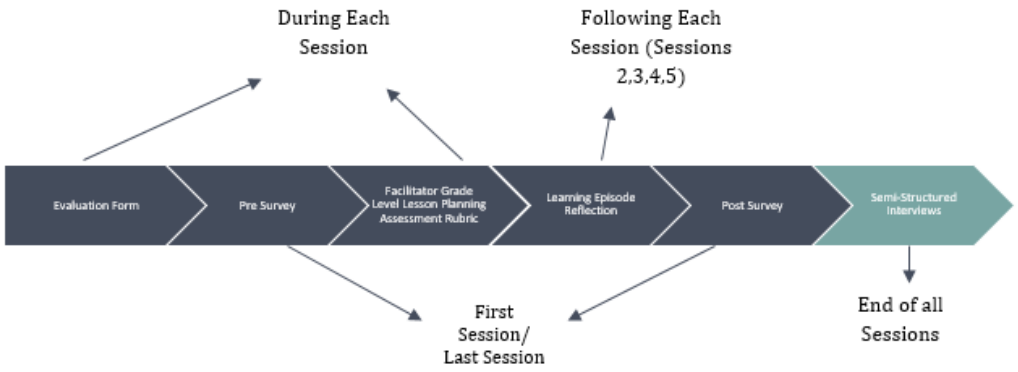
Evaluation Level	What Questions Are Addressed?	How Will Information Be Gathered?	What Is Measured or Assessed?	How Will Information Be Used?
1. Participants' Reactions	*Training expectations, presenter skills, increased knowledge, motivation to improve*	*State Evaluation Form* *Semi-structured Interviews*	*Initial satisfaction with the experience*	*To improve program design and delivery*
2. Participants' Learning	*Did participants acquire the intended knowledge and skills?*	*Facilitator Grade Level Lesson Planning Assessment Rubric* *Learning Episode Reflection* *Claim Identification Assessment* *Pre/Post Survey*	*Participants' increased understanding of SBAC Claim 4 (Mathematical Modeling)*	*To improve program content, format, and organization*

Evaluation Level	What Questions Are Addressed?	How Will Information Be Gathered?	What Is Measured or Assessed?	How Will Information Be Used?
3. Organization Support & Change	*Was implementation advocated, facilitated, and supported?* *Was the support public and overt?* *Were problems addressed quickly and efficiently?* *Were sufficient resources made available?* *Were successes recognized and shared?* *What was the impact on the organization?* *Did it affect the organization's climate and procedures?*	*Learning Episode Reflection* *Post Survey* *Semi-structured Interviews (by third-part independent evaluator)*	*The organization's advocacy, support, accommodation, facilitation, and recognition*	*To document and improve organization support* *To inform future change efforts*
4. Participants' Use of New Knowledge and Skills	*Did participants effectively apply the new knowledge and skills?*	*Facilitator Grade Level Lesson Planning Assessment Rubric* *Learning Episode Reflection*	*Participants' ability to implement lessons plans utilizing SBAC Claim 4 (Mathematical Modeling)*	*To document and improve the implementation of program content*

Evaluation Level	What Questions Are Addressed?	How Will Information Be Gathered?	What Is Measured or Assessed?	How Will Information Be Used?
		Semi-Structured Interviews		
5. Student Learning Outcomes	What was the impact on students? Did it affect student performance or achievement?	*SBAC (math) scores aggregated by cohort of MS Math Fellows, measured against service area totals and/or comparison group annually, per grade*	*Student math growth and achievement*	To document improvements in math instruction and subsequent student growth and achievement

The timeline in Figure 16 provides a visual of which data collection instrument is being used at different parts of the Fellowship.

Figure 16 *Data Collection Instruments and Timeline*



Results

Short Term Outcome Measures

Facilitator Lesson Planning Assessment Rubric: Awareness and Understanding

The NNRPDP Mathematics Specialists evaluated the overall awareness and understanding the grade level groups exhibited during the Claim 4 (Mathematical Modeling) intentional planning sessions using the Facilitator Grade Level Lesson Planning Assessment Rubric (Appendix E). The groups' proficiency levels were evaluated for each of the following categories: rigor, Major Work of the Grade, mathematical modeling, productive discourse, productive struggle, and resources. The Mathematics Specialists' assessment of the Fellows' proficiency levels related to these categories were reported as an aggregate score by finding the mean of the Mathematics Specialists' assessment of proficiency by translating the descriptors to a Likert scale where 1 = minimal proficiency and 4 = advanced proficiency. Non-applicable ratings were not factored into the aggregate proficiency ratings where *n*=8. The results provided qualitative measures for four of the six variables: 1) increased levels of awareness, 2) increased measures of understanding, 3) increased ability to create lesson plans, and 4) increased ability to utilize instructional resources in relation to NVACS-M Major Works of the Grade and SBAC Claim 4 (Mathematical Modeling). These data are depicted in Figures 17, 18, 19, and 20.

Figure 17 *Facilitator Lesson Planning Assessment Rubric: Rigor (n=8)*

Facilitator Lesson Planning Assessment Rubric: Rigor (n=8)

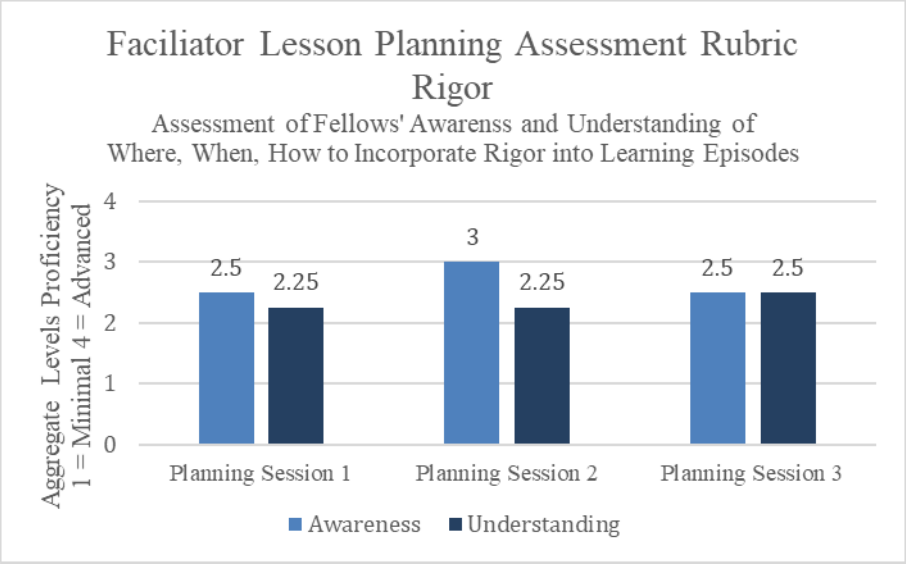


Figure 18 *Facilitator Lesson Planning Assessment Rubric: Mathematical Modeling (n=8)*

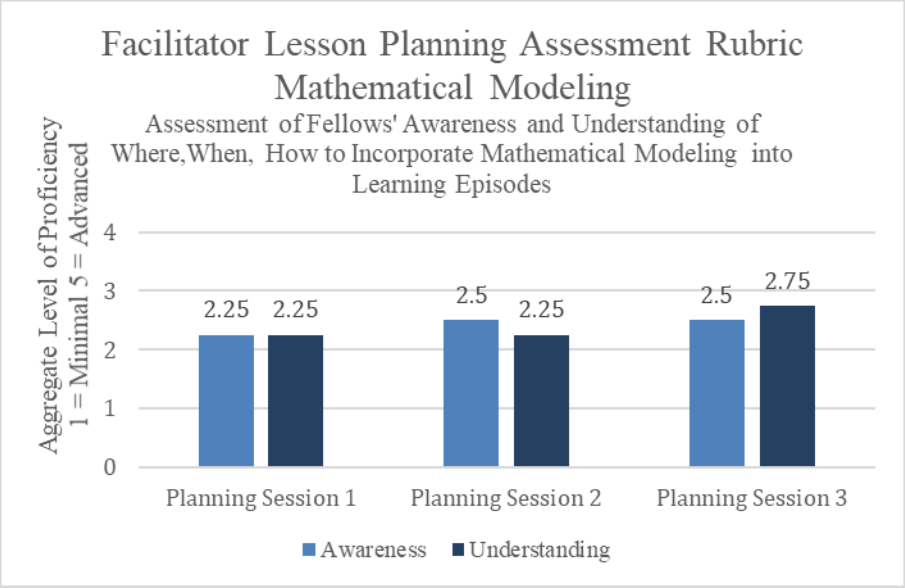


Figure 19 *Facilitator Lesson Planning Assessment Rubric: Productive Discourse (n=8)*

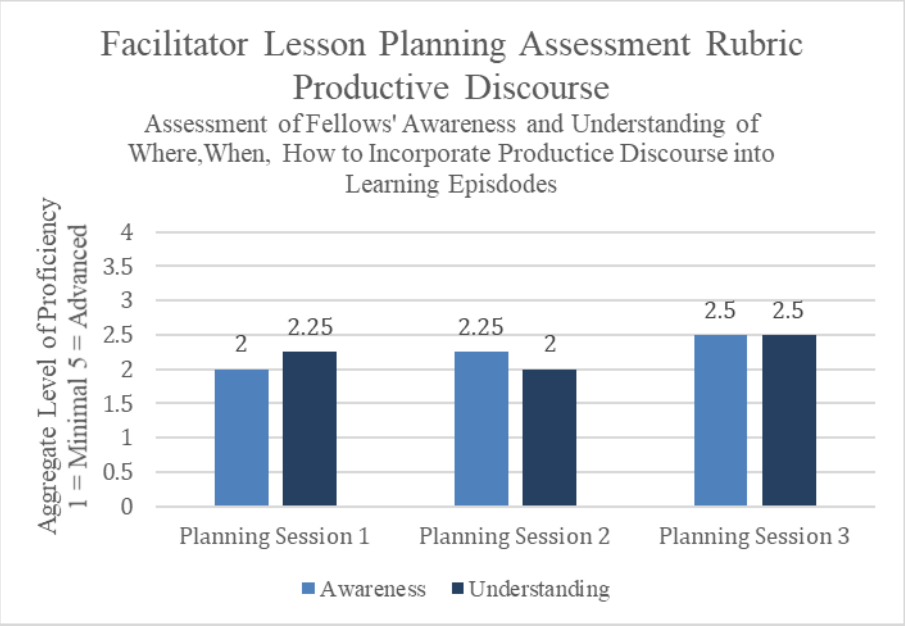
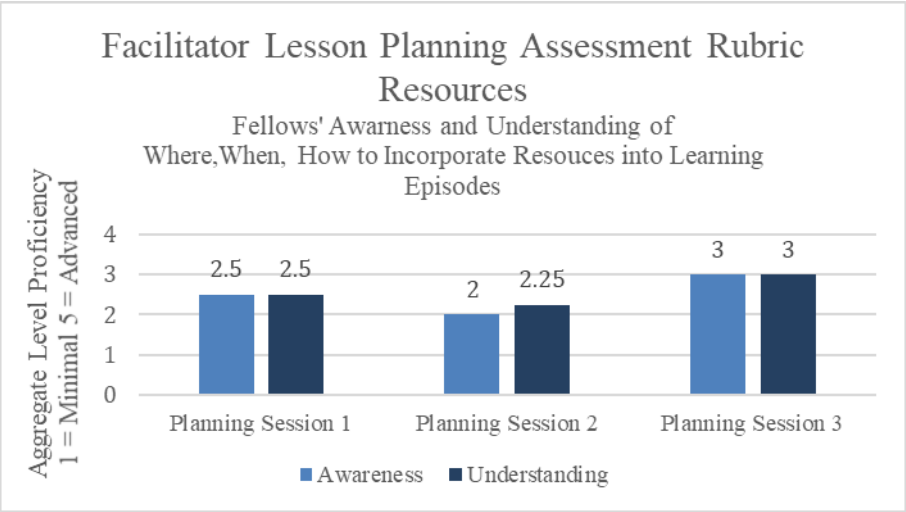


Figure 20 *Facilitator Lesson Planning Assessment Rubric: Resources (n=8)*



The aggregate ratings (n=8) for the six categories assessed during the three intentional lesson planning sessions fell below the proficiency level for all of the categories with the exception of awareness of the Major Work of the Grade. Given the variabilities that existed between the participants' lessons and foci within the context of the concepts addressed during the lesson planning sessions, growth trends in the Fellows' levels of proficiency were not readily apparent in the aggregate scores. The data obtained for these measures from the Facilitator Grade Level Lesson Planning Assessment Rubric may have also been impacted by a lack of rating consistency on the lower quartile of the proficiency scale. The Mathematics Specialists' debriefings suggested interpretations of the *non-applicable* rating varied. For instance, with regard to the measures related to awareness and understanding, one Mathematics Specialist might assess the absence of reference to discourse in a planning session as non-applicable whereas another Mathematics Specialist might assess it as an indication of a low level of proficiency. The inclusion of the non-applicable rating, along with the varied foci of the context of the lessons addressed in the planning session, may have had unintended impacts. These issues can be addressed in future Fellowships by eliminating the non-applicable rating and identifying specific indicators for each of the categories.

Facilitator Lesson Planning Assessment Rubric: Levels of Inspiration

The NNRPDP Mathematics Specialists assessed the participants' general level of inspiration to intentionally focus on rigor, the Major Work of the Grade, mathematical modeling, productive discourse, productive struggle, and resources during the lesson planning sessions using the Facilitator Grade Level Lesson Planning Assessment Rubric (see Appendix). The level

of inspiration was intended to be interpreted as a demonstration of desire and excitement. For example, a fellow demonstrating a high level of inspiration for modeling might explicitly solicit support from the group on how to transform a computational exercise into a modeling opportunity. A fellow demonstrating a low level of inspiration for modeling might state they do not want to focus on incorporating opportunities for modeling into a lesson. The Mathematics Specialists' assessments of the groups' general level of inspiration were reported as an aggregate using a Likert scale where 1 referred to a low level of inspiration and 5 referred to a high level of inspiration with $n = 8$. These data are depicted in Figures 21, 22, 23, 24, 25, and 26.

Figure 21 *Facilitator Lesson Planning Rubric Aggregate Assessment of Levels of Inspiration: Rigor (n=8)*

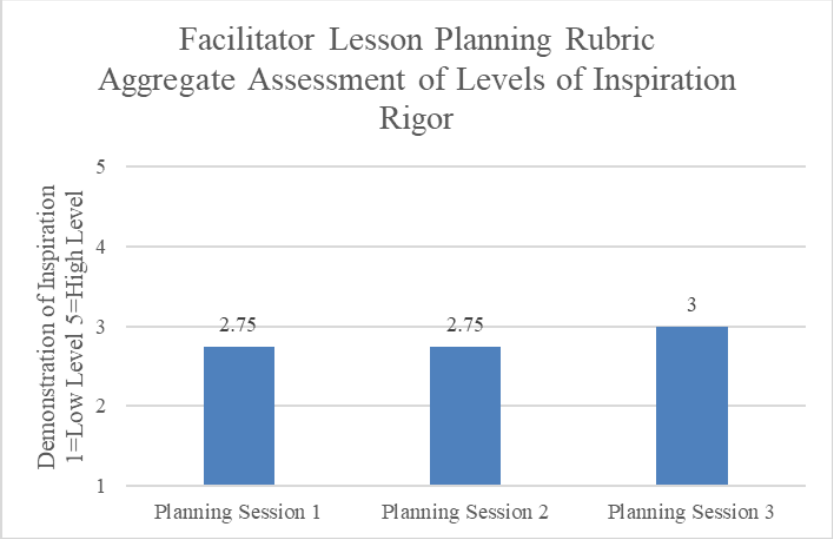


Figure 22 *Facilitator Lesson Planning Rubric Aggregate Assessment of Levels of Inspiration: Major Works of the Grade (n=8)*

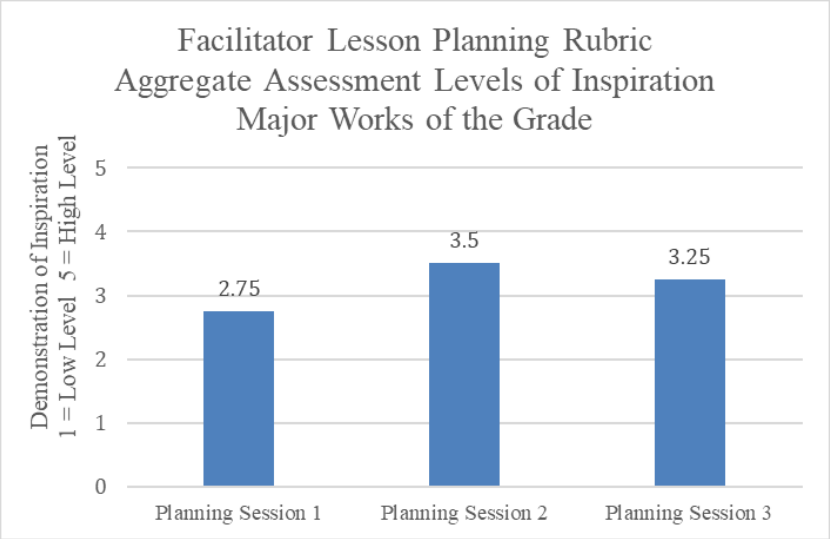


Figure 23 *Facilitator Lesson Planning Rubric Aggregate Assessment of Levels of Inspiration: Mathematical Modeling (n=8)*

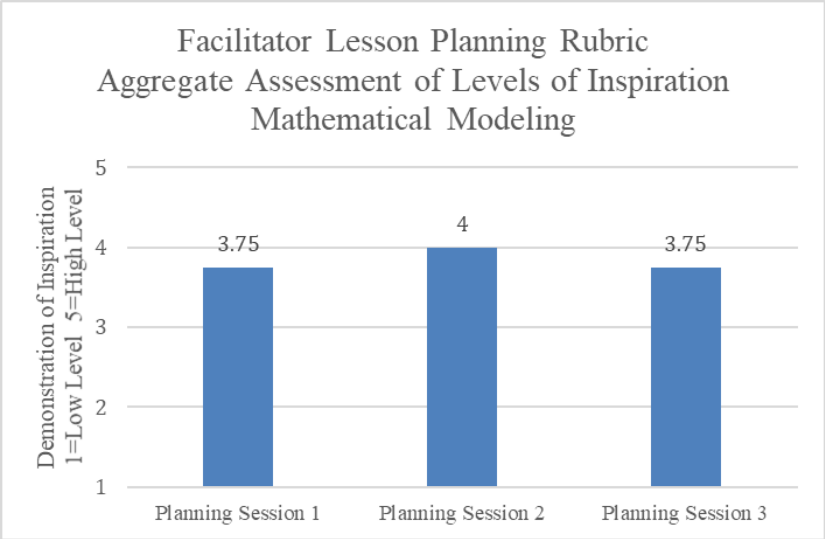


Figure 24 *Facilitator Lesson Planning Rubric Aggregate Assessment of Levels of Inspiration: Productive Discourse (n=8)*

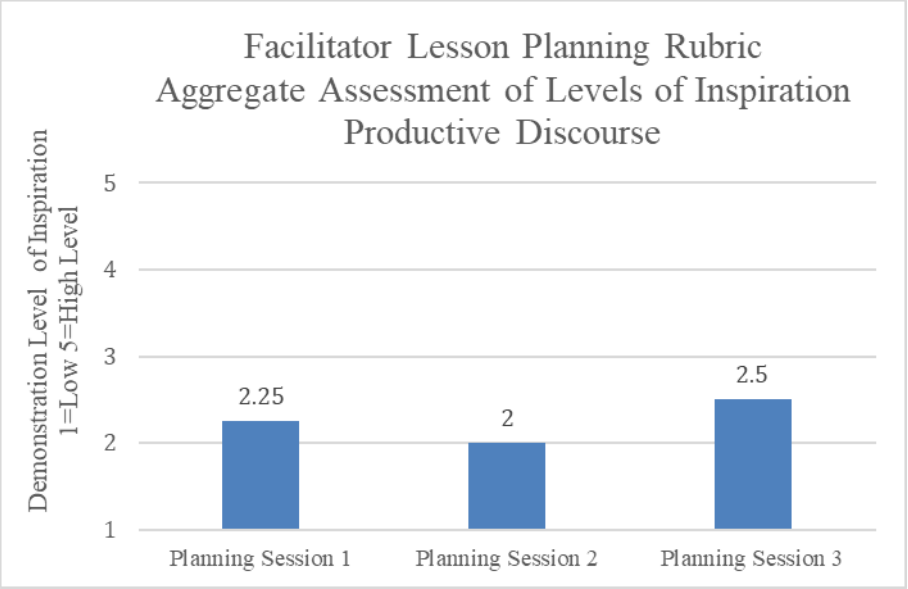


Figure 25 *Facilitator Lesson Planning Rubric Aggregate Assessment of Levels of Inspiration: Productive Struggle (n=8)*

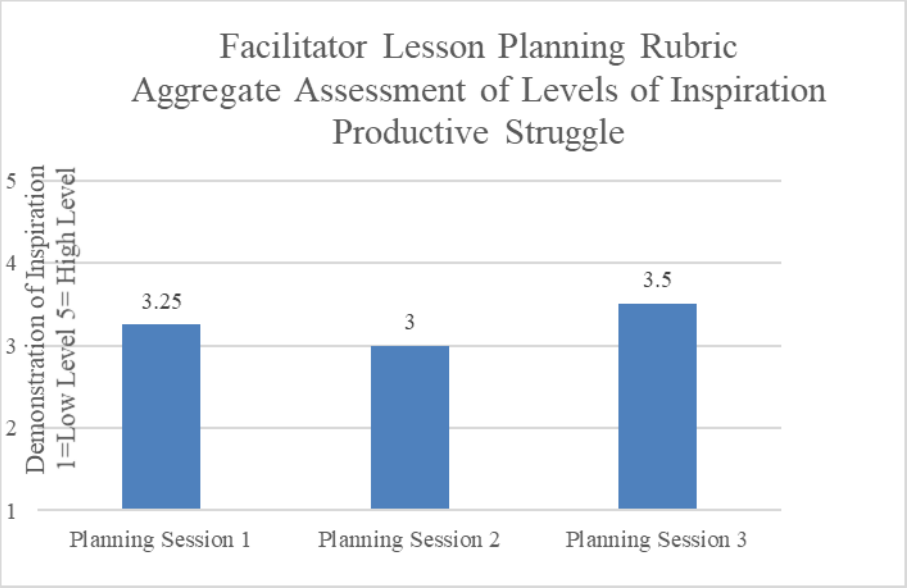
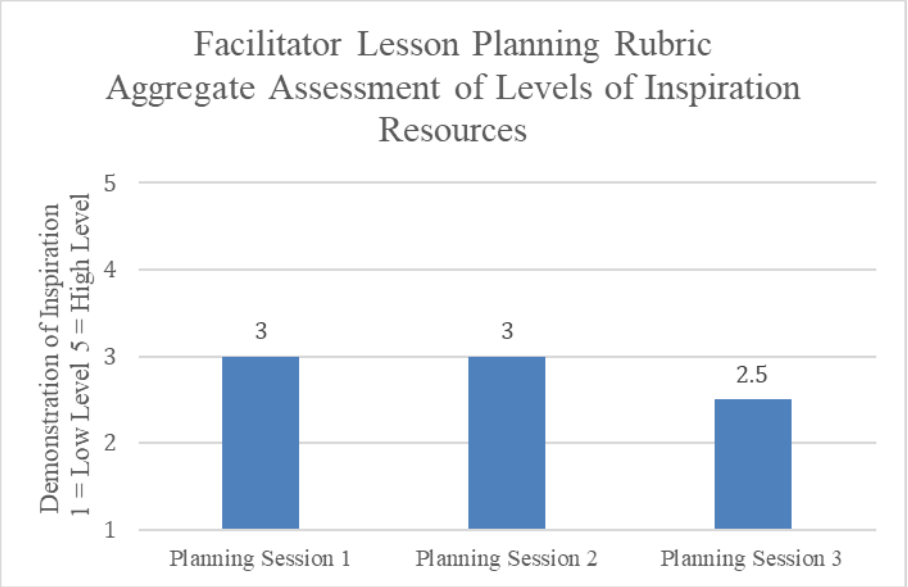


Figure 26 *Facilitator Lesson Planning Rubric Aggregate Assessment of Levels of Inspiration: Resources (n=8)*

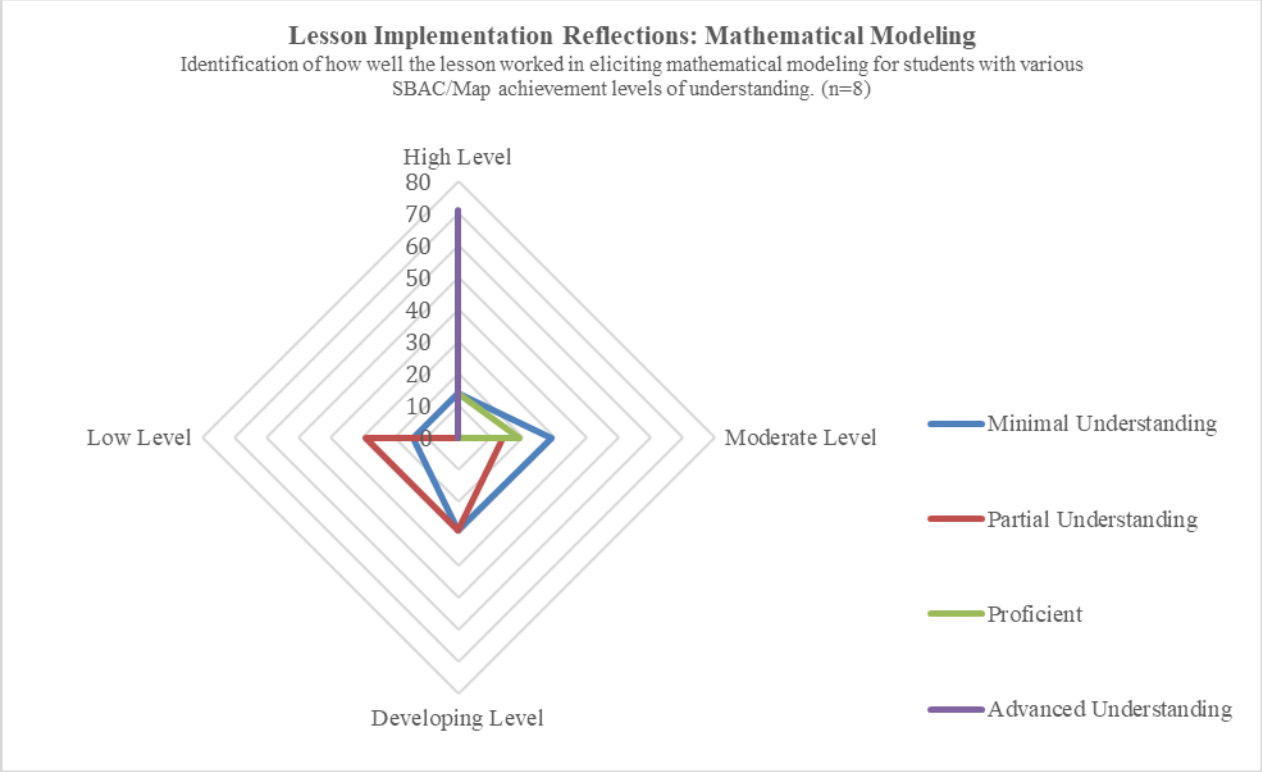


The aggregate levels (*n*=8) of inspiration the Fellows exhibited for the Major Work of the Grade, mathematical modeling, and productive struggle generally fell above the mid-level range, whereas the ratings for rigor, productive discourse, and resources generally fell at or slightly below the mid-level range. An overview of all of these categories was conducted during the first Whole Group Session. In the following sessions, the whole group learning activities explicitly focused on mathematical modeling and productive struggle in contexts related to the inherent rigor associated with the Major Work of the Grades within the middle school grade band. Rigor, productive discourse, and resources were not explicitly addressed in the Whole Group Sessions outside of the overview in the first session. The Grade Level Lesson Planning Breakout Sessions implicitly focused on all of the elements as part of the lesson planning process with the explicit intention of incorporating opportunities for mathematical modeling. The higher levels of inspiration associated with the Major Work of the Grade, mathematical modeling, and productive struggle correlate with the primary and explicit content focus of the Whole Group sessions, which carried over into the lesson planning sessions. The level of inspiration was intended to be interpreted as a demonstration of desire and excitement. However, as with levels of awareness and understanding, one Mathematics Specialist might assess the absence of reference of an element in a planning session as non-applicable whereas another Mathematics Specialist might assess it as an indication of a low level of inspiration. The inclusion of the non-applicable rating, along with the varied foci of the context of the lessons addressed in the planning session, may have had unintended impacts on the lower quartile ratings of levels of inspiration. These issues can be addressed in future Fellowships by eliminating the non-applicable rating and identifying specific indicators for each of the categories.

Learning Episode Implementation Reflections

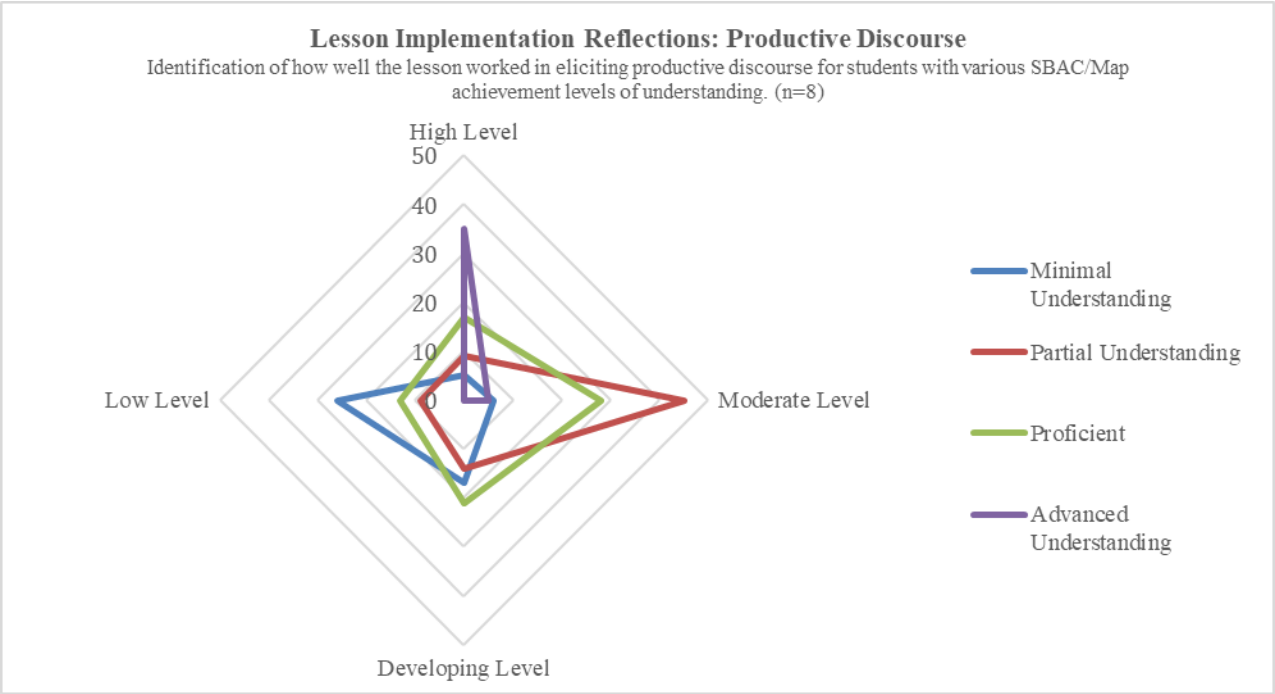
The Fellows completed Learning Episode Implementation Reflections (see Appendix E) following the debriefings of the implementation of lessons during the virtual sessions. The Fellows assessed the effectiveness of the lessons in terms of eliciting mathematical modeling, productive discourse, and productive struggle while also considering the relation to student proficiency levels based on SBAC/MAP data. The mean percentage (n=8) of Fellows reporting a correlation for each of the 16 possible matrix options was tabulated for the three lessons. The measures were used to assess the variables: increased ability to implement lesson plans and the increased ability to assess student work in relation to NVACS-M Major Works of the Grade and SBAC Claim 4. These data are depicted in Figures 27 through 29.

Figure 27 *Lesson Implementation Reflections: Mathematical Modeling (n=8)*



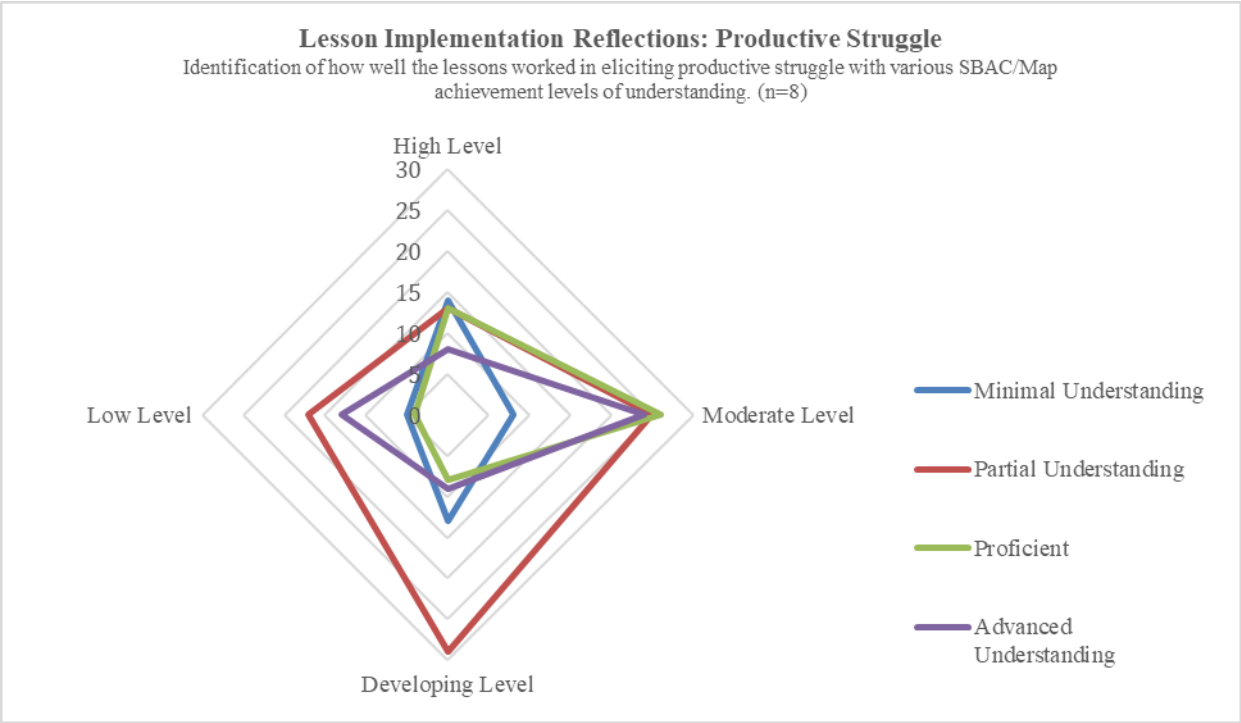
Fellows' assessments of the level of mathematical modeling their lessons elicited in students rated as having an advanced achievement level on SBAC/MAP data typically fell in high range. Whereas the levels for students rated as having a minimal achievement level were distributed similarly in the upper and lower ranges. The data suggest students with advanced understandings more readily turned real-world contexts into something that could be manipulated with mathematics. The similar distribution among the upper and lower ranges for students rated as having a minimal understanding suggests the lessons provided entry points for students with different levels of understanding.

Figure 28 *Lesson Implementation Reflections: Productive Discourse (n=8)*



Fellows' assessments of the level of productive discourse their lessons elicited in students rated as having an advanced achievement level based on SBAC/Map data typically fell in the upper range. Whereas the levels for students rated as having a minimal achievement level fell in the lower range. The data suggests the capacity to engage in productive discourse may be related to and/or lead to greater levels of understanding and achievement. Thus, it may be worthwhile to continue to emphasize the relevance of productive discourse and further Fellows' understandings of how to facilitate productive discourse in future Fellowships.

Figure 29 *Lesson Implementation Reflections: Productive Struggle (n=8)*



Fellows' assessments of the level of productive struggle their lessons elicited in students rated as having an advanced achievement level based on SBAC/MAP data were distributed similarly in the upper and lower ranges with slightly more falling in the upper ranges. Students rated as having a minimal achievement level were distributed similarly in the upper and lower ranges with slightly more falling in the lower range. The data suggests the lessons provided entry points for students with different levels of understanding. An inference may be drawn that some students with an advanced understanding may have more readily accessed the content and did not necessarily need to engage in productive struggle, and some students with a minimal understanding may have struggled, but not productively.

While the degree to which each of the elements were elicited varied depending on the student proficiency levels, data suggests the Fellows' lessons elicited mathematical modeling, productive discourse, and productive struggle from students across all four levels of student proficiency at high levels.

Fellows' comments about which facets of the learning episodes they would implement or change in the future were analyzed for evidence of implementation of their learning. The number of comments made and the percentage of those comments including references to facets of the learning episodes that would be implemented or changed in the future were determined (*n*=8). One hundred percent of the Fellows' reflections indicated implementation of learning.

Fellows' Quotes:

- *I will continue to try to incorporate activities that help students grow in their modeling skills and with communicating their results.*
- *The task provided for great discussions in the classroom. There were a variety of ways that students went about solving the problem. I would use the task overall again with modifications to the questioning.*
- *I will use the elicit productive struggle because with my Algebra 1 students they are used to math concepts being very easy and when I give them assignments where they struggle it causes them to use higher level thinking and solving skills.*

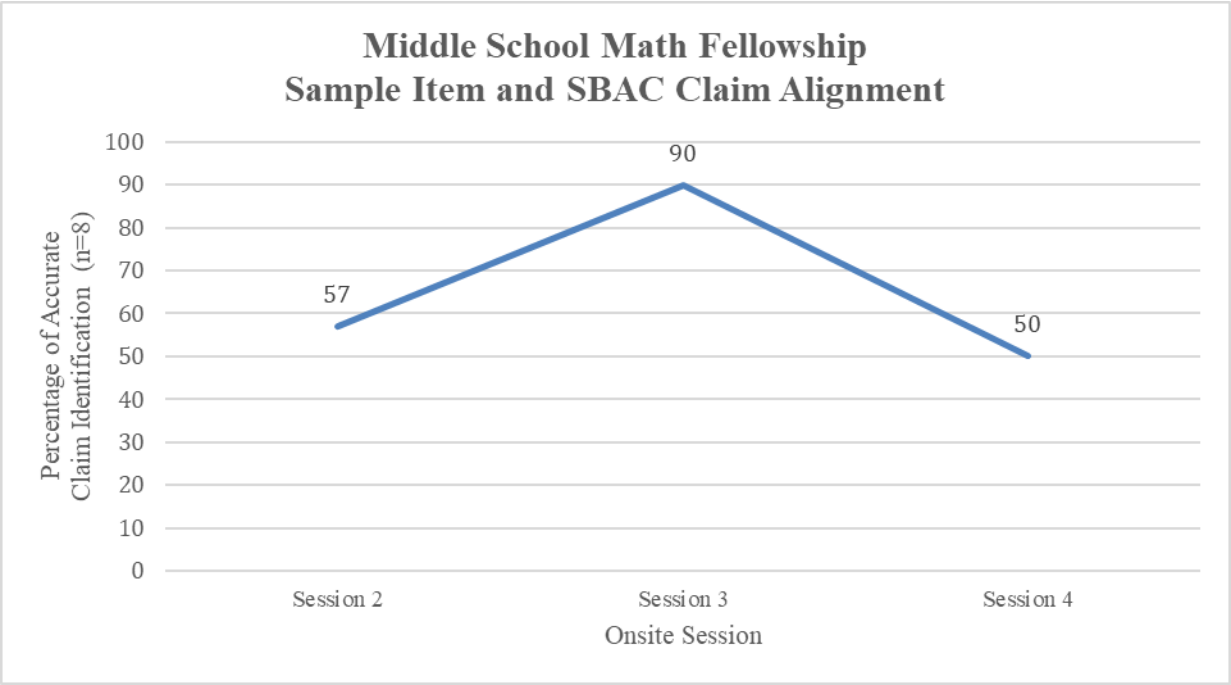
Student Work Rubric Analysis (Comparisons)

After the debriefing of the learning episodes and analysis of student work samples in the Virtual Sessions, the Fellows and Mathematics Specialists individually assessed student work samples derived from the implementation of the lessons using the Smarter Balanced Mathematics General Rubric for 4-Point Items. The Fellows' assessment ratings (n=8) correlated with the math specialists' assessment ratings on 94% of the submitted student work samples. The variables evaluated included: increased ability to assess student work in relation to NVACS-M Major Works of the Grade and SBAC Claim 4.

Sample Item SBAC Claim Alignment Identification

Fellows' initial understandings of which SBAC Claim a sample item might best align with was assessed on the Pre-Survey (see Appendix) in Session 1. Increases in the Fellows' levels of awareness and understanding of SBAC Claim 4 were monitored in Sessions Two through Four using the Sample Item and Claim Alignment Assessment (see Appendix F). Fellows determined the best alignment of sample test items to the SBAC Claims at the beginning of Sessions Two through Four. After Fellows independently completed the Sample Item and Claim Alignment Assessment, the whole group debriefed the assessment. The percentage of accurate alignment identification (n=8) over the three sessions was reported. The variable evaluated was the increased level of understanding in relation to SBAC Claims. See Figure 30.

Figure 30 *Middle School Math Fellowship Sample Item and Claim Alignment*

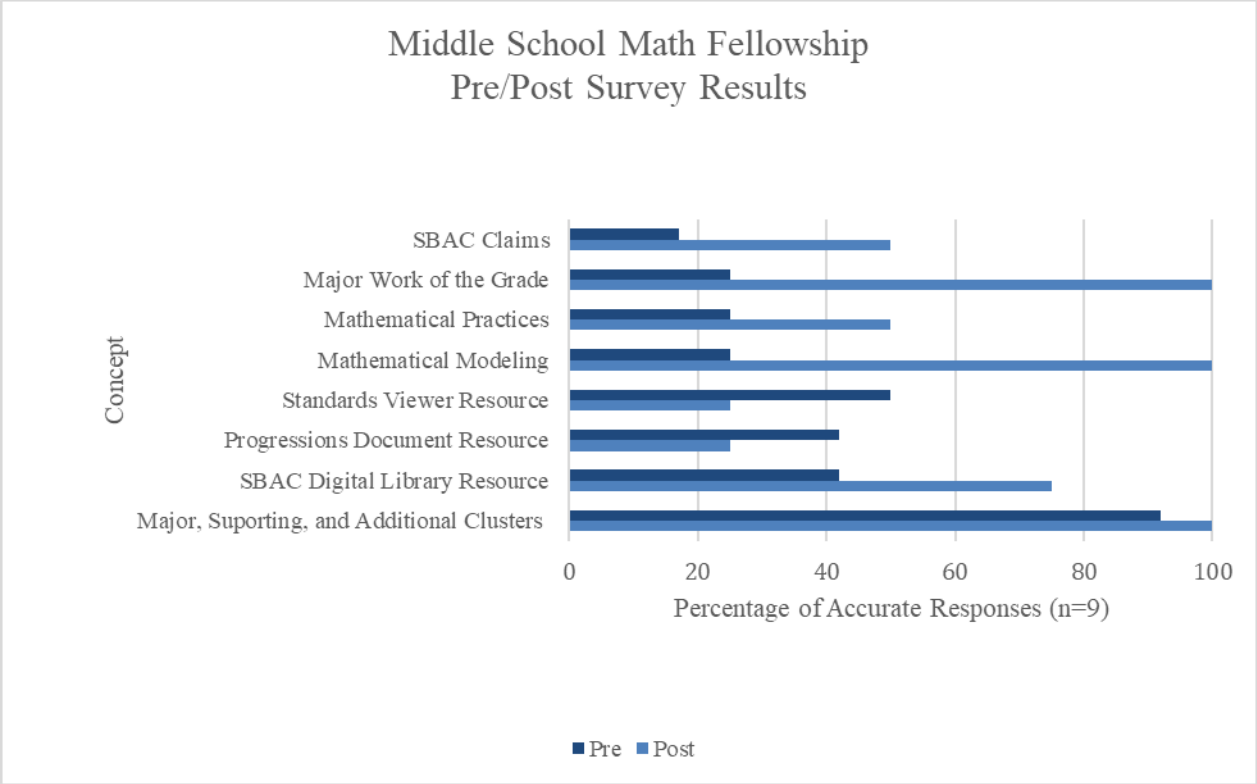


Although Fellows' ability to accurately identify sample item alignment to SBAC Claims increased from Session 2 to Session 3, the percentage of accuracy dropped from Session 3 to Session 4. Due to the Fellows' growing familiarity with the available sample items at the middle school level and their corresponding SBAC Claim classifications, it should be noted that a fifth grade sample item was selected as one of the sample items for Session 4. During a debrief of the items' Claim alignments, it came to light some of the Fellows did not take note of the grade level on the fifth grade sample item and evaluated it as a Claim 2: Problem Solving item using the middle school lens. Due to the different nuances that exist between problem solving and mathematical modeling over the progression of concepts, the rationale provided by the Fellows was compelling and illustrated a level of awareness and understanding of the SBAC Claims. The awareness and understanding are also evident in the 33-percentage point increase (n=9) in the Fellows' accuracy rate for identifying SBAC Claim alignment with a sample item on the Pre/Post survey (see Appendix G) discussed next.

Pre/Post Survey

To assess the variables of increased levels of awareness and increased levels of understanding in relation to NVACS-M Major Works of the Grade and SBAC Claim 4 and the increased ability to utilize instructional resources, a comparison of the percentage of the participants' accurate responses to the Pre/Post Survey Questions 2 - 9 (see Appendix H) were evaluated. See Figure 31.

Figure 31 *Middle School Math Fellowship Pre/Post Survey Results (n=9)*



The number of accurate responses increased from the pre-survey to the post-survey for all measures with the exception of correctly identifying when to use the standards viewer resource and the Progression Documents. The greatest increase was in the Fellows' awareness and understanding of mathematical modeling, which increased from 25% on the pre-survey to 100% on the post-survey (*n*=9). The Fellows' awareness and understanding of the use of the standards viewer resource and the Progressions Document declined by 25% and 17%, respectively, on the post-survey (*n*=9). It was noted on one Fellows' Pre-Test that the Fellow had guessed on the resources, which may have resulted in a greater percentage of accuracy on these two elements on the pre-survey than on the post-survey. The weight for one response has approximately 11% impact with the given sample size (*n*=9). Surveys for future Fellowships will include an *I don't know* response option in an effort to address such anomalies. Another factor impacting the results for these two elements was the varied foci of concepts addressed during the lesson planning sessions. This resulted in limited opportunities for in-depth explorations of the Progression Documents and the standards viewer resources as originally intended.

Semi-Structured Interviews

An external evaluator conducted semi-structured individual interviews with a randomly selected group of participants in the Fellowship. The qualitative data was used to assess the

variables six variables: 1) increased levels of awareness, 2) increased levels of understanding, 3) increased ability to create lesson plans, 4) increased ability to implement lessons plans, 5) increased ability to assess student work, and 6) increased ability to utilize instructional resources in relation to NVACS-M Major Works of the Grade and SBAC Claim 4.

The external evaluator was provided a list of names and email addresses of participants. They created numerical identifiers for each participant and selected five participants using the random number generator in Excel.

Of those five participants selected, three interviews were completed. Interviews were conducted through either web-based meetings or over the telephone.

Verbal responses are only included in this report if they are representative of a larger pattern of responses. In other words, the statements included are from one person, but they represent the opinions of multiple individuals. See Table 23.

Table 23 *Semi-Structured Interviews Questions and Responses*

Variables	Increased level of awareness Increase level of understanding
Interview Question	What have been the biggest takeaways for you from the Math Fellows Professional Development program?
Response	*I always try to bring in real-world problems for my students, but I'm always frustrated. Some kids won't participate and resist thinking on their own. What I realized was that I was lining every step out too clearly. I was enabling them to not think. Now I'm understanding the value of productive struggle.*
Variables	Increased ability to create lesson plans Increased ability to implement lesson plans
Interview Question	In what ways have you implemented what you've learned in the classroom?
Responses	*[explained lesson, redacted for privacy]. So before this class, if I had done this lesson, I would have spoon fed the students the steps. Now I'm letting them figure things out for themselves for a while.* *I think I already had a good understanding of SBAC, but I've really worked on increasing rigor and productive struggle in my classroom.* *I've changed my whole curriculum to give kids experience with real problems. And I'm really thinking about rigor in a different way.*
Variable	Increased ability to assess student work
Interview Question	How has this professional development impacted student learning in your classroom?
Responses	*I don't know yet, but I'm afraid there are a lot of other factors that are going to mess up my scores this year [went on to list, redacted for privacy]. What I do know is that this is all working well with my higher achieving students, but I'm still struggling to get my lower students to be comfortable not understanding something right away.* *It has been more difficult with my lower achieving students.* *My students have really stepped up. I always tell them they could enter problem/observation anywhere they want to in their lives.* *Honestly, my students are not motivated to care. I'm not sure how to fix that.*

Process Measures

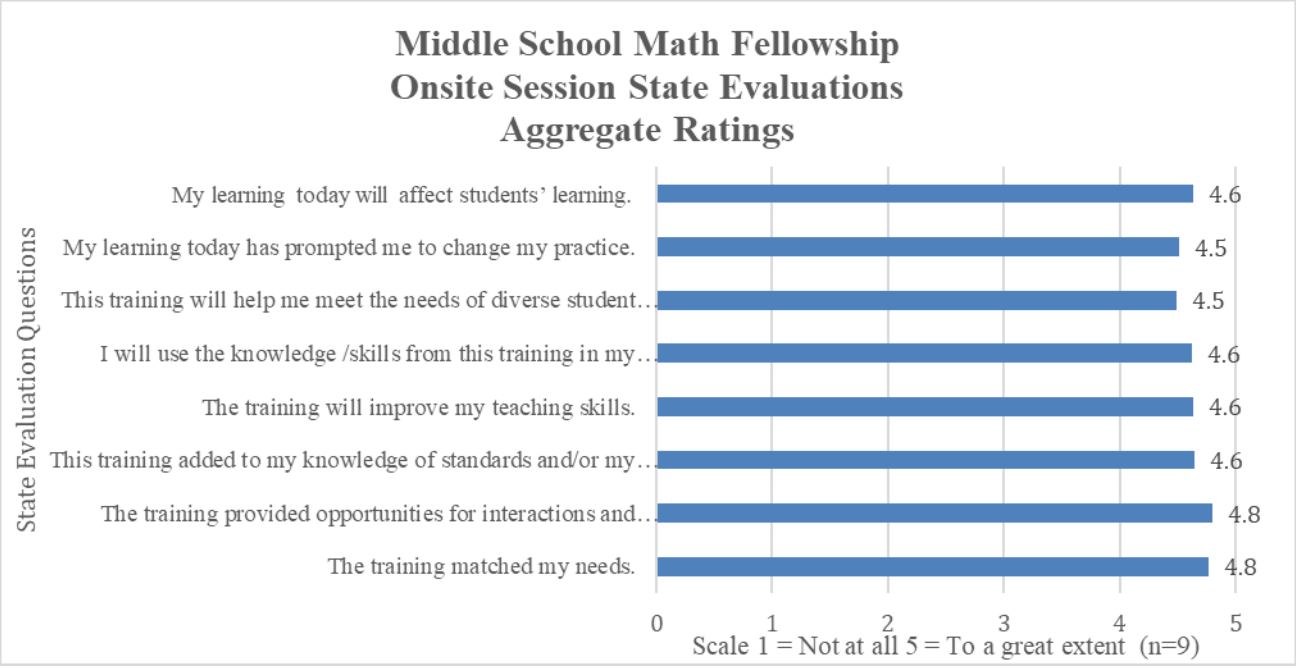
Evaluations

Methods to assess Fellows' reactions included data from State Evaluation surveys (see Appendix H). At the conclusion of each onsite session, Fellows completed the State Evaluation

surveys. The NNRPDP Mathematics Specialists used information from the State Evaluation surveys (see Figure 32) to monitor Fellows' reactions and make any necessary adjustments to future sessions. Evidence of impact on student learning and the incorporation of the awareness, understanding, implementation of concepts into instructional practice were documented using the Fellows' mean Likert scale ratings, ranging from not at all (one) to a great extent (five), of the following statements:

- The training met my needs.
- The training added to my knowledge of standards and/or skills in teaching subject matter and content.
- I will use the knowledge and skills from this training in my classroom or professional duties.
- My learning today has prompted me to change my practice.
- The Middle School Math Fellowship will help me meet the needs of diverse student populations (e.g., gifted and talented, ELL, special ed., at-risk students).
- My learning today will affect students' learning.

Figure 32 *Middle School Math Fellowship Onsite Session State Evaluations Aggregate Ratings*



Aggregate (*n*=9) Likert scale ratings of the onsite sessions ranged from 4.5 to 4.8 indicating the Fellowship met the Fellows' expectations to a great extent.

Reflections from the State Evaluation optional comment section were analyzed in terms of references relating to impact on instructional design, instructional concepts, and instructional strategies. Eighty-four percent of the optional comments included on the evaluations suggested evidence of impact on instructional design, instructional concepts, and instructional strategies.

Excerpts from the State Evaluation Optional Comment Section:

- *I will take the lessons worked on and teach it to my students. I will also try to add more Claim 4 type of questions into my routine.*
- *I will understand the SBAC results and be better able to analyze math data.*
- [I will be transferring] *getting kids into good discomfort state and being able to help move them out of it.*

Elements of Effective Professional Development Survey Data

Fellows' reactions were also measured using qualitative data relating to the seven elements of effective professional development obtained from Fellows' State Evaluation survey comments (*n*=9) and semi-structured interviews conducted by an outside evaluator (*n*=3), as well as scale ratings (*n*=9) from process measure question 11, on the post-survey (see Table 24; Appendix E).

Table 24 *Fellows' Reactions to Effective Professional Development Elements*

Effective Professional Development Element	Fellowship Design: Element Evidence Fellows' Reactions
	Interview Independent Evaluator Comments (n = 3) State Evaluation Comments (n = 9)
Content Focus	The Fellowship's intentional focus on discipline-specific curriculum development and pedagogies is reflected in: • Focus on mathematical modeling and data analysis (SBAC Claim 4) • Focus on implementation of modeling and data analysis into instructional episodes • Focus on instructional resources A constant theme of participants who were interviewed was discussion of how they were implementing modeling in the classroom throughout taking the class. Most participants interviewed sprinkled the interview with concepts and words directly from the course, including: productive struggle; rigor; and, modeling as they explained implementation. (Interviewee Comment, Independent Evaluator) I will begin to look for more application based questions and modify questions to pique more interest in math tasks. (Fellow Comment, State Evaluation)
Active Learning	The opportunity for engagement in active learning in the Fellowship is reflected in:

- Mathematical modeling lessons model by NNRPDP mathematical specialists
- Model lesson analysis Common theme: “We would learn something, go two weeks and try in classroom, connect with our group in Zoom, and then go back to class. It was helpful to revisit these concepts in different settings and discuss.” (Interviewee Comment, Independent Evaluator)

Great job today! I enjoyed every activity! (Fellow Comment, State Evaluation)
I want the answers to the rope problem haha [sic] (Fellow Comment, State Evaluation)

Collaboration The creation of space for sharing ideas and collaboration in the Fellowship is reflected in:

- Model lesson analysis
- Content learning
- Planning learning episodes
- Debriefing learning episodes
- Analyzing student work Participants who were interviewed consistently mentioned their appreciation for being able to discuss and practice concepts with their cohorts and facilitator. (Interviewee Comment, Independent Evaluator)

The opportunities to interact as professionals and discuss their content area and practice is valuable! (Fellow Comment, State Evaluation)

Models of Effective Practice The modeling of effective practice in the Fellowship is reflected in:

- Model lessons
- Learning episode planning considerations and resources content and organizers
- Learning episode planning
- Student work analysis I enjoyed the day. Thank you for sharing your knowledge and expertise. (Fellow Comment, State Evaluation)

I will start to turn more questions into modeling practices. (Fellow Comment, State Evaluation)
I wanted to let you know that it was a great session today!! ...I absolutely loved the way you really made the teachers stretch in their thinking and their responses! Taking a careful look at student work is such an important way of reflecting on our teaching. (Fellow Comment, Personal Email Communication)

Coaching and Expert Support The sharing of expertise and best practices targeting individual needs in the Fellowship is evidenced by:

- Learning episode planning
- Student work analysis
- Individual supports offered outside of the official sessions via classroom visits, emails, and/or virtual meetings Common themes: “NNRPDP shows you resources so you can go look it up if you have a problem or question. And they are always there to ask and they know what they are doing. I feel like I can call them even now [after the class] if I had a question”

“It was really great seeing student work from other teachers and analyzing together. It helped bring all the pieces together.”
“I find myself getting my book out [from the class] all the time when I’m planning lessons. It reminds me to follow the steps, like predict where students will struggle and plan for that.” (Interviewee Comments, Independent Evaluator)

Feedback and Reflection The facilitation of reflection and solicitation of feedback in the Fellowship is reflected in:

- Model lesson analysis
- Content focus debrief
- Learning episode planning
- Learning episode debrief
- Student work analysis On a scale of "not at all" to "a great extent," 100% of the Fellows indicated sufficient resources were made available to a great extent to support their implementation of the learning, i.e. mathematical modeling information and examples, collaboration, feedback, time for sharing, time for reflection (Post Survey)

I am looking forward to working in grade level bands to apply what we are learning. (Fellow Comment, State Evaluation)

Sustained Duration Adequate time to learn, practice, implement, and reflect is evidenced in the Fellowship by:

- Ongoing over two academic school years
- Multiple sessions offered during school years Participants were asked about the pacing and organization of the course and there were no negative comments. In addition, every participant mentioned their plans to implement lessons in the future. (Interviewee Comment, Independent Evaluator)

Guskey's (2002) Professional Development Evaluation: Organizational Support and Change

To assess process measures related to Level 3, Organizational Support and Change (Guskey, 2002), Fellows were asked on the post-survey to what extent they felt supported by their school site and/or district administration when implementing their learning. Twenty-five percent of the Fellows felt "somewhat supported," 50% felt "moderately supported," and 25% felt "greatly supported" *(n*=8). The third-party independent evaluator identified themes indicated in Fellows' responses (see below) to the question: *In what ways has this professional development changed your feelings about being a teacher?* (*n*=3)

Fellows' Responses:

- *This made me feel better. Like I have more options to actually help my students.*
- *What I learned is that I need to stick with a pacing guide. I have to slow myself down from implementing every new thing I learned. I'm using the resources from NNRPDP.*
- *I reflect on my teaching all the time. I always want to get better and serve my students.*
- *I am focusing my energy to implement new things, difficult to keep it all organized.*

Discussion

Short Term Outcome Measures

Evidence suggests the NNRPDP's objective to increase the level of the Fellows' awareness and understanding of NVACS-M Major Works of the Grade was achieved. Fellows' 4.6 mean rating from the State Evaluation data indicates the Fellowship added to the Fellows' knowledge of the standards to a great extent. The percentage of accurate responses assessing awareness of the NVACS-M Major Works of the Grade increased from 25% to 100% on the Pre/Post Survey. The Mathematics Specialists rated the Fellows as proficient in awareness and understanding of the Major Works of the Grade on the Facilitator Grade Level Lesson Planning Assessment Rubric.

Evidence suggests the NNRPDP's objective to increase the level of the Fellows' awareness and understanding of Claim 4 (Mathematical Modeling) was achieved. The percentage of accurate responses assessing understanding of the SBAC Claims increased by 33 percentage points on the Pre/Post Survey. Although Fellows' ability to accurately identify SBAC Claims declined from Session 3 to Session 4 on the Sample Item SBAC Claim Alignment measure, the debrief with the Fellows indicated awareness and understanding of the SBAC Claims. Qualitative data from the semi-structured interviews and survey comments further supports that Fellows' awareness and understanding of SBAC Claim 4 increased.

One-hundred percent of the Fellows' comments in the Learning Episode Implementation Reflections included evidence of learning and use of new knowledge and skills. The Fellows' and the Mathematics Specialists' assessments of student work using the SBAC Mathematics Rubric for 4-Point Items matched on 94% of the student work samples, suggesting the student work analyses impacted Fellows' ability to align assessments with SBAC expectations. However, NNRPDP's objective to increase Fellows' ability to create and implement lesson plans to include SBAC Claim 4 was not met to the extent envisioned. The Mathematics Specialists' assessment ratings of the Fellows' understanding of how, when, and where mathematical modeling is best applied within lesson planning increased from Planning Session 1 to Planning Session 3. However, the Mathematics Specialists' debriefings suggest the Fellows were still in the process of developing their proficiency at designing and/or modifying lesson episodes to include opportunities for mathematical modeling.

NNRPDP's goal for Fellows to demonstrate the ability to create and implement lessons intentionally planned to elicit mathematical modeling, discourse, and productive struggle was not met to the extent envisioned. The Learning Episode Implementation Reflection data indicated mathematical modeling, productive discourse, and productive struggle was elicited at a high level for the range of student proficiency levels. The Fellows' self-reporting in the State Evaluation, surveys, and semi-structured interview data also indicated an increase in ability to create and implement lessons intentionally planned to elicit these elements. However, data from the Facilitator Grade Level Lesson Planning Assessment Rubric indicated the Fellows were still developing proficiency creating lesson plans intentionally designed to elicit all three elements.

Evidence suggests the NNRPDP's goal to increase the ability to assess student work was met. The correlation of the rubric scores that existed between the Fellows' assessments of student work samples and the mathematics' assessment of the student work samples was notable. Qualitative data from surveys and semi-structured interviews also indicate an impact on the Fellows' ability to assess student work.

The complexity of rigor includes awareness and understanding of the Major Works of the Grade and the targeted depth of knowledge assessed through the SBAC Claims. NNRPDP's ongoing goal is to support Fellows to create rigorous instruction based on NVACS-M. The progression toward strengthening instructional practice by increasing rigor is evident in Fellows' increased awareness and understanding of the Major Works of the Grade and SBAC Claim 4 illustrated by the Facilitator Lesson Planning Rubric Assessment, the Fellows' Learning Episode Reflection, Claim Identification Assessment, Pre/Post Survey, and Semi-Structured Interview data. The Facilitator Lesson Planning Assessment Rubric data indicates the Fellows are developing understandings and awareness of rigor. Fellows' competency assessing the depth of knowledge and understanding related to the Major Work of the grade is evident in the Fellows' assessments of student work using the SBAC Mathematics Rubric for 4-Point Items matching the Mathematics Specialists assessments on 94% of the student work samples.

NNRPDP's goal for Fellows to demonstrate an increased ability to utilize resources, such as the Digital Library, Progression Documents, and standards viewer to improve teaching practices was not met to the extent envisioned. Data from the Facilitator Grade Level Lesson Planning Assessment Rubric and debriefing reports from the Mathematics Specialists' debriefings indicate Fellows' awareness and understanding of these resources as partially proficient. Data from the post-survey did not indicate an increased awareness of the resources. No references to the resources were identified in the Learning Episode Implementation Reflections. However, two of the Fellows did use resources obtained from the Digital Library during the planning sessions, and 100% of the Fellows did note the Fellowship provided resources in the post- survey. In addition, resources were specifically referenced in 67% of the semi-structured interviews.

Long term measures

The long term goal of the Fellowship was to deepen understandings of student achievement targets outlined by SBAC in order to strengthen instructional practices. The long term measures of the NNRPDP to increase student learning and growth as measured by aggregate assessment scores and those scores compared to a comparison group was not accessible for the 2019-2020 academic year. Due to the Covid-19 pandemic these end-of-year state assessments were suspended.

Process Measures

The mean Likert scale ratings from the State Evaluation ranged from 4.5 to 4.8 suggesting the sessions met Fellows' expectations and were perceived as useful. The feedback and comments on the evaluations, survey data, and semi-structured interviews further suggests the process measures were achieved and Fellows' were satisfied with the Fellowship.

Conclusion

Evidence suggests the NNRPDP achieved three of the objectives outlined for the Fellowship and three objectives were not met to the degree envisioned. Two of the objectives that were met, increased awareness and understanding of NVACS-M Major Work of the Grade and Claim 4 (Mathematical Modeling), were connected to the Whole Group Sessions, while the other objective, increasing the ability to assess student work in relation to the NVACS-M Major Work of the Grade and Claim 4 (Modeling), was primarily addressed during the Virtual Sessions. The three objectives that were not met to the extent envisioned, creating lesson plans, implementing lesson plans, and utilization of the resources, i.e. Digital Library, Progression Documents, and standards viewer, were associated with the Grade Level Lesson Planning Breakout Sessions.

Unforeseen barriers may have hampered the level of achievement of the Fellowships' objectives and goals related to the Grade Level Lesson Planning Breakout Sessions. The Grade Level Lesson Planning Breakout Sessions were initially structured for Fellows to co-plan one lesson in grade level teams with all grade level Fellows implementing the same intentionally planned lesson in their respective classrooms. The lesson implementation would be debriefed in grade level teams in the Virtual Session. The Virtual Session would also include the analysis of the student work samples derived from the implemented lesson. The structure was based on the lesson study model. Barriers resulted in the need to augment the structure for the Grade Level Lesson Planning Breakout Sessions and follow up Virtual Sessions.

Since Fellows were from different districts and school sites, not all Fellows were using a similar pacing schedule. Fellows were not addressing the same standards during the same time frames, and some Fellows were required to teach the adopted curriculum without deviation. With input from the Fellows, adjustments were made to the lesson planning sessions in order to address these barriers. Instead of co-planning one lesson, Fellows shared a self-selected lesson they would implement and solicited feedback from the group on how to make modifications to the lessons to incorporate mathematical modeling, increase rigor, and/or provide opportunities for productive discourse and productive struggle.

The modification to the original lesson study format drastically reduced the depth to which intentional planning could occur, and it limited the amount of time that could be devoted to providing each of the Fellows feedback about their self-selected lessons. As a result of

unforeseen life events, some Fellows were not able to complete the Fellowship. This resulted in the need to combine Fellows from two different grade levels, sixth and seventh. The need to combine groups impacted the ability to focus solely on the Major Works of the Grade of one specific grade level, serving to further limit the depth of the intentionality of the lesson planning. Given that not all Fellows were analyzing work samples from the same lesson during the virtual sessions, the analyses were hindered. The group did not share the same level of understanding of the context of each other's lessons as they would have had they all delivered the same lesson.

Upon reflection, the Mathematics Specialists determined the Grade Level Lesson Planning Breakout Sessions focused on too many elements, which impacted achievement of the goals related to intentional planning and implementation of lessons. Planning to intentionally increase rigor levels while incorporating opportunities for mathematical modeling, productive struggle, and productive discourse using the dense resources resulted in too many foci for the Fellows. Thus limiting the necessary depth of understanding of each element to proficiently incorporate each element into the lessons. Future Fellowships will focus on fewer elements leveraging insights gained from the Year 2 data, such as emphasizing opportunities to elicit productive discourse in instructional practice.

Modifications to the structure of the Fellowship are necessary to achieve the goals related to intentional planning and implementation of lessons. To address the barriers in future Fellowships, the lesson planning sessions will be structured where Fellows will help one fellow intentionally plan a learning episode. Having groups of Fellows plan just one lesson during a session will allow space for depth of understandings to develop. The debriefings of these group planned lessons will include Fellows observing the implemented lesson either in person or via video and an analysis of student work derived from students in the presenting Fellow's classroom. Fellows will be able to transfer learnings from the group planning and lesson debriefing sessions to their own instructional practice when designing lessons independently. The number of foci will be limited to one or two elements, which the Fellows will identify as areas of need, in order to achieve the necessary depth of understandings required for intentional planning. Making these structural changes to the lesson planning session will likely strengthen the Fellowship's lesson planning sessions, improve the likelihood of transfer to practice, and promote positive shifts in instruction.

The Mathematics Specialists intention and hope is to sustain ongoing professional development by offering a third year of the Fellowship. The Mathematics Specialists want to expand the positive impacts of Fellowship in the region by increasing the number of Fellows in Year 3. Increasing the number of Fellows will provide greater opportunities to analyze results for statistical significance. The Mathematics Specialists will continue to refine the Fellowship, building on the learnings from Year 1 and Year 2. These adjustments will better support

Nevada's mission to improve student achievement and educator effectiveness by ensuring opportunities, facilitating learning, and promoting excellence.

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Collaborative Inquiry Teams

Teachers are often inundated with student assessment data that may or may not be utilized for creating lasting improvements in teaching and learning. One solution to this problem is supporting teachers in data interpretation along with a focus on how the interpretation of data transfers to a change in teaching practice. Even though data interpretation will support changes in teacher instruction, teachers may find this work difficult (Sun, Przybylski, & Johnson, 2016). The skills needed are addressed in the collaborative inquiry process.

Collaborative inquiry is "a team of skilled educators working together to implement a coherent instructional plan to identify the learning needs of every student and to meet those needs" (Boudett, City, & Murnane, 2018, p. 2). The Data Wise improvement process is the overarching process that encompasses collaborative inquiry teams. The Data Wise process (Boudett, City, & Murnane, 2018) builds educator skills in data analysis and ways of using the data effectively to change instruction to meet student needs. This process includes three phases: Prepare, Inquiry, and Act. In the Prepare phase, teachers organize for collaborative work, build assessment knowledge, and create a data overview. In the Inquiry phase, teachers dig into student data and examine instruction. In the Act phase, teachers develop an action plan. This plan includes a plan to assess progress, then act (new instructional practice) and assess student learning. The Collaborative Inquiry process is recursive, returning time and again to the Inquiry and Act phase as teachers implement action plans, assess results, and build the next action plan based on student needs. In some settings, professional development focused on data use has been shown to be effective at increasing student achievement (Lai & McNaghton, 2016). Thus, a focus on professional development that creates highly skilled collaborative inquiry teams benefits students' ongoing learning needs and supports teachers as they adjust their instructional practices to meet those needs.

Local School (LS, a pseudonym) is a charter school and serves a Kindergarten – eighth-grade student population in the Northeastern Nevada region. The LS principal requested Northeastern Nevada Regional Professional Development Program (NNRPDP) support for improving student learning outcomes through the use of the Data Wise process, specifically, Collaborative Inquiry Teams. The outcome of this learning opportunity for LS teachers is as follows:

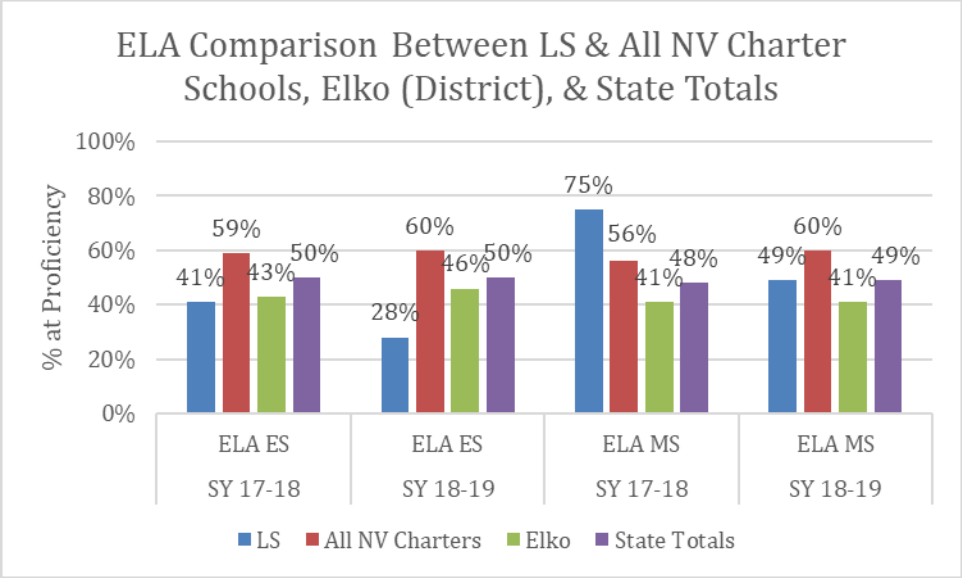
Teachers who have completed Collaborative Inquiry Team professional learning will demonstrate the ability to choose and implement new teaching strategies targeted to areas of need identified by multiple assessments.

Initial Data and Planning

The professional development priority established by the LS principal was increased achievement in both English Language Arts and Math. This priority was based on the Nevada Report Card ratings drop from their 2017-2018 three-star rating to the 2018-2019 two-star rating (Nevada Department of Education, n.d.) and the corresponding drop in proficiency from 2017-2018 to 2018-2019. Figure 33 and 34 provides a comparison between LS charter and all Nevada charter school proficiencies during that time. As noted in the figure, LS proficiency declined in this time period with the exception of middle school math (which made a roughly 1% increase), while all Nevada charter schools either maintained their proficiency levels or slightly increased. This information provided the data to the LS principal that initiated the request for service with the NNRPDP.

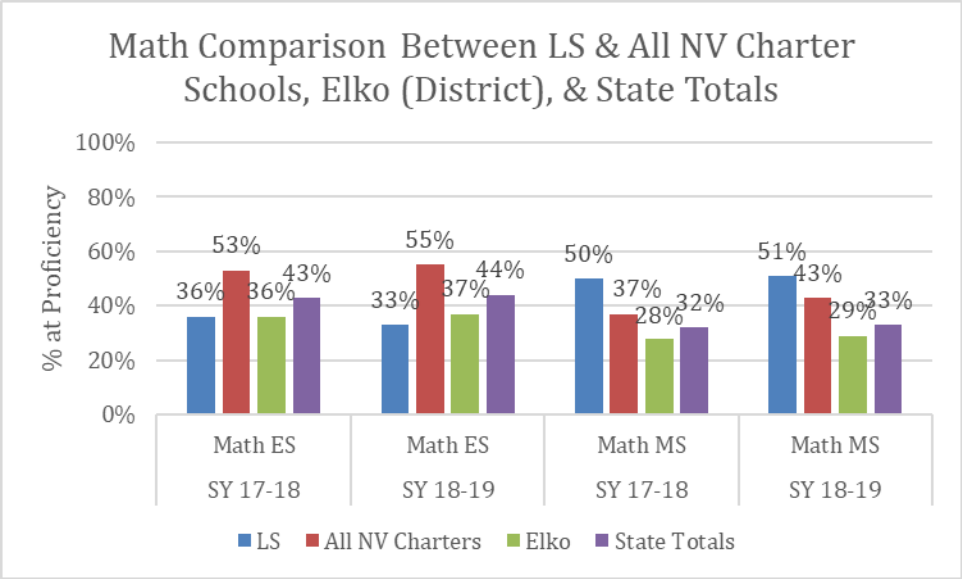
The comparison between LS ELA scores in both elementary and middle schools compared to all Nevada charter schools is displayed in Figure 33.

Figure 33 *Comparison of ELA Scores Between LS and All NV Charter Schools*



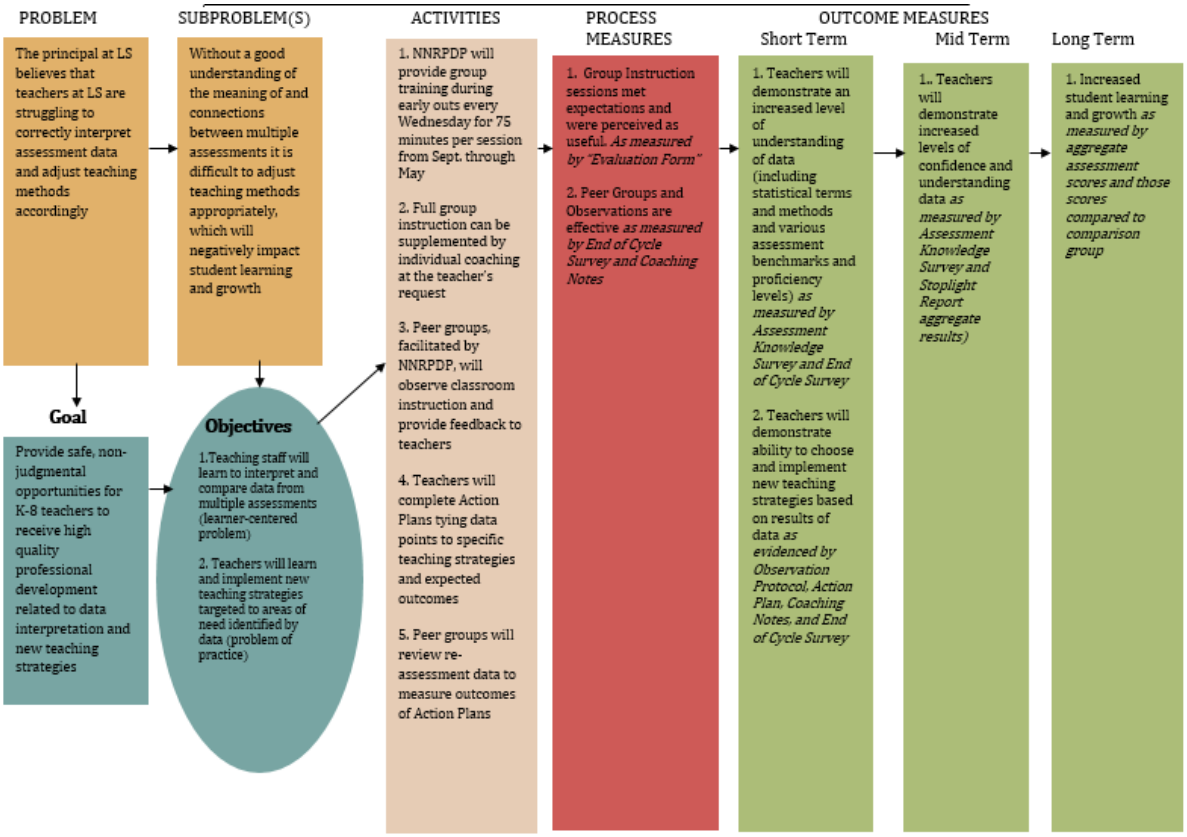
The comparison between LS math scores in both elementary and middle schools compared to all Nevada charter schools is displayed in Figure 34. These data indicated that LS students were not achieving proficiency at the same rate as other charter schools. The LS principal believes this is due to lower levels of teachers' knowledge of and ability to interpret data and adjust instruction accordingly.

Figure 34 *Comparison of Math Scores Between LS and All NV Charter Schools*



LS has a dedicated professional learning time every Wednesday (early out for students) which was utilized for implementation of the Collaborative Inquiry Teams. Current teacher content knowledge of assessment terms and analysis skills were intended to be assessed using a questionnaire administered in the fall (pre-assessment), in February (mid-year assessment), and spring (post-assessment). Because this project was cut short due to the COVID-19 global pandemic, only the pre-assessment and mid-year assessments were administered. LS teacher assessment knowledge strengths included basic terminology knowledge and correctly identifying scores and levels on Smarter Balanced Assessment Consortium (SBAC) charts. These strengths formed a foundation on which to build a greater understanding of student assessments and analysis. LS teacher assessment knowledge current learning needs included advanced assessment terminology knowledge and amelioration of several misconceptions about student proficiency, adequate student growth, interpretation and analysis of writing samples, and identification of independent reading levels. Professional Learning (PL) was designed to address these needs and go beyond the analysis of student data and support teachers in changing instructional strategies through implementation of Collaborative Inquiry Teams. A logic model (see Figure 35) was created to illustrate shared relationships between the program's activities and its intended effects.

Figure 35 *NNRPDP Collaborative Inquiry Teams-Logic Model*



Roles and Actions

Two knowledgeable and experienced NNRPDP coordinators were chosen to lead the work. Both coordinators have extensive experience in assessment analysis and interpretation, and are familiar with the state and school level assessments. Both coordinators are also well versed in best pedagogical practices as delineated in the Nevada Educator Performance Standards (NEPF) and have facilitated teachers in implementation of the NEPF. Additionally, both coordinators have coaching training, skills, and experience in coaching teachers one-to-one, in teams, and in whole-group settings. This combined experience brought a high level of expertise to the implementation of the Collaborative Inquiry Teams.

To accomplish the goals of this project, the coordinators designed the pacing of the learning for the teachers, incorporating weekly early out sessions and the approximately monthly full or half-day sessions. LS provided the necessary resources needed for the project, namely, the time during the early out sessions each week. The teaching staff was enthusiastic about the learning opportunity and open to the prospect of instructional change. The process of collaborative inquiry fits into existing school efforts. The process takes advantage of data analysis, careful examination of evidence, peer collaboration, planning, and implementation of new teaching strategies. This framework is compatible with any existing school-level initiative,

and can be sustained over time as teachers refine their newly acquired skills. Specific roles and actions are outlined in Table 25.

Table 25 *Roles and Actions*

NNRPDP Coordinators Teachers Administrator

- Provide group training during early outs every Wednesday for 75 minutes per session from Sept. through June
- Full group instruction can be supplemented by individual coaching at the teacher's request
- Peer groups, facilitated by NNRPDP, will observe classroom instruction and provide feedback to teachers
- Teachers, facilitated by NNRPDP, will complete Action Plans tying data points to specific teaching strategies and expected outcomes
- Peer groups, facilitated by NNRPD, will review reassessment data to measure outcomes of Action Plans
- Teachers will complete Action Plans tying data points to specific teaching strategies and expected outcomes
- Peer groups will review reassessment data to measure outcomes of Action Plans
- Provide time during the workday for professional learning (Wednesday early out).
- Meet with teachers individually (weekly) to provide support in the Collaborative Inquiry work as needed.

Method

Learning Design

Effective professional learning is that which “results in changes to teacher knowledge and practices, and improvements in student learning outcomes” (Darling-Hammond, Hyler, & Gardner, 2017). The intervention was designed with that in mind. The learning design included key components from the Data Wise (Boudett, City, & Murnane, 2018) project at the Harvard Graduate School of Education. The Data Wise process is a series of recursive steps designed to help teachers analyze and interpret data, work collaboratively to design an action plan (change instructional strategies), plan how to assess progress, and then act on the plan (followed by assessment). This process is action research, which leads to the “empowerment of teachers, collaboration through participation, acquisition of knowledge, and improvement in instructional practices” (Murray, 2014), which, ultimately, could increase student outcomes. Indeed, Amels, Kruger, Suhre, and van Veen (2019) found that “inquiry-based working strongly appears to predict teachers’ capacity to change" (p. 371). While it’s clear that collaboration and inquiry can lead to changes in instructional practice for teachers, adapting and incorporating change can remain difficult (Butler & Schnellert, 2012). For this reason, the intervention incorporated effective elements as outlined by Darling-Hammond, Hyler, and Gardner (2017) including content focus, active learning, collaboration, use of models and modeling, coaching and expert support, feedback and reflection, and sustained duration. The intervention pacing and each session were planned with these elements in evidence. The intervention also aligns with Nevada’s Standards for Professional Learning as shown in Table 26.

Table 26 *NNRPDP Collaborative Inquiry Teams Aligned with the Standards for Professional Learning*

Standard	Alignment
LEARNING COMMUNITIES: Professional learning that increases educator effectiveness and results for all students occurs within learning communities committed to continuous improvement, collective responsibility, and goal alignment.	A learning community will be formed with the staff (one per grade band level K-8) for one large group of roughly 12-15 and smaller groups of both grade bands and heterogeneous groups. Weekly professional learning will provide a forum for this community. The learning community participants will follow the Data Wise Improvement process through the implementation of Collaborative Inquiry Teams.

In this community, learners will explore data analysis, examine problems of practice, develop action plans, assess progress, adjust action plans including new instructional strategies, and reflect on personal practice and implementation.

LEADERSHIP: Professional learning that increases educator effectiveness and results for all students requires skillful leaders who develop capacity, advocate, and create support systems for professional learning. The PLP is designed to develop capacity in all participants and support systems for ongoing professional learning.

RESOURCES: Professional learning that increases educator effectiveness and results for all students requires prioritizing, monitoring, and coordinating resources for educator learning. Human resources include two NNRPDP coordinators, as well as the teaching staff at LS willing to commit to weekly professional learning meetings, implementation of the Data Wise Improvement Process and Collaborative Inquiry Teams, and coaching.

DATA: Professional learning that increases educator effectiveness and results for all students uses a variety of sources and types of student, educator, and system data to plan, assess, and evaluate professional learning. Short term measures:

1. Teachers will demonstrate an increased level of understanding of data (including statistical terms and methods and various assessment benchmarks and proficiency levels) as measured by the Assessment Knowledge Questionnaire and End of Cycle Survey

2. Teachers will demonstrate the ability to choose and implement new teaching strategies based on the results of data as evidenced by Observation Protocol, Action Plan, Coaching Notes, and End of Cycle Survey

Midterm measures:

1. Teachers will demonstrate increased levels of confidence and understanding data as measured by Assessment Knowledge Questionnaire (and the Stoplight Report aggregate results)

Long term measures:

1. Increased student learning and growth as measured by aggregate assessment scores and those scores compared to comparison group

LEARNING DESIGNS: Professional learning that increases educator effectiveness and results for all students integrates theories, research, and models of human learning to achieve its intended outcomes. Guskey's Five Levels of Professional Development and the Standards for Professional Learning are the basis for this professional learning. The learning includes opportunities to identify personal and professional relevancy through reflection, inquiry, practical engagement, collaboration, interconnection, integration, and application of concepts.

IMPLEMENTATION: Professional learning that increases educator effectiveness and results for all students; applies research on change and sustains support for implementation of professional learning for long-term change. Participants are provided with tools to support their efforts in making essential instructional shifts required to successfully implement Collaborative Inquiry Teams through the use of the Data Wise Improvement Process. Continued support of outcomes will be made available to all stakeholders upon request.

OUTCOMES: Professional learning that increases educator effectiveness and results for all students aligns its outcomes with educator performance and student curriculum standards.

NNRPDP coordinators encouraged similar Collaborative Inquiry Team experiences across grade levels and content areas in order to ensure that teachers throughout LS received support. This in turn led to students consistently receiving high-quality instruction

EQUITY: Professional learning that increases educator effectiveness and results for all students focuses on equitable access, opportunities, and outcomes with an emphasis on addressing achievement and opportunity disparities between student groups. NNRPDP coordinators facilitated discussions and focused on ways to ensure that the Collaborative Inquiry Team support would be available to all teachers within the school and that all students would benefit from effective instruction.

CULTURAL COMPETENCY: Professional learning that increases educator effectiveness and results for all students facilitates educator's self-examination of their awareness, knowledge, skills, and actions that pertain to culture and how they can develop culturally-responsive strategies to enrich educational experiences for all students. NNRPDP coordinators facilitated discussions with the LS teachers giving opportunities for self-examination and promoting a greater awareness of cultural norms and biases and the role they play in teaching and learning.

Participants and Procedure

The Data Wise process and Collaborative Inquiry Team professional learning occurred during the 2019-2020 school year. Two NNRPDP facilitators met with the entire staff of LS K-8 school each Wednesday early-out for 75 minutes. Fourteen total participants included ten classroom teachers (grades K-8, including two long-term substitutes), one special education teacher, one literacy specialist, one paraprofessional, and one administrator. Three full-day and two half-day training sessions were planned over the course of the year, roughly one per month. Prior to the COVID-19 school shut down, two full-day and one half-day training sessions were completed (see Appendix O) for full schedule and calendar).

Measurement

The objectives of this intervention were 1) teaching staff will learn to interpret and compare data from multiple assessments (learner-centered problem) and 2) teachers will learn

and implement new teaching strategies targeted to areas of need identified by data (problem of practice). These objectives were measured using a variety of methods aligned with Guskey's (2002) five levels of professional development indicated in Table 27.

Table 27 *Five levels of Professional Development Evaluation (Guskey, 2002)*

Evaluation Level Questions Addressed How Will Information be Gathered? What is Measured or Assessed? How Will Information Be Used?
1. Participants' Reactions Did this training meet my expectations?

Did the presenter's expertise and experience impact the learning?

What did I learn from the analysis process today? NNRPDP Evaluation Form (bi-monthly),

Weekly Reflection Response Participants' initial satisfaction with the experience and perceived benefit To improve program design and delivery
2. Participants' Learning Did participants acquire the intended knowledge and skills? NNRPDP Evaluation Form (bi-monthly),

Spotlight Report (pre and post)

Weekly Reflection Response,

Knowledge Questionnaire,

Coaching Notes Participant understanding of data, including statistical terms and methods and various assessment benchmarks and proficiency levels To improve program content, format, and organization
3. Organization Support and Change Was implementation advocated, facilitated, and supported?

Was the support public and overt?

Were problems addressed quickly and efficiently?

Were sufficient resources made available?

Were successes recognized and shared?

What was the impact on the organization's climate and procedures? NNRPDP Evaluation Form (bi-monthly),

Weekly Reflection Response,

Coaching Notes The organization's advocacy, support, accommodation, facilitation, and recognition To document and improve organization support and to inform future change efforts
4. Participants' Use of New Knowledge and Skills Did participants effectively apply the new knowledge and skills? NNRPDP Evaluation Form (bi-monthly),

Weekly Reflection Response,

Assessment Knowledge Questionnaire,

Coaching Notes Teachers' ability to analyze student data, create an action plan, act according to the action plan, reassess student learning, and repeat To document and improve the implementation of program content
5. Student Learning Outcomes What was the impact on students?

Did it affect student performance or achievement? MAP growth data collected in the fall and winter compared to MAP growth data from previous year. Student growth To focus and improve all aspects of program design, implementation, and follow-up

To demonstrate the overall impact of professional learning
Note. Italicized text is specific to this intervention.

Spotlight Report

First, teachers were asked to complete a Spotlight Report indicating the current extent of each step of the Data Wise process (not at all, somewhat, consistently) corresponding to Guskey's (2002) level 2 (participants' learning). This measure was intended to be administered both pre and post intervention, however, due to the unexpected school closures (COVID-19), the post intervention Spotlight Report response was collected in May, but the intervention work ceased in mid-March.

NNRPDP Evaluation

Teachers completed the NNRPDP Evaluation bi-monthly (Appendix B). The NNRPDP Evaluation pertains to Guskey's level 1 (participants' reactions), level 2 (participants' learning), level 3 (organization support and change), and level 4 (participants' use of new knowledge and skills).

Weekly Reflection Response

Initially, an End of Cycle Survey was planned, however it proved too cumbersome to complete on a weekly basis. An abbreviated Weekly Reflection Response was substituted which corresponds to Guskey levels 1 - 4.

Assessment Knowledge Questionnaire

The Assessment Knowledge Questionnaire (see Appendix I) was intended to be administered in the fall (pre-assessment), in February (mid-year assessment), and spring (post-assessment), meeting Guskey's evaluation levels 2 (participants' learning) and 4 (participants' use of new knowledge and skills). For the reason noted above, only the pre-assessment and mid-year questionnaires were administered.

Coaching

Three of the eight classroom teachers and one of the two long-term substitutes requested personalized literacy coaching, meeting Guskey's evaluation levels 2 (participants' learning), 3 (organization support and change), and 4 (participants' use of new knowledge and skills). While this coaching was not solely focused on data interpretation for the collaborative inquiry team process, the coordinator noted occurrences of data interpretation and analysis as well as implementation of instructional change. The four teachers requesting coaching are 31% percent of the classroom teaching staff, excluding the principal. This is a large portion of a whole staff to request coaching. This exemplifies the commitment and intensity of the LS teachers and principal to the intervention. Coaching occurred during one of the teacher's prep times every other week, which means that the coached teachers had to give up a planning session that week.

As noted above, the primary focus of this coaching was literacy, and when the topics of data interpretation or instructional changes occurred, they were tracked by the coordinator.

Peer groups met to create action plans, tying data points to specific teaching strategies and expected outcomes. In consultation with the principal, it was deemed wise to delay the observation of peers while teachers focused on data interpretation/analysis and designing action plans with the hope of initiating peer observation in the spring. As noted above, the COVID-19 shutdown of Nevada schools in March prevented full implementation of peer observation for the 2019-2020 school year.

Measure of Academic Progress (MAP)

Measurement of overall student achievement using MAP results (fall and winter growth projection 2019-2020) meet Guskey's level 5 (student learning outcomes).

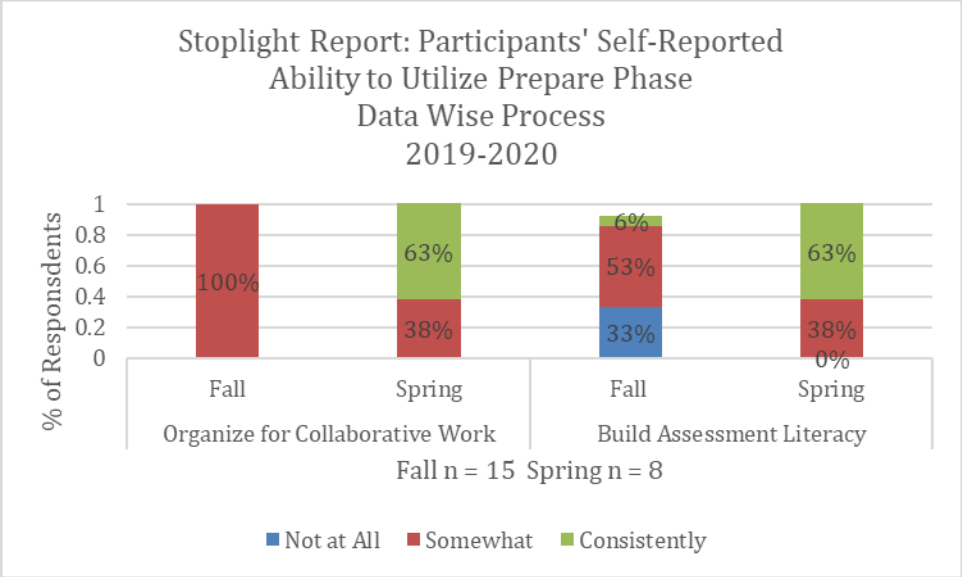
Results

No analysis for statistical significance or correlations were performed due to the small number of responses.

Spotlight Reports

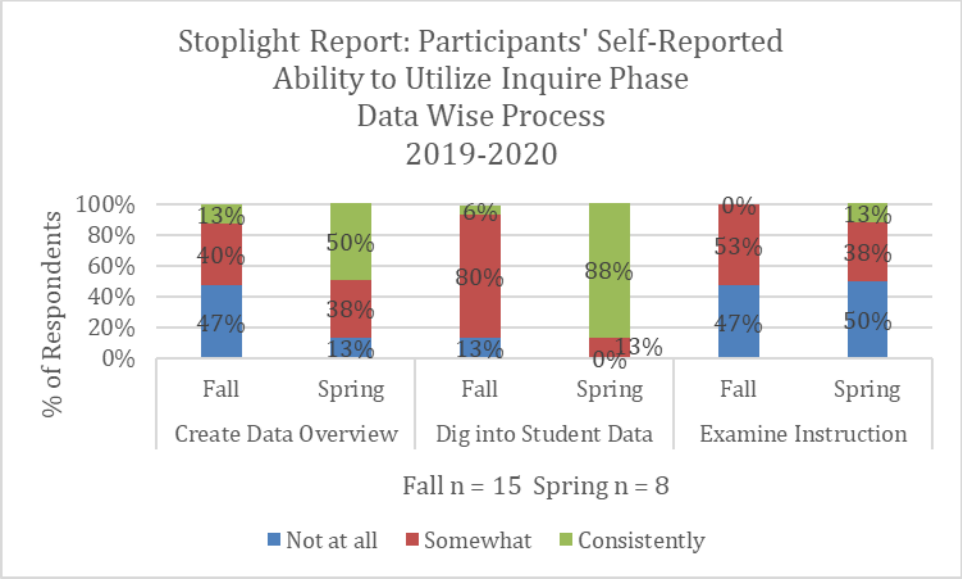
The percentage of respondents' overall implementation of the Prepare phase which includes organization for collaborative work and assessment literacy is displayed in Figure 36. As noted, gains occurred in both areas. For each of the Stoplight figures, Fall n = 15, Spring n = 8.

Figure 36 *Stoplight Report: Participants' Self-Reported Ability to Utilize Prepare Phase Data Wise Process 2019-2020*



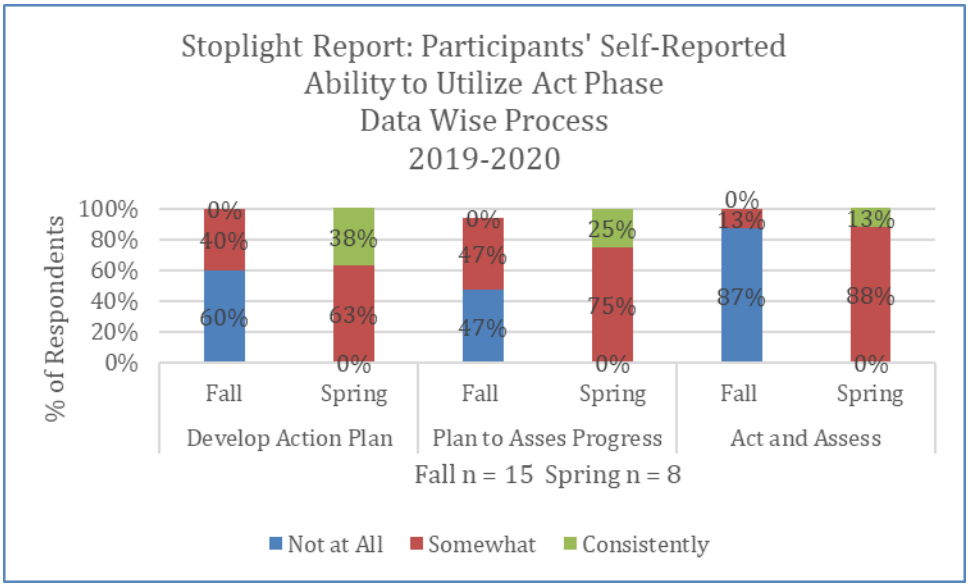
The percentage of respondents' overall implementation of the inquire phase which includes creating a data overview, digging into student data, and examining instruction are displayed in Figure 37. Gains are noted in each area.

Figure 37 *Stoplight Report: Participants' Self-Reported Ability to Utilize Inquire Phase Data Wise Process 2019-2020*



The overall implementation of the Act phase which includes developing an action plan, planning to assess progress, and acting and assessing are displayed in Figure 38. Gains are noted in each area.

Figure 38 *Stoplight Report: Participants' Self-Reported Ability to Utilize Act Phase Data Wise Process 2019-2020*

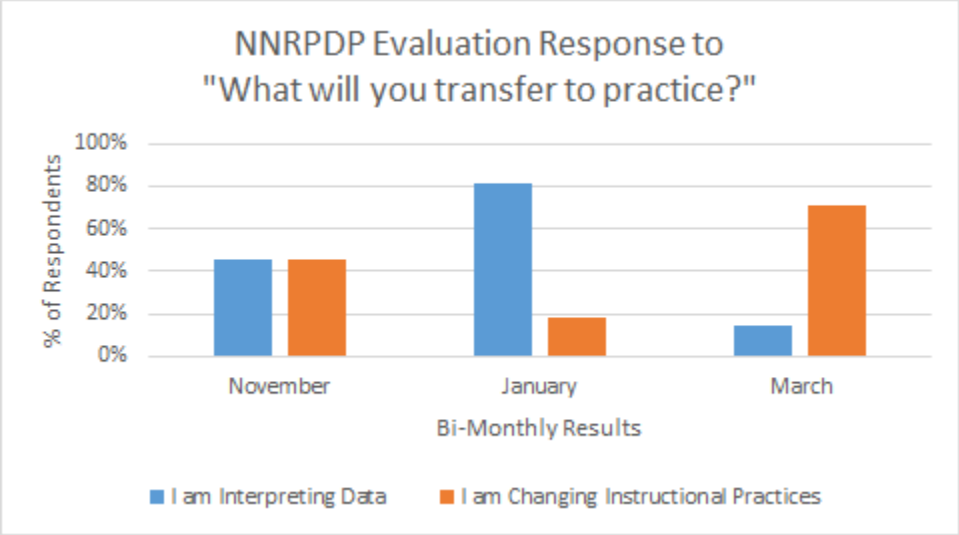


NNRPDP Evaluation

NNRPDP Bi-Monthly Evaluation Response to "What will you transfer to Practice?" displayed in Figure 39 provides the tracking of teacher perception in their implementation of change from November through March. Results were compiled and quantified into the two

variables, “I am interpreting data” and “I am changing instructional practice.” The chart shows an increase in data interpretation from November to January, then an increase in instructional changes from January to March.

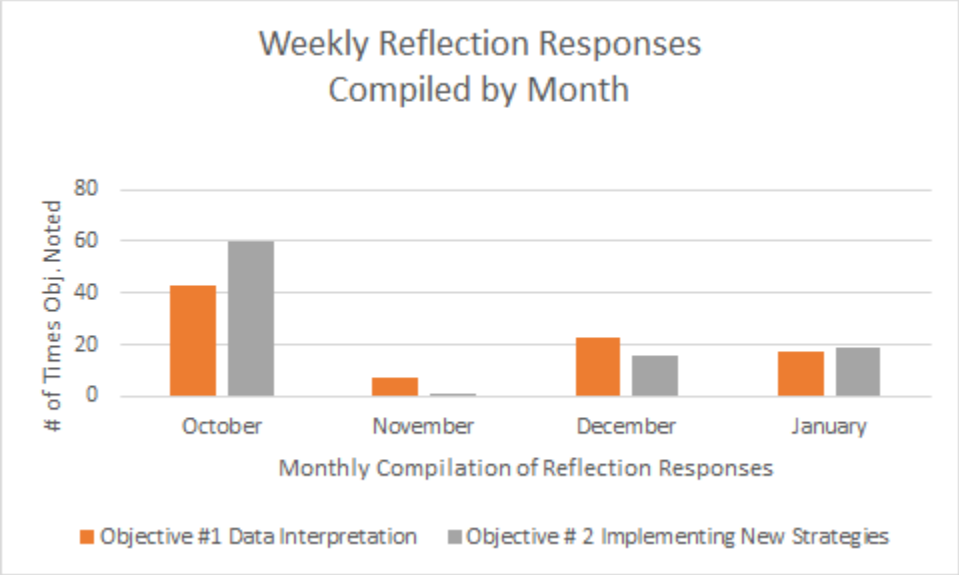
Figure 39 *NNRPDP Bi-Monthly Evaluation Response to “What will you transfer to Practice?”*



Weekly Reflection Responses

The number of mentions given to either of the two objectives in this project are displayed in Figure 40. If teachers noted in their reflection multiple instances of data interpretation or implementing of more than one new strategy that week, each instance was counted. Each month the number of teachers reflecting was roughly $n = 14$. November totals are based on only two sessions (reflections) due to parent teacher conferences and the Thanksgiving holiday (fewer whole group sessions that month).

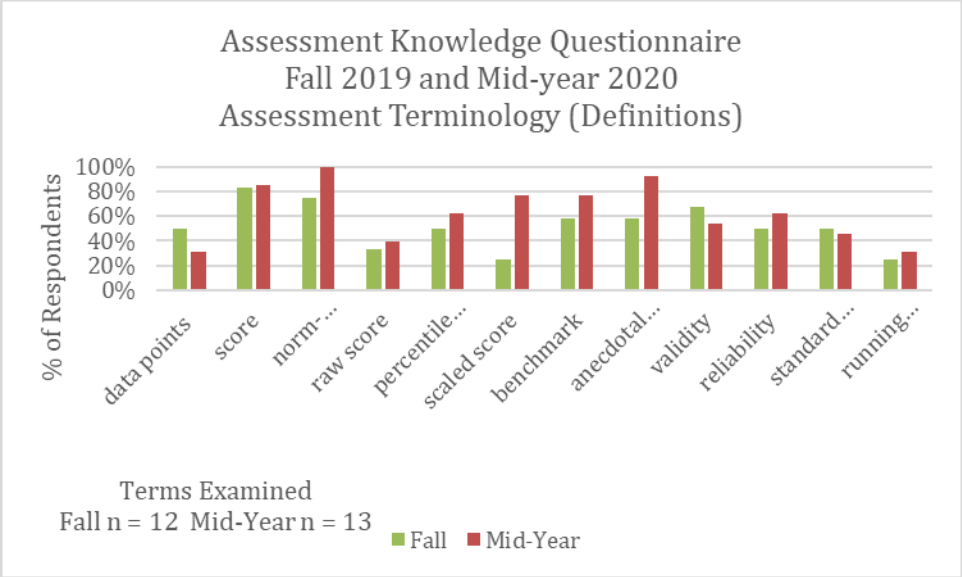
Figure 40 *Weekly Reflection Responses Compiled by Month*



Assessment Knowledge Questionnaire

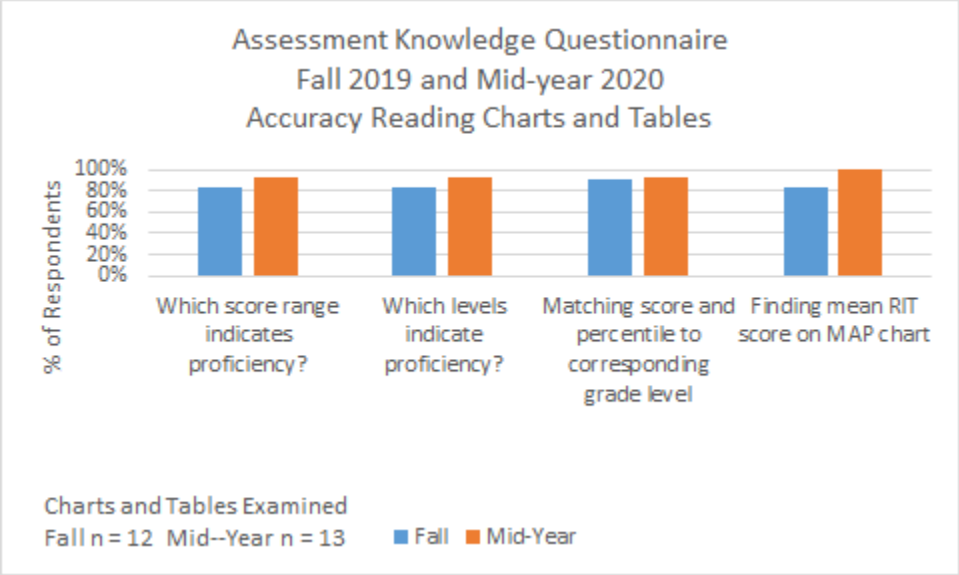
Both the starting point in teacher understanding of assessment terminology as well as the changes at mid-year are displayed in Figure 41.

Figure 41 *Assessment Knowledge Questionnaire Fall 2019 and Mid-Year 2020 Assessment Terminology (definitions)*



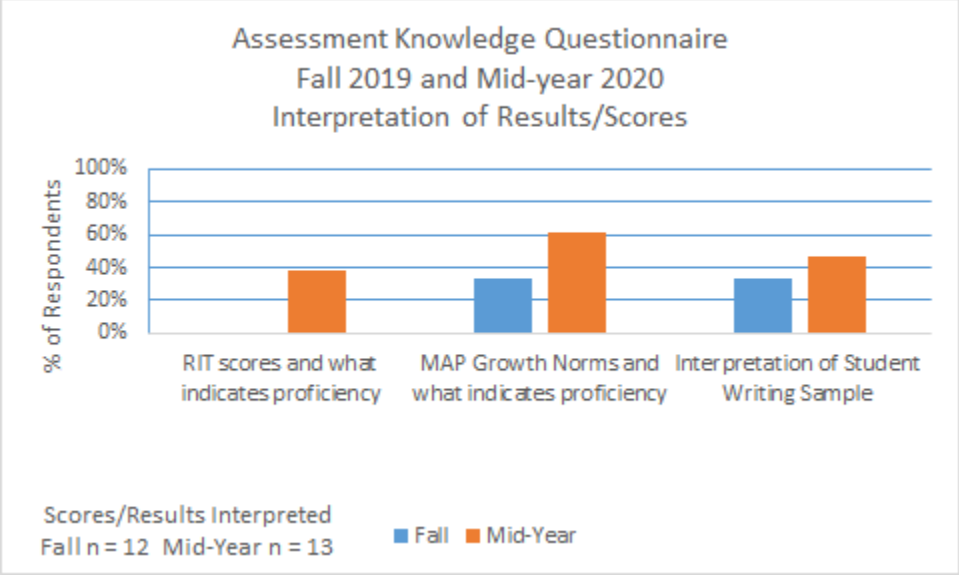
Teachers' accuracy in reading charts and tables related to common student assessments is displayed in Figure 42.

Figure 42 *Assessment Knowledge Questionnaire Fall 2019 and Mid-year 2020 Accurately Reading Charts and Tables*



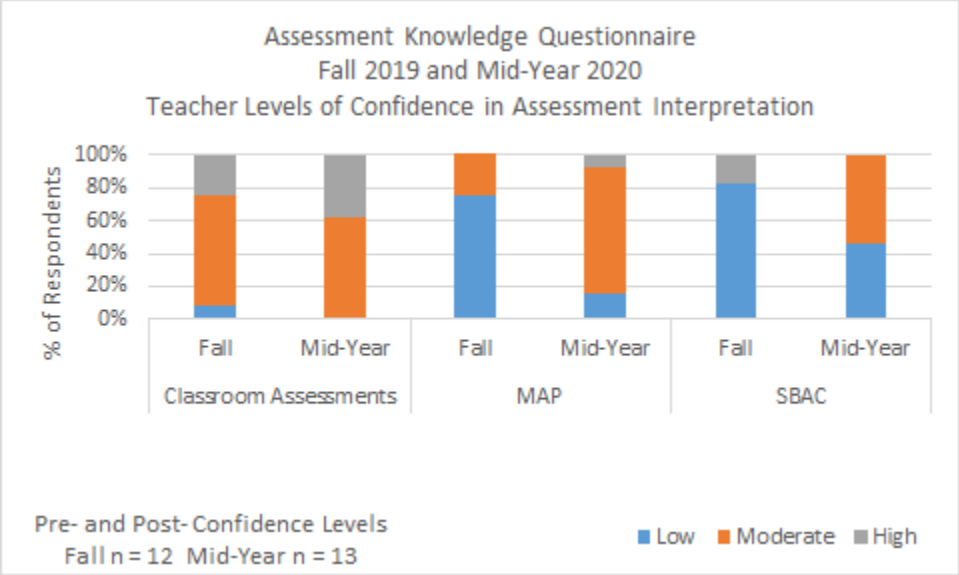
Teachers' accuracy in interpretation of common student assessments is displayed in Figure 43. Of note is the RIT scores and what indicates proficiency fall score of 0% to 38% at mid-year. Growth norm proficiency also indicates a gain from fall at 33% to a mid-year of 62%. Interpretation of student writing increased from fall 33% to mid-year 46%.

Figure 43 *Assessment Knowledge Questionnaire Fall 2019 and Mid-year 2020 Interpretation of Results/Scores*



Teachers' level of confidence from low, moderate, to high in the areas of classroom assessments, MAP results, and SBAC results are displayed in Figure 44.

Figure 44 *Assessment Knowledge Questionnaire Fall 2019 and Mid-year 2020 Teacher Levels of Confidence in Assessment Interpretation*



Coaching

Three classroom teachers and one long-term substitute (a total of four of the teaching staff) requested coaching from the NNRPDP facilitator. Coaching sessions were bi-weekly, for roughly 50 minutes. All four participants in coaching worked on literacy skills, either reading, writing, or both. Each session the coaching participants were encouraged to determine a short-term goal that they could accomplish related to literacy and student learning outcomes. Data interpretation and selection and implementation of strategies, while not the focus of the sessions, occurred in some sessions and was tracked in the coaching notes. These notes are inclusive of the data interpretation and analysis and instructional change (new implementation) only. The literacy notes are not included. As can be seen in the notes, (Figure 45) the coaching participants had individual gains in data analysis and interpretation as well as implementation of new strategies.

Figure 45 *Coaching Notes Including Teacher Data Interpretation and Selection and* ***Implementation of Strategies***

Date Coaching Notes

9.26.20 Coaching Participant 1

Conferring is where the teacher decided to go next, the facilitator shared a blank tracking graph to keep with the teacher's composition notebook for tracking of writing conferences.

- Individual conferring with students about writing and data tracking are both new strategies for this teacher.

10.17.20 Teacher reports that the tracking of the writing conferences is going well. She noticed that she is not meeting with all students each week, and is making an effort to do so now that she is aware. Her new goal is to implement running records (a new practice for her).
11.14.20 Shifted writing time based on teacher observation of need (learned observation skill in PL).
Teacher added tracking of student application of lesson taught (each day or week). Teacher added a new strategy of 'bookending' the lesson by naming the learning objective before and after the teaching of the lesson.
1.16.20 Based on the new data tracking, the teacher noticed several students were not able to apply the lessons taught. The teacher and the facilitator discussed further assessments that might help the teacher pinpoint their learning difficulties-another new strategy for the teacher.
2.6.20 no new implementations noted.
2.27.20 Teacher noticed (based on new observation skills) too much time wasted while students prep for writing class. She moved the preparation for writing to before recess so that when they return from recess they can start the lesson. This is implementation of a new strategy. The facilitator supported the teacher in analysis of the running records for the struggling student noted earlier. Teacher was able to determine next steps appropriate for each student based on the data analysis (New data interpretation and analysis)
3.12.20 Teacher assessed all students with running records. This is implementation of a new strategy. Teacher continued with the analysis and interpretation of each student's running record and determined next steps (new data analysis and new strategy).

Date Coaching Notes
10.28.20 Coaching Participant 2
Teacher has begun tracking spelling data with a tracker. Noticed a student had 100s then one day had only 13%. She noted that day that she did not have time for the lesson, and noticed this impacted his achievement. She has adjusted her lesson time to make sure she is not rushed through the lessons in future. (This is data interpretation and a change in practice.)
11.25.19/12.9.19/1.6.20 For each of the next three sessions, the teacher tracked the student application of the teaching point in that day's lesson.

Date **Coaching Notes**
12.2.19 Coaching Participant 3
(first session, this participant requested coaching mid-year) Teacher (long-term substitute) noted the difficulty managing the writing mini-lesson and keeping it to a very short time, 10-15 minutes. We discussed using a timer, and she will implement this new strategy.
1.6.20 worked on classroom management issues. This teacher is implementing new strategies in classroom management (this is what she needs).
1.27.20 This teacher missed the half-day work prior to this session, so the facilitator and the teacher did that work today. Student writing samples were sorted based on levels of

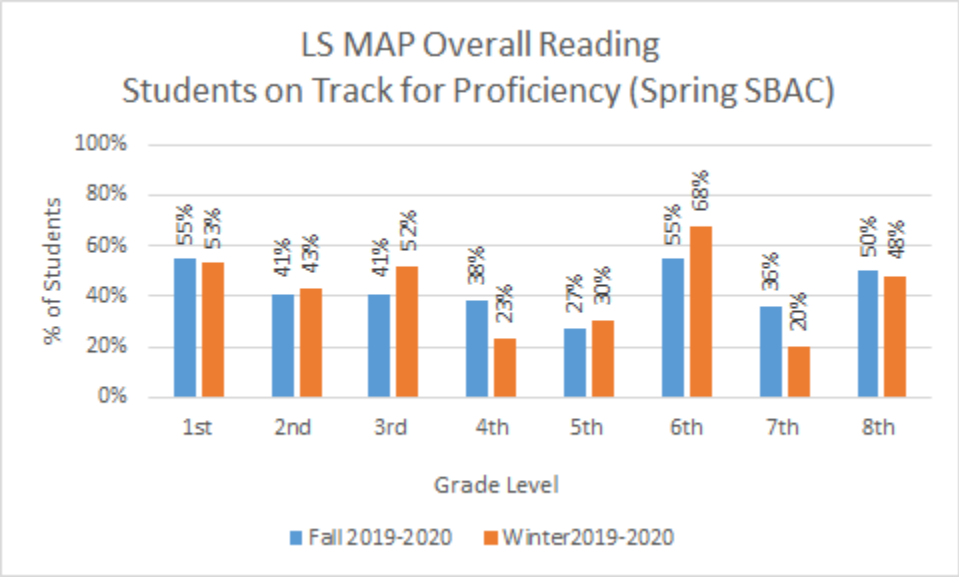
sophistication and the teacher was able to use the materials (learning progressions) to determine next steps for instruction for small groups and individual students. (data analysis and interpretation)
2.24.20 worked on classroom management issues.
3.9.20 worked on classroom management issues.

Date **Coaching Notes**
9.16.19 Coaching Participant 4
New strategies discussed
9.30.19 Implementation of new teaching strategy-daily mini lesson
10.14.19 no new implementations noted.
10.28, 11.25, 12.2.19 Attempted to meet each of these dates, the participant was unavailable.
12.9.19 no new implementations noted.
1.6.20 no new implementations noted.
2.3.20 no new implementations noted.

Measure of Academic Progress (MAP)

Students on track for reading proficiency results in Fall 2019-2020 and Winter 2019-2020 are displayed in Figure 46. NWEA provides a linking document with correlations between Smarter Balanced assessments (if taken in the spring) and MAP growth tests (See Appendix J). While correlations exist for grades 3-8, no correlations as yet exist for grades K-2. What is noted above as proficiency in grades K-2 is students between the 61-100%ile (generally considered meeting benchmarks). There are no ELA MAP projections available at this time for all Nevada Charter schools for SY 19-20. No Spring MAP assessments were administered in 2020. Gains in student growth in overall reading are noted in grades two, three, five, and six.

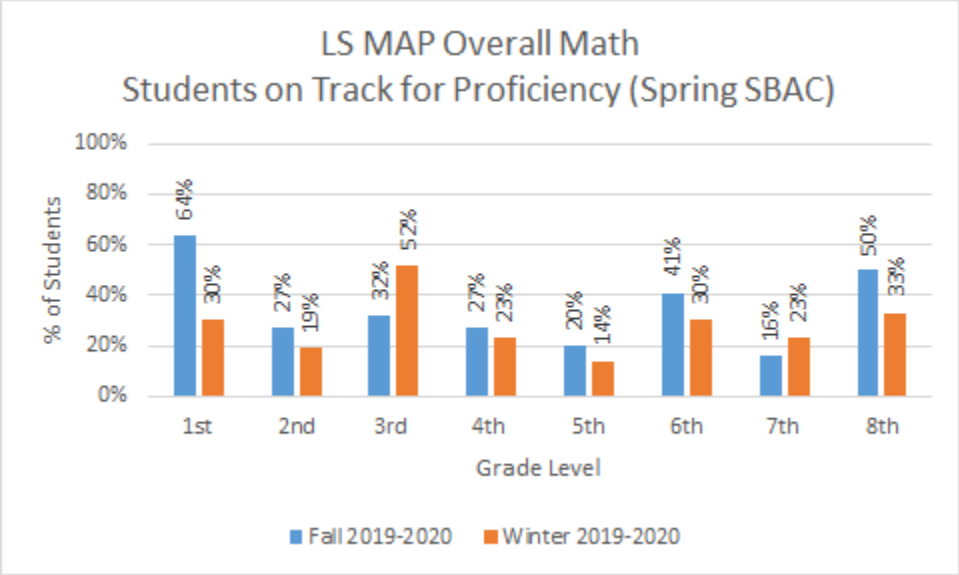
Figure 46 *LS MAP Overall Reading Students on Track for Proficiency (Spring SBAC)*



Students on track for math proficiency results in Fall 2019-2020 and Winter 2019-2020 are displayed in Figure 47. No Spring MAP assessments were administered. There are no Math MAP projections available at this time for all Nevada Charter schools for SY 19-20. A gain in student growth in overall math is noted in grade three and grade seven.

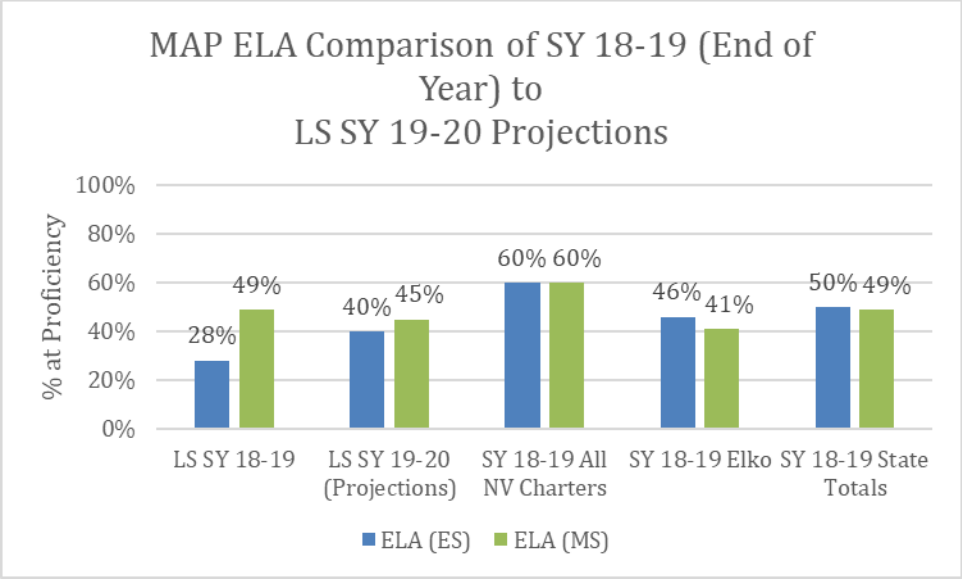
Kindergarten data is available for Winter 2019-2020 only (Kinder students at LS did not take the MAP in the Fall). Kindergarten Winter results in overall reading are 37% on track for proficiency and in overall math 42% on track for proficiency.

Figure 47 *MAP Overall Math Students on Track for Proficiency (Spring SBAC)*



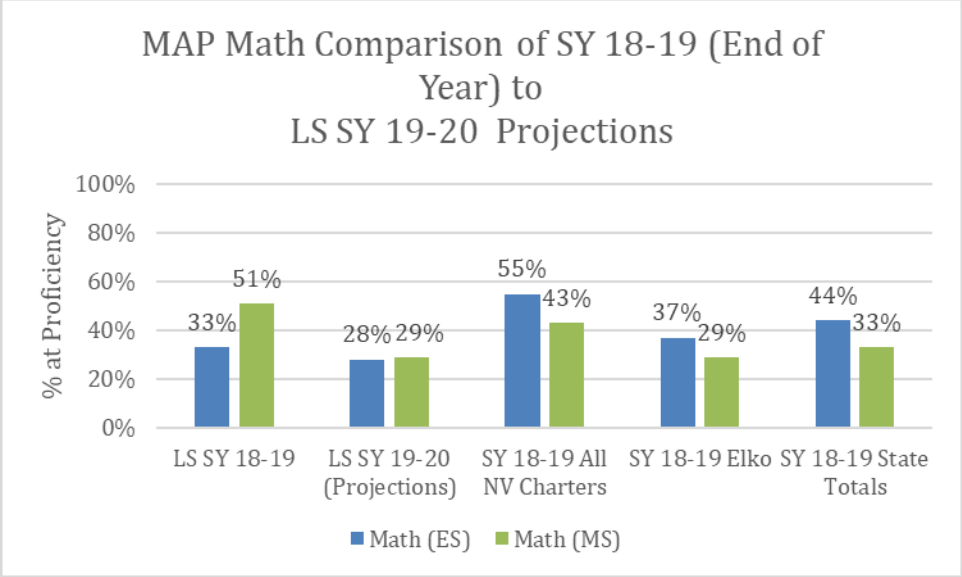
ELA results from school year 18-19 compared to the projected growth results based on what MAP considered on track for proficiency if the SBAC would have been taken in the spring of 2020 are displayed in Figure 48. No projections are available for All Nevada charter schools, Elko, or State totals. Included in LS ES are grade one and two scores which are taken from the 61st-100th%ile, the generally accepted levels for meeting the benchmark. Kindergarten scores are not included in the LS projection as LS kindergarten did not administer the fall MAP, so no growth scores are available.

Figure 48 *MAP ELA Comparison of SY 18-19 (End of Year) to LS SY 19-20 Projections*



Math results from school year 18-19 compared to the projected growth results based on what MAP considered on track for proficiency if the SBAC would have been taken in the spring of 2020. Results are displayed in Figure 49. No projections are available for All Nevada charter schools, Elko, or State totals. Included in LS ES are grade one and two scores which are taken from the 61st-100th%ile, the generally accepted levels for meeting the benchmark. Kindergarten scores are not included in the LS projection as LS kindergarten did not administer the fall MAP, so no growth scores are available.

Figure 49 *MAP Math Comparison of SY 18-19 (End of Year) to LS SY 19-20 Projections*



Discussion

Stoplight Report

The Stoplight Report pre and post surveys (Fall n = 15, Spring n = 8) detailed LS teacher responses to each phase of the Data Wise process, noting gains in both of the stated objectives:

1. Teaching staff will learn to interpret and compare data from multiple assessments (learner-centered problem).
2. Teachers will learn and implement new teaching strategies targeted to areas of need identified by data (problem of practice).

In the Prepare Phase, the *Organizing for Collaborative Work* targets the collaboration needed for implementation of the examination of instruction and development of action plans that occur later in the process and relate to objective 2, new teaching strategies targeted to areas of need. LS teachers in the fall all indicated that they somewhat collaborated, while in the spring more than 60% noted they collaborated consistently. *Build Assessment Literacy* is related to objective 1, data interpretation. More than 60% of LS teachers indicated this occurring consistently with 40% in the somewhat category and none in the not at all category. These gains tell a story of a teaching staff that is beginning to shift its overall teaching practice from one of a lack of consistent collaboration with peers and understanding of student assessment to a staff that is beginning to work together while creating deeper understanding about student assessment.

In the Inquire Phase, the *Creating Data Overview and Dig Into Student Data* sections both target objective 1 (data interpretation). Gains are noted in both areas with more than 80% of teachers indicating consistently digging into student data in the spring. *Examine Instruction* in this phase is related to objective 2 (new teaching strategies targeted to areas of need) and indicates a shift toward more consistent change. Of note in the examination of instruction is the decision made by the principal and the coordinators to delay the move to peer observation, in an effort to gain more teacher buy-in of peer observation. It seems possible that this delay, while perhaps necessary, delayed the implementation of new teaching strategies targeted to areas of student need.

In the Act Phase, the *Develop Action Plan, Plan to Assess Progress,* and *Act and Assess* all target objective 2 (data interpretation) and indicate clear growth from fall to spring. These pieces, when taken together, indicate the self-reported ability of teachers to use their skills from the previous steps of collaboration and data interpretation and analysis to then develop the plan to move the instruction forward for students in a well thought out, planned way. The LS teachers are able to examine student data and formulate a plan for instruction, plan for monitoring the success of that plan, and have moved from not implementing that plan at all (in the fall) to almost 90% somewhat implementation and roughly 15% consistently implementation (in the spring). Each piece in the Data Wise process is essential, but the *Act Phase* is where teachers are planning extensively, implementing a change, and monitoring the results. This is the heart of true

change in instructional practices. The evidence suggests a trend toward increased self-reported ability in these areas, yet there is much room for improvement. Teachers have begun what is considered a lifelong process of refining their instructional practice. Continued practice with these skills into the next school year will likely yield continued growth and student success. In future work through these phases, it might be beneficial for participants to examine the data from the fall to mid-year assessments. Participants would then see the growth they have made as well as become aware of next steps in their own progress and learning.

NNRPDP Evaluation

LS teacher responses to the question *What will you transfer to practice?* provides an interesting picture. In November, teacher responses were 46% in both data interpretation and changing of instructional practices. In January, data interpretation responses reach 80% as teachers become more comfortable with objective 1. Then, in March, objective 2 (new teaching strategies targeted to areas of need) surges to 70% as teachers begin implementation of new teaching strategies targeted to areas of need. This could be interpreted that teacher knowledge about data interpretation grew over the course of the fall, then they moved on to the next phase of new teaching strategies targeted to areas of need.

Weekly Reflection Responses

The *Weekly Reflection Response* took the place of the *End of Cycle Survey*. The End of Cycle Survey proved too cumbersome to complete each week in the brief 75-minute whole group session. Instead, teachers wrote to the prompt, “From today’s learning, what will you transfer to practice?” as that prompt fits best with the overall objectives of data interpretation and new teaching strategies targeted to areas of need and goals of professional learning.

LS teachers' weekly reflection responses indicated an initial (October) overwhelming response to both objective 1 (data interpretation) and objective 2 (new teaching strategies targeted to areas of need). This could be an indication of the initial learning curve required for both objectives. The following reflection responses appear to taper off, but still remain present throughout the intervention with roughly 20% of teachers noting incorporating both data interpretation and new strategies through December and January. The evidence suggests that teachers are continuing to incorporate data interpretation and new teaching strategies (only 20% of them each week), yet continued growth of this practice needs to be encouraged. It is essential that this process be continued into the next school year so that more teachers can incorporate these procedures into their instructional practice.

Assessment Knowledge Questionnaire

The Assessment Knowledge Questionnaire (Fall n = 12, Spring n = 13) has four overall sections that target objective 1 (data interpretation). The first section is *Assessment Terminology* and deals with assessment terms and definitions. This information provided the coordinators with the baseline of terminology knowledge of LS teachers. Gains are noted across the pre and post assessment. *Accuracy Reading Charts and Tables* section scores also provided baseline information, and growth is noted in all areas in the post assessment. *Interpretation of Results/Scores* section indicate growth in all areas. RIT scores and proficiency (MAP test) and MAP growth levels are key to understanding and using this student information accurately. Interpretation of results holds particular significance. The more accurately teachers can pinpoint their students' proficiency (strengths) and specific learning needs, the more accurately they can address those needs with instruction. Of particular note was the RIT scores and what indicates proficiency fall score of 0% which increased to 38% at mid-year. Growth norm proficiency also indicated a gain from fall at 33% to a mid-year of 62%. Clear interpretation of student writing samples increased from fall 33% to mid-year 46%, leaving much room for further growth. These gains indicate increased understanding about what the scores mean and can lead to more accurate planning of next steps with students. The gains indicated in these areas by LS teachers will enable them to accurately identify both student successes and student levels of need. Evidence suggests continued work in this area as only 38% of teachers are clearly understanding the relationship of the scores to student proficiency. Continued refinement of instructional practice in this area is needed.

Finally, the *Teacher Levels of Confidence in Assessment Interpretation* section (meeting objective 1, data interpretation) indicates that LS teacher confidence in assessment interpretation has increased across the board in classroom assessments, MAP, and SBAC. Gains in interpretation of classroom assessments are vital and ongoing, including the formative assessments done on a daily basis. LS teachers being more confident in the interpretation of these assessments could lead to targeted instruction based on student need. MAP data can also be essential for determining strengths and needs of students, and LS teacher confidence shifted toward moderate with some in the high confidence range. LS Teacher confidence in interpretation of SBAC results indicated roughly 80% low with some high in the fall to 40% low and nearly 60% moderate in the post assessment. It is possible that as LS teachers gained understanding of result interpretation their assumed high level from the fall came down to a more realistic moderate level in the post assessment as they began to understand what they did not know. Had the 2020 school year continued, interpretation of SBAC results would have continued. Work with the data, performing analysis in collaborative teams will continue to build teacher confidence levels as they become more comfortable with the many different assessments and their uses. It is essential that this work continue into the next school year because teachers have only scratched the surface. The gains in confidence with only one year (cut short in mid-March) of professional learning are impressive and would most likely only increase with

continued practice and experience. Had the school-year not ended abruptly, close examination of this assessment could have provided an additional model of data analysis and next steps for participants and should be considered in future work.

Coaching

Four of the 13 LS teachers (31%) requested literacy coaching. It is perhaps important to reiterate here 31% of the teaching staff volunteering for individual coaching. This very clearly speaks to the motivation of teachers at LS and their willingness to work with NNRPDP coordinators as they learn and grow their personal instructional practices. Not all teachers are willing or able to take the risk of putting themselves under the scrutiny of thoughtful self-reflection in this way. In addition, participating in individual coaching also requires a time commitment. Teachers in coaching agree to give up one preparatory hour bi-weekly. This, again, speaks to the commitment and motivation levels of the LS teachers involved.

As noted above, the coaching did not specifically target objective 1 (data interpretation). However, objective 2 (new teaching strategies targeted to areas of need) applies, at least in the area of literacy, which was the primary focus of the coaching. Data interpretation did occur, probably more so than it would have based on the weekly work with data that was already occurring at LS.

As expected, each coaching participant had individual needs and therefore individual results with implementation of the objectives of data interpretation and new teaching strategies targeted to areas of need. Each participant made gains toward their individual goals.

Measure of Academic Progress (MAP)

English Language Arts (ELA)

As noted above, the correlation between MAP scores and students on track for proficiency on the Spring administered SBAC (had it been administered) exists for grades 3-8. In grades K-2 the scores noted in overall reading are taken from the 61st-100th%ile, the generally accepted levels for meeting the benchmark (Kindergarten scores are available for winter proficiency only, results noted above). Overall gains are noted in grades two, three, five, and six. Evidence suggests a continued focus on ELA as the gains made need to increase and some grade levels did not make gains at all. Teachers need to be encouraged to continue the inquiry process, with a focus to ELA and best pedagogical practices. Continued refinement of data analysis will assist teachers as they determine student needs and potential next steps for optimal student growth.

Mathematics

In overall math and students on track for proficiency on the Spring administered SBAC (had it been administered) displays student growth in grade three and grade seven. Of concern is that not only did the other grades not make gains in math growth (projections), but the scores dropped. The evidence suggests specifically including math as a content focus for continued work in the upcoming school year. Teachers could be encouraged to alternate their inquiry work between ELA and math as they build their skills in data analysis in both content areas and also in best pedagogical practices in both content areas.

MAP ELA and Math Comparison of SY 18-19 (End of Year) to LS SY 19-20 Projections

Both the ELA and Math scores form the end of year 18-19 and the LS projections displayed together form a broad context for the scores. Projections are not available for all charter schools, Elko, or the state totals. Clear growth is projected in LS ES (ELA). This growth is evidence of student achievement getting much closer to local and state totals. LS Math indicated a drop from SY 18-19 to the 19-20 projections, yet remains not far from the local and state totals, while all Nevada charter schools have higher achievement in math. It is clear that although there were decreases in math student achievement, LS made gains in ELA. A continuation of the work begun with a broad focus on both math and ELA content could support continued gains in ELA and future gains in math.

Conclusion

The primary findings from the evidence collected in pre and post assessments as well as the ongoing reflection responses suggest some areas of success as well as some areas in need of increased improvement in the Data Wise process of Collaborative Inquiry Teams professional learning at LS. In particular, LS teachers indicated gains in all three phases of the process (Prepare, Inquire, and Act), and it will be important to maintain that momentum and move toward increasing the improvements into the consistent range for all teachers. Given the time and resources to continue this work into the next school year, these trends of improvement will likely continue. LS teachers have already mastered a great deal of the assessment literacy required (based on the Knowledge Assessment Questionnaire) as well as made improvements in data interpretation and analysis (objective 1). There is still room for further growth in this area. It would be optimal to do significance testing in future years when there is more data with which to work.

LS teachers also indicated evidence of an implementation of new teaching strategies targeted to areas of need (objective 2). An extension of the work into the following school year would likely also continue this positive trend.

One area in need of improvement is the peer observation piece that is part of the examination of instruction as well as the development of an action plan. As LS teachers incorporate peer observation into their collaborative inquiry process they will be able to refine the use of new instructional strategies while also expanding their knowledge of pedagogical practices.

Based on the student evidence (those on target for proficiency on the Spring SBAC), there is still work that needs to be done. Overall gains were noted in the elementary level in ELA. This means that middle school ELA and all levels of math remain areas of concern. One possible change could be the addition of individual math coaching as a way of boosting the inquiry process in math and adding new teaching strategies targeted to areas of need in math specifically. In addition, all the literacy coaching occurred with elementary teachers. Another possible solution might be a concerted effort to encourage middle school teachers to participate in individualized literacy coaching.

Evidence suggests the Collaborative Inquiry Teams were successful, yet there is still much more work to be accomplished to both maintain the current levels of LS teachers in objective 1 (data interpretation) and objective 2 (new teaching strategies targeted to areas of need). In particular, peer observation of practice is a powerful piece of pedagogical learning the has not yet been tapped. This process could lead to ongoing pedagogical learning with wide-reading outcomes. If limitations of resources were not an issue, collaborative inquiry teams would meet weekly to plan, discuss pedagogy, implement new instructional strategies, reflect on the process, and extend their personal pedagogical practices through the peer observation framework. As noted in the evidence, some of the data interpretation and analysis practices have become part of LS teachers daily practice. One change of note for future work should include a specific focus in math content pedagogical strategies. The addition of specific collaboration skills could also lend an added layer of expertise to LS teachers and enhance the current teams. Continued careful tracking of student achievement data in future years (in context with state and local achievement data) will add to the evaluation of this collaborative inquiry team process. In addition, tracking of individual teacher progress from year to year (different students, same teacher) could lend even more specific information for the evaluation of the collaborative inquiry team effectiveness.

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Smarter Balanced Assessment

The mission of the Nevada Department of Education is to improve student achievement and educator effectiveness by ensuring opportunities, facilitating learning, and promoting excellence (Nevada Department of Education, n.d.). Implementing standards, programs, and assessments that prepare all students for college and careers are some of Nevada's strategic priorities. Nevada's affiliation as a member of the Smarter Balanced Assessment Consortium (SBAC) is a key part of measuring student progress in grades 3-8 towards success in college and career readiness. The Smarter Balanced assessment, aligned with the Nevada Academic Content Standards (NVACS) in English Language Arts/Literacy (ELA/Literacy) and mathematics, is a valid, fair, and reliable approach to student assessment designed to support instruction and give teachers valuable information about student progress. Nevada's 2018-19 SBAC results suggest the need for professional learning around teaching and learning. The Northeastern Nevada Regional Professional Development Program (NNRPDP) provided this professional learning opportunity for teachers by offering three consecutive courses during the 2019-20 school year focused on understanding and utilizing SBAC. Three outcomes were identified for this learning opportunity. First, increase participants' knowledge of the ELA/Literacy and mathematical claims and targets as identified by SBAC; second, increase participant's ability to analyze sample items as they relate to the SBAC claims and targets; and, third, increase participant's ability to analyze examples from their own instructional practice with the intention of improving classroom instruction.

Initial Data and Planning

All teachers K-12 must teach the Nevada Academic Content Standards (NVACS) in ELA/Literacy and mathematics. Nevada is one of thirteen states belonging to the SBAC, a high-quality assessment system aligned to the Common Core State Standards. Students in grades 3-8 are assessed at the end of each academic school year using the Smarter Balanced assessment. Three primary actions support teachers to effectively teach the standards and support students to demonstrate proficiency: 1) alignment of classroom instruction with the mathematics and ELA claims and targets of SBAC, 2) alignment of classroom instruction with the rigor level SBAC requires, and 3) understanding assessment specifications and design. These actions provide teachers with new insights for the required expectations of higher-order student thinking to be successful on the SBAC. Even though Nevada began using SBAC in 2015, many teachers still need support to learn about SBAC and effectively use this information in their instruction.

Nevada Report Card reports the percentage of students who passed the 2019 SBAC assessments in both ELA/Literacy and mathematics from the NNRPDP's region (Elko, Eureka, Humboldt, Lander, Pershing, and White Pine counties) ranges from 16.6% to 81.2%. In fact, in the six districts served, with a total of twenty-four measured sections, only three sections regionwide reported more than a 50% passing score (see Table 28). These data suggest a need

for K-8 teachers to gain a deeper understanding of Nevada's required assessment and to better align instructional practices to the rigor level and expectations of SBAC.

Table 28 *Percent of students who passed the 2018-19 SBAC*

	ELA Elem	ELA Middle	Math Elem	Math Middle
State of NV	50.3	48.9	43.8	33.2
Elko	46.1	41.2	37.2	29.1
Eureka	47.2	81.2	42.1	53.1
Humboldt	40.2	41.1	37.2	26.3
Lander	50.7	41.5	38.2	34.7
Pershing	46.7	31.3	26.8	16.6
White Pine	35.3	29.6	28.6	19.6

If SBAC items are aligned to the NVACS and teachers use the NVACS to guide instruction, why do the results of SBAC suggest a disconnect?

To address this question and the underlying need, NNRPDP designed and facilitated an SBAC course for teachers. The dissemination of SBAC information and support to all K-8 teachers in the vast northeastern region of Nevada makes face-to-face classes next to impossible. Therefore, the SBAC course content was designed to be easily accessible using Canvas, an online learning management system (LMS). Through this course, teachers explored both ELA/Literacy and mathematics SBAC content, providing a broad perspective of the assessment expectations and components of the assessment system. The course expected outcomes included a deeper understanding of the state assessment to support instruction aligned to the rigorous expectations of the assessment and to provide teachers valuable information about student progress.

NNRPDP's assessment of teachers who participated in this course confirmed the need for general information regarding the Smarter Balanced assessment. Specifically, a deeper understanding of the SBAC claims and targets, and ways this information can be utilized to guide instruction and analyzed for trends regarding student progress.

Planning

During the 2019-20 school year, three consecutive online SBAC courses were offered to the teachers in the northeastern region. All three SBAC courses were created and facilitated by an NNRPDP coordinator with over twenty years of experience in education, thirteen of which are exclusively in educational professional development. In addition, the NNRPDP coordinator has extensive experience serving on SBAC committees including performance assessment writing committees, achievement level setting committees, and the State Network Educators for the Digital Library.

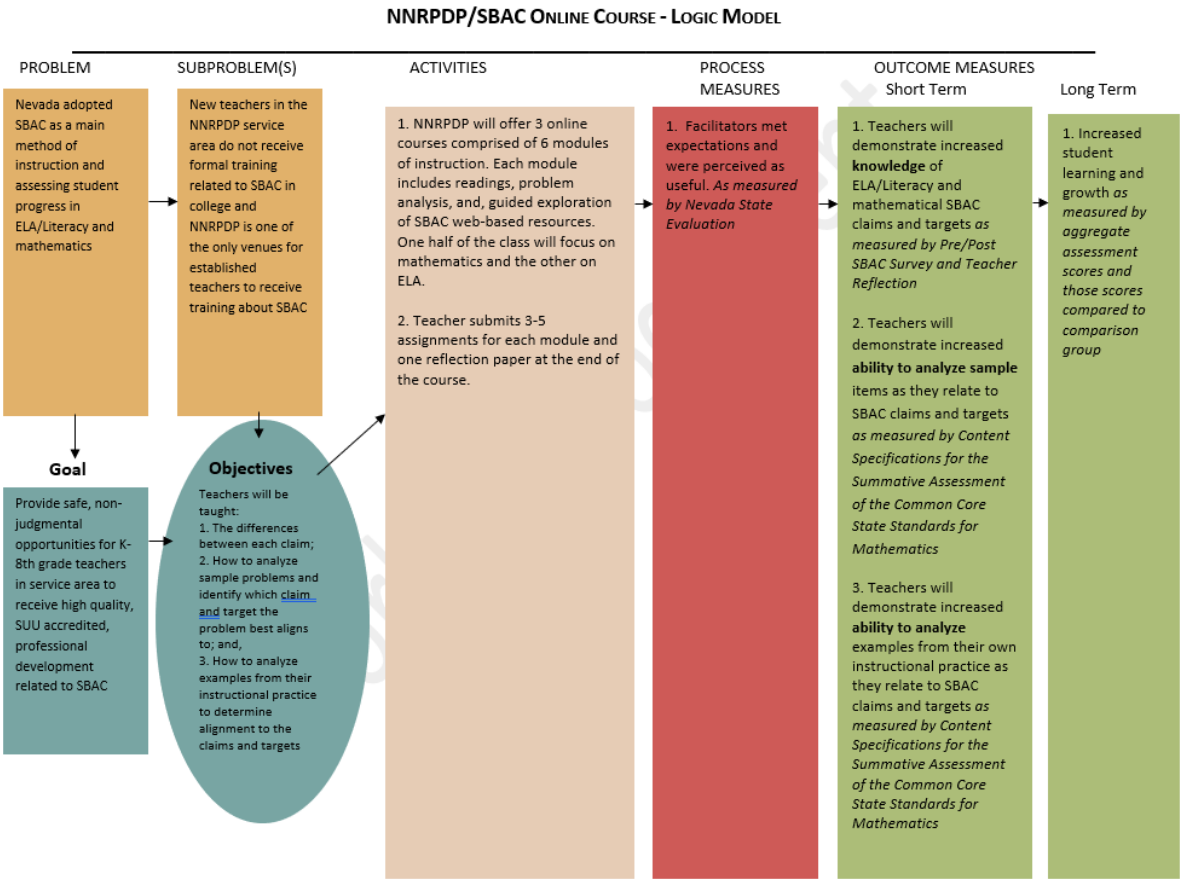
The primary goal of the three SBAC courses was to provide safe, non-judgmental opportunities for K-8 grade teachers in the NNRPDP service area to receive high quality, SUU accredited, professional development related to SBAC. Intended results included teachers gaining better information about student progress, and increased success for student learning measured by the SBAC. The SBAC course facilitator's expertise and experience served to design, plan, create and implement this professional learning opportunity, which included:

- defining measurable goals,
- applying for continuing education credit through Southern Utah University,
- marketing the course in the northeastern region (creating a flyer to send to every school),
- creating the registration form,
- communicating with all interested participants,
- creating the SBAC course modules in Canvas,
- researching content and resources,
- researching designs of online courses,
- examining, reflecting, revising, and adjusting the module content,
- responding to all discussion entries, and
- analyzing course-related data.

There were three outcomes of this learning opportunity. First, increase participants' knowledge of the ELA/Literacy and mathematical claims and targets as identified by SBAC; second, increase participant's ability to analyze sample items as they relate to the SBAC claims and targets; and third, increase participant's ability to analyze examples from their own instructional practice with the intention of improving classroom instruction.

To achieve these outcomes, identify the problem, goals, objectives, activities, and expected impacts of the SBAC course, a Logic Model was used as a guide. See Figure 50.

Figure 50 *NNRPDP/SBAC Online Course Logic Model*



Method

Learning Design

The SBAC course learning design was informed by Nevada's Standards for Professional Development (2018) and the Five Levels of Professional Development (Guskey, 2002). The content and foci of the SBAC courses were informed by the Nevada Academic Content Standards for ELA/Literacy and mathematics, the Smarter Balanced Assessment Consortium, and, Achieve the Core, a website that provides free, open-source resources to support Common Core implementation at all levels. Theories of adult learning (Knowles, 1984) informed the design as did current research focused on effective online learning environments (Briggs, 2015) and tasks.

The six-week, six-module online course was created to accommodate teacher schedules allowing them to complete the course in a relatively short time frame. Participants who completed the course received one Southern Utah University (SUU) continuing education credit associated with the required fifteen hours of coursework.

Module one allowed for community and curiosity building. After completion of the required pre-survey assessing knowledge of SBAC, participants introduced themselves virtually, explored the Smarter Balanced website through a scavenger hunt, and posted questions to an online forum. Modules two and three focused on mathematics. Modules four and five focused on ELA/Literacy. Assignments included analyzing item alignment to the ELA/Literacy and mathematics claims and targets using the content specifications. In addition, participants submitted examples from their own classrooms that aligned to the claims and targets and were able to self-assess their examples as they learned more about the content specifications. Module six gave participants the opportunity to analyze an authentic student SBAC report, provided them with additional resources, and required them to complete a post survey identical to the pre-survey as a way to measure increased knowledge of SBAC. See Figure 51.

Module	Objectives
Module One	
Introduction	**Build community**
	Pre-assess learner's knowledge of SBAC
Module Two	
Mathematics	**Understand the differences between the four mathematical claims**
	Analyze the practice test items, identifying the claim and target
	Provide classroom examples of each of the four mathematical claims
Module Three	
Mathematics	**Self-assess the practice test claim and target analysis**
	Develop an understanding of modeling mathematics
	Complete the performance task
Module Four	
ELA/Literacy	**Understand the differences between the four ELA/Literacy claims**
	Analyze the practice test items, identifying the claim and target
	Complete the performance tasks
Module Five	
ELA/Literacy	**Self-assess the practice test claim and target analysis**

Explore ELA/Literacy resources

Provide classroom examples of each of the four ELA/Literacy claims

Module Six Explore SBAC resources

Analyze a sample student SBAC report

Post Survey Figure 51 *Course Outline - SBAC*

Throughout the online modules, discussion boards asked learners to reflect on new knowledge and to compare new knowledge to previous thinking. The analysis of claims and targets, as well as a self-assessment of the analysis, increased understanding of types of items, as well as the expected rigor level. To add variety, learners were exposed to different online tools such as Padlet, Google forms, and Google docs. Participants were also provided with online resources, websites, videos, blogs, and research articles.

Communication between course facilitator and learners was frequent. Topics discussed included feedback on item analysis and classroom examples. The facilitator also provided affirmation of reflections, answers to specific questions, and posing questions for further consideration related to implementation and next steps.

The *SBAC Course Professional Learning Plan* 2020 (Appendix P) describes the course learning outcomes and evidence of participant learning. This plan also includes the strategic design and structure of the learning opportunities. The roles and responsibilities of stakeholders in the learning in alignment with Standards for Professional Development is also addressed (Learning Forward, 2011; NDE, 2017). Table 29 describes both the roles and responsibilities related to the learning, including the strategic design and structure of the course learning opportunities in order to align the professional learning with Standards for Professional Learning (NDE, 2017).

TaStandard Alignment

LEARNING COMMUNITIES: Professional learning that increases educator effectiveness and results for all students occurs within learning communities committed to continuous improvement, collective responsibility, and goal alignment • Course participants participated in a collaborative learning community throughout the course by engaging in group discussion prompts during weekly assignments. Participants reflected on their learning and were transparent as they revealed their own misconceptions and shared future plans to change instructional practice to better align with the claims, targets and rigor level of SBAC.

LEADERSHIP: Professional learning that increases educator effectiveness and results for all students requires skillful leaders who develop capacity, advocate, and create support systems for professional learning • Course participants developed their knowledge of SBAC through the module assignments, discussions, readings, and videos. This knowledge empowered them to share with other teachers at their school sites, whether that be in a grade level meeting or in a more formal capacity during school-wide professional development.

RESOURCES: Professional learning that increases educator effectiveness and results for all students requires prioritizing, monitoring, and coordinating resources for educator learning • Course facilitator curated additional research, resources, and course materials in response to course participants' progress as well as participant requests.

• Course participants shared feedback about which resources were most beneficial to their unique educational context, how they planned to use the resources, and what questions or concerns remained.

DATA: Professional learning that increases educator effectiveness and results for all students uses a variety of sources and types of student, educator, and system data to plan, assess, and evaluate professional learning.• Course facilitator integrated opportunities in both ELA/Literacy and mathematics for self- assessment using SBAC Scoring Guides.

• Course participants reflected on their own learning, including misconceptions, after self-assessing. They also compared their own instructional classroom examples to the Scoring Guides.

LEARNING DESIGN: Professional learning that increases educator effectiveness and results for all students integrates theories, research, and models of human learning to achieve its intended outcomes • Course facilitator integrated participants' current educational contexts with ELA/Literacy and mathematics learning tasks in order to make the learning relevant and action-oriented.

IMPLEMENTATION: Professional learning that increases educator effectiveness and results for all students; applies research on change and sustains support for implementation of professional learning for long-term change • Course facilitator provided strategic, and ongoing, opportunities for participants to critically reflect on their new knowledge of ELA/Literacy and mathematics claims, targets, rigor level, assessment types, and available resources for planning and implementation.

OUTCOMES: Professional learning that increases educator effectiveness and results for all students focuses on equitable access, opportunities and outcomes with an emphasis on achievement and opportunity disparities between student groups. • Course facilitator empowered all participants with learning opportunities and resources that enabled them to plan and implement equitable instruction for all students. Knowledge of the math and ELA/Literacy blueprints, as well as application of the claims and targets, can have a positive impact on all students

EQUITY: Professional learning that increases educator effectiveness and results for all students focuses on equitable access, opportunities and outcomes with an emphasis on achievement and opportunity disparities between student groups. • Course facilitator posed critical reflective questions designed to support participants' effectiveness in planning and delivering high-quality lessons for all students, regardless of any disparities between student groups.

- **Emphasis was placed on how each and every participant could support other teachers' instruction in ELA/Literacy and mathematics which are the two discipline areas assessed by SBAC.**

- **Course facilitator shared the bias attributes that guide the SBAC item writing.**

CULTURAL COMPETENCY: Professional learning that increases educator effectiveness and results for all students facilitates educator's self-examination of their awareness, knowledge, skills, and actions that pertain to culture and how they can develop culturally-responsive strategies to enrich educational experiences for all students. •
Course facilitator implemented and facilitated course learning tasks that allowed participants to name and notice explicit and implicit bias of students in the SBAC assessment.

- **Course participants' task of self-assessing their own classroom examples of each claim supports participants' awareness of cultural competency.ble 29** *NNRPDP SBAC Courses Aligned with Nevada's Standards for Professional Learning*

Participants and Procedure

The NNRPDP offered three consecutive SBAC courses to the region's educators in the 2019-20 school year. Forty-nine educators participated: 34 elementary teachers, seven middle school teachers, one adult education teacher, and seven administrators. The thirty-four elementary teachers consisted of twenty-eight K-5 classroom teachers, three Special Education teachers, one Physical Education teacher, and two Literacy Specialists. Administrators represented K-5 elementary schools, a 7-8 Middle School, K-12 Combined schools, as well as a charter school. Participants' contexts included a variety of unique campuses, from a rural one-room schoolhouse, to rural K-12 schools, to more traditional K-5 schools in small Nevada towns. See Table 30.

Table 30 *SBAC Course Participants*

Course 1

October 7, 2019- November 22, 2019 14 registered

13 graded = avg. 96.35%

1 audit Admin = 3

K-5 = 8

Middle = 2

Adult Ed = 1

Course 2

January 8, 2020 - February 21, 2020 20 registered

2 dropped – family emergencies

16 graded = avg 97.19%

2 audits Admin = 1

K-5 = 13

Middle = 2

SPED = 1

Literacy Specialist = 1

Course 3

February 26, 2020 - April 10, 2020 19 registered

2 didn’t finish - COVID

15 graded = avg 98.77%

2 audits

Admin = 3

K-5 = 7

Middle = 3

SPED = 2

PE = 1

Literacy Specialist = 1

The six-week long SBAC courses consisted of six modules, one per week. Each module opened on a Wednesday and closed on the following Tuesday at midnight. This timeline gave participants time both during school hours and on the weekends to complete the 2-3 hours of expected course work. Assignments were graded by the facilitator daily, and written feedback was provided on participant's reflections. Email communication was encouraged for participants who encountered challenges that prevented them from completing the assignments in a timely fashion. Assignment deadlines were extended to participants facing challenges; no penalty for late assignments was applied. Instead, the primary focus of the course was learning more about the SBAC assessment rather than grades.

Measurement

There were three outcomes of this learning opportunity. First, increase participants' knowledge of the ELA/Literacy and mathematical claims and targets as identified by SBAC. Second, increase participant's ability to analyze sample items as they relate to the SBAC claims and targets. Third, increase participants' ability to analyze examples from their own instructional practice with the intention of improving classroom instruction. The long-term outcome measures of the SBAC courses were to increase student learning and growth as measured by aggregate assessment scores compared to a comparison group. The short-term outcome measures of the SBAC courses were:

1. Teachers will demonstrate increased knowledge of SBAC claims as measured by pre/post SBAC assessment and teacher reflection.
2. Teachers will demonstrate increased ability to analyze ELA/Literacy and mathematics items as they relate to SBAC claims as measured by SBAC scoring guides.
3. Teachers will demonstrate increased ability to analyze examples from their own classrooms as they relate to SBAC claims and targets as measured by SBAC scoring guides.

Data measures included a participant pre/post survey, participant grades, the NNRPDP Evaluation, and participant reflections. These data were collected electronically during the course as tasks inside the modules. It was the intent to collect data from student SBAC scores from the 2019-20 school year. These data would help determine how effectively the teachers in the course implemented what they learned; however, due to the global COVID pandemic, SBAC assessments were not administered in the spring of 2020. Thus, those data were unavailable.

Qualitative and quantitative measurements were used to assess the following variables:

- Increased Knowledge of SBAC Claims: Teachers who have completed the SBAC course will demonstrate an increased level of knowledge of differences between SBAC Claims.
- Increased Ability to Analyze Sample Problems as they relate to SBAC: Teachers who have completed the SBAC course will demonstrate an increased ability to analyze assessment items.
- Increased Ability to Analyze Examples from Classroom as they relate to SBAC: Teachers who have completed the SBAC course will demonstrate an increased ability to analyze examples from their own classrooms.

The above variables informed the evaluation plan based on the Five Levels of Professional Development (Guskey, 2002). See Table 31.

Table 31 *Evaluation Plan Based on the Five Levels of Professional Development (Guskey, 2002)*

Evaluation Level	What Questions Are Addressed? What Is Measured or Assessed?	How Will Information Be Gathered? How Will Information Be Used?
1. Participants' Reactions	Training expectations, presenter skills, increased knowledge, motivation to improve	State evaluation form
Course surveys	Initial satisfaction with the experience	To improve program design and delivery
2. Participants' Learning	Did participants acquire the intended knowledge and skills? Pre/Post survey	
Teacher response to discussions		
Claim and target analysis		
Teacher self-assessment reflection	Participants' increased understanding of SBAC claims and targets	To improve program content, format, and organization

3. Organization Support & Change Was implementation advocated, facilitated, and supported?

Was the support public and overt?

Were problems addressed quickly and efficiently?

Were sufficient resources made available?

Were successes recognized and shared?

What was the impact on the organization?

Did it affect the organization's climate and procedures? Teacher reflection

Post survey

State evaluation The organization's advocacy, support, accommodation, facilitation, and recognition To document and improve organization support

To inform future change efforts

4. Participants' Use of New Knowledge and Skills Did participants effectively apply the new knowledge and skills? Teacher reflections

Teacher analysis of classroom instruction aligned to the SBAC claims

Teacher's increased awareness of claims and targets in the SBAC assessment

Teacher analysis of examples from their own classroom instruction To document and improve the implementation of program content

5. Student Learning Outcomes What was the impact on students?

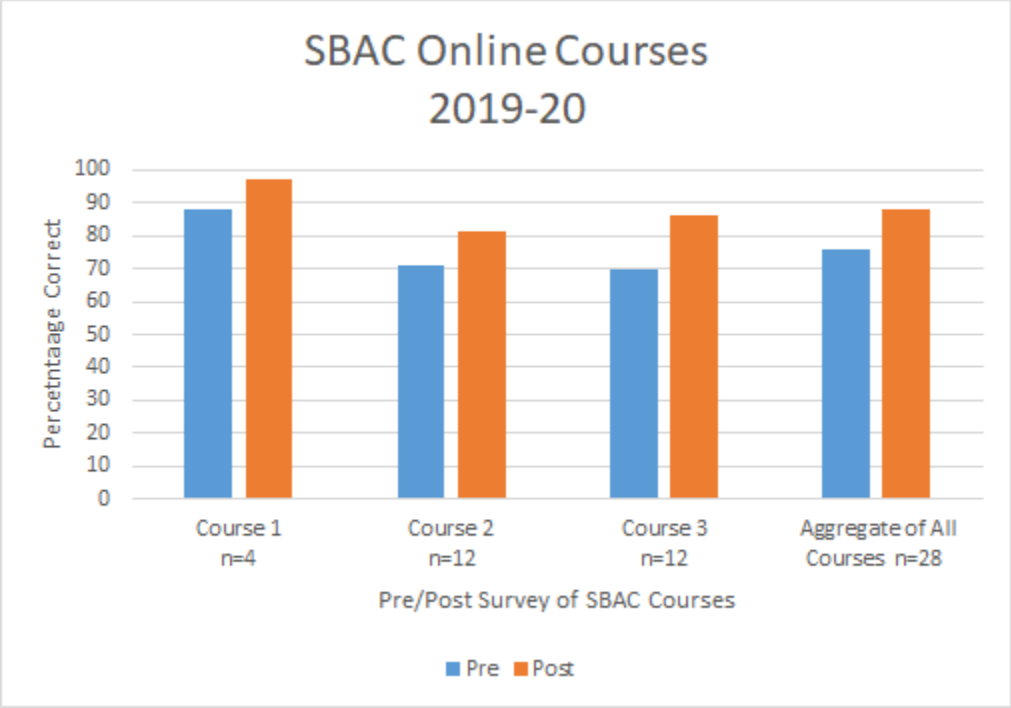
Did it affect student performance or achievement? SBAC (mathematics and ELA/Literacy) aggregated by teachers who take part in the online course, measured against service area totals and/or comparison group annually, per grade

Student mathematics and ELA/Literacy growth and achievement To document improvements in mathematics and ELA/Literacy instruction and subsequent student growth and achievement

Results

To assess the increase in participants' knowledge of claims for the ELA/Literacy and mathematics Smarter Balanced summative assessment, a comparison of the percentage of the participants' accurate responses to the SBAC course Pre/Post survey were evaluated. See Figure 52.

Figure 52 *SBAC Course Pre/Post Survey*



Questions one through eight (see Appendix K) were evaluated. The results were derived from a multiple choice quiz given as a pre-survey in Module One and as a post-survey in Module Six. All questions assessed basic knowledge regarding SBAC, such as how the scores are reported, what the claims are, and whether the assessments are timed or not. Table 32 provides the eight survey questions with pre/post percentage correct.

Table 32 *Pre/Post Survey Percentage Correct*

			Course 1	Course 2	Course 3
Q1	How is mathematical modeling defined by the Smarter Balanced Assessment Consortium?	Pre	38	33	53
		Post	80	92	75
Q2	Which is true of Smarter Balanced assessments?	Pre	88	61	88
		Post	80	83	92
Q3	Are each of the four ELA/Literacy claims (Reading, Writing, Speaking/Listening, Research) assessed with an equal number of test items?	Pre	88	94	88
		Post	70	92	92
Q4	Identify the four mathematical claims that are assessed with the Smarter Balanced assessments.	Pre	75	67	71
		Post	90	100	92
Q5	All four Depth of Knowledge (DOK) levels are assessed on the ELA/Literacy and mathematics Smarter Balanced assessments.	Pre	75	83	82
		Post	90	92	83
Q6	Smarter Balanced Performance Tasks (PT) focus on one important content standard of the specific grade level.	Pre	63	44	47
		Post	70	17	50
Q7	Some colleges accept Smarter Balanced scores to determine if students are "college-ready".	Pre	50	44	47
		Post	80	75	100
Q8	The Smarter Balanced assessments are reported in two ways: Scaled Scores and Achievement Levels. How many achievement levels are there?	Pre	88	67	53
		Post	80	92	100

NNRPDP Evaluation

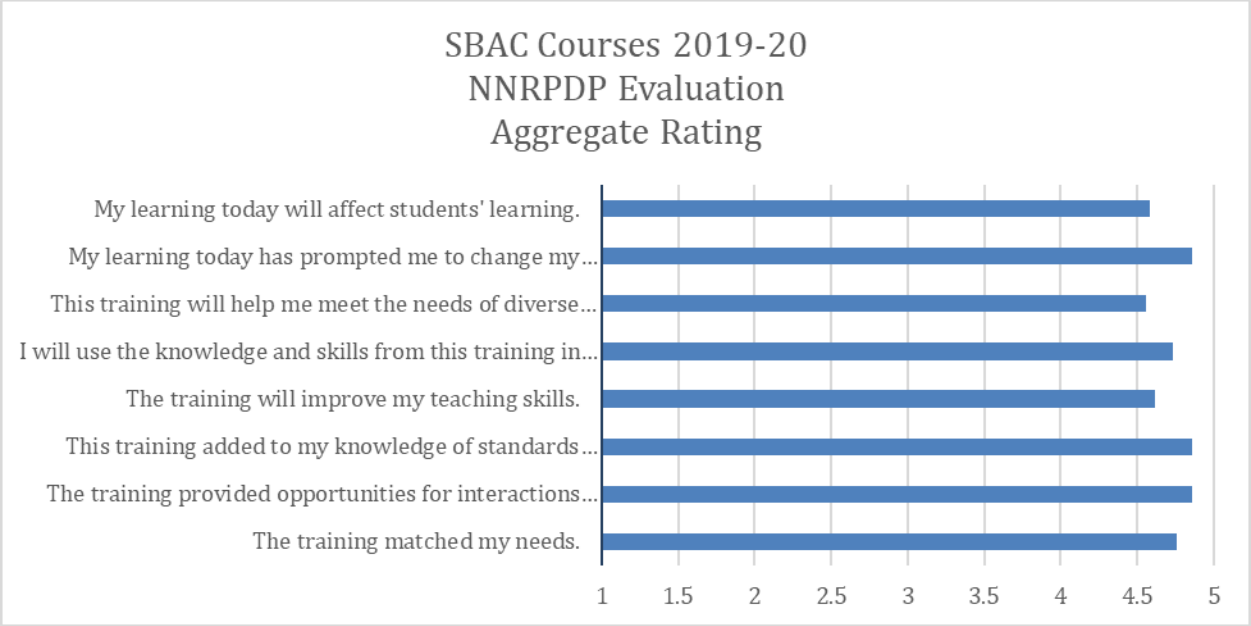
Methods to assess participants' reactions included data from NNRPDP Evaluation (see Appendix B). At the conclusion of each course, participants completed the NNRPDP Evaluation. The NNRPDP used information from the NNRPDP Evaluation surveys to monitor participants' reactions and make necessary adjustments to future courses. Evidence of impact on student learning and the incorporation of SBAC awareness, understanding, and implementation into instructional practice were documented using the participants' mean Likert scale ratings, ranging from not at all (one) to a great extent (five). The following statements were used:

- My learning today will affect students' learning.
- My learning today has prompted me to change my practice.

- The SBAC course will help me meet the needs of diverse student populations (e.g., gifted and talented, ELL, special ed., at-risk students).
- I will use the knowledge and skills from this training in my classroom or professional duties.
- The training will improve my teaching skills.
- The training added to my knowledge of standards and/or skills in teaching subject matter and content.
- The training provided opportunities for interactions and reflections.
- The training matched my needs.

Results from the NNRPDP Evaluation, Figure 53, indicate overall positive responses ranging from 4.6 to 4.9.

Figure 53 *NNRPDP Evaluation Results*



Course Grades

Every module in the SBAC courses included graded learning tasks. These tasks included discussions, reflections, claim analysis, claim examples from participant's instructional resources, practice assessment, and performance assessments. There were three to five graded learning tasks in each module with varying assigned points. Course one, two, and three averaged a composite grade of 96%, 97%, and 99% respectively. The composite average for all three courses was 97%. Further, teacher reflections, (See Table 33) as response to critical questions

posed in each module, included evidence of learning and use of new knowledge and skills regarding SBAC.

Table 33 *Teacher Reflections*

Variables	Increased Knowledge of SBAC Claims
Reflection Prompt	Regarding the claims for the Mathematics Summative Assessment, respond to the prompt "I used to think . . .But now I think . . ."
Response	I used to think, or rather I knew what the four claims were, and I knew that SBAC used these claims as a foundation for the questions that made up the assessment. But now I think I know more about why and exactly how they are used. I used to think that SBAC would break down the types of questions based on a particular unit of study such as the 4 basic operations, fractions, geometry, etc. I also used to think that these units of study each carried the same importance and if we didn't equal time on them, students wouldn't do well. Now I think I have a better understanding of how the test is broken up percentage wise in each claim: Claim 1 is 50%, Claim 2 and 4 is 25% and Claim 3 is 25%. I used to think ... that the test was evenly distributed across the curriculum in a particular grade band with an emphasis on essential concepts. But now I think... SBAC wants to make sure students are college and career ready. It breaks apart the questions into different claims. The claims are Concepts and procedures, problem solving, communicating reason, and modeling and data analysis. I used to think the Math portion of the SBAC was simply a pool of math questions separated by theme or unit. But now I know the questions come from years of data and research, split up by 4 mathematical claims (summary / student) that each provide assessment targets all to ensure our students are career and college ready.
Reflection Prompt	Regarding the claims for the ELA/Literacy Summative Assessment, respond to the prompt "What surprised you regarding the ELA claims?"
Response	I did not realize that it had a listening part to the test. I was surprised that there are questions about grammar and conventions. It makes absolute sense since they are ELA standards; I guess I figured it was a straight reading response. I was also surprised that the course facilitator suggested having the students do the practices on paper first, then put them into the computer to learn how to use the tools. I found claim 3 to be surprising in that it only has one target that is tested. I have never seen this test before this class. It surprised me the different tools the students had access to help them throughout the test.
Variables	Increased Ability to Analyze Sample Problems as they relate to SBAC
Reflection Prompt	How does/could the learning you experienced by analyzing the ELA/math SBAC items and self-assessing, impact instructional practice and student learning?

Responses I can see that self-assessing does make the learner see right away their errors and how to correct them. They may even straighten out their thinking before it gets stuck in their mind the wrong way.

As a teacher, this level of understanding helps to see to what depth the math instruction must go in order to ensure our students are prepared and ready. Having this very important information allows a teacher to go deeper beyond the simple one-step problems to higher DOK levels.

By analyzing the math SBAC items, and self-assessing, my instructional practice and my students' learning is impacted by how I will teach each lesson. I should take notice of the weight of different tasks presented to students which will help determine how I plan and how I teach the lesson.

I think being aware will make me look at what I'm teaching with a more mindful perspective. I think that I will have to do some self-training and have some discipline to really make note of what I'm teaching and why.
Variable Increased Ability to Analyze Examples from Classroom as they relate to SBAC
Reflection Prompt Take a second look at the example lessons you submitted that aligns to each claim. Now that you have studied the claims more in-depth, discuss how you feel your examples align to the claims.
Responses I went back to look at my classroom example and I still think it is a pretty good model for claim 4. I do think that I could change it a bit to maybe ask if they can explain how their answer is reasonable or not.

My claim 4 was not a 4 at all, it was a group of questions that lead students down a direct path to correct answers.

The example I gave for Claim #4 is not as great as it could be. I honestly think that these questions can be posed to have them think more critically.

In looking back at my claim for modeling, I feel that I could possibly amp it up a little. I did give them a real life problem and told them to solve it and did not say how, but I feel it was pretty basic.

Discussion

The NNRPDP's overarching goal to provide opportunities for K-8 teachers to receive high quality professional development through participation in a SBAC course was achieved. Participants 4.7 mean rating from the NNRPDP State Evaluation data indicates the SBAC course added to the participants' knowledge of SBAC to a great extent. The mean increase from a 76% to 88% on the Pre/Post Survey indicates a substantial increase in participants' knowledge of the ELA/Literacy and mathematical claims and targets as identified by SBAC. Furthermore, the composite average grade of all course assignments was 97%, evidence that participants were 1) able to analyze sample items as they relate to SBAC claims and targets and 2) able to analyze examples from their own instructional practice for alignment

to SBAC expectations. Teacher reflections, as response to critical questions posed in each module, included evidence of learning and use of new knowledge and skills regarding SBAC.

The long term measures of the NNRPDP to increase student learning and growth as measured by aggregate assessment scores and those scores contrasted with a comparison group was not accessible for the 2019-2020 academic year due to the Covid-19 pandemic resulting in the suspension of SBAC assessments.

The mean Likert scale ratings from the NNRPDP State Evaluation ranged from 4.6 to 4.9 indicating the SBAC course met participants' expectations and were perceived as useful. The feedback and comments on the evaluations, survey data, and discussion prompts provide further validation that the process measures were achieved and participants' were satisfied with the courses.

Conclusion

Data evidence suggests participants met all three course outcomes:1) increasing their knowledge of the SBAC ELA/Literacy and mathematical claims and targets, 2) analyzing assessment items for the SBAC claims and targets, and 3) gaining an understanding of the design of the test with the intention of improving classroom instruction. Although paired sample t-tests did not reveal statistically significant changes in the pre/post survey other evidence suggests that the professional development opportunity facilitated by NNRPDP was both effective and beneficial to teaching and learning.

Based on teacher final reflections, a future goal is to support teachers in applying the knowledge they learned from the SBAC course. A deeper understanding of the SBAC claims and targets, as well as a deeper understanding of the content specifications of both ELA/Literacy and mathematics would empower teachers to improve instructional practices leading to increased student learning. This alignment of instructional practices to SBAC would likely provide students an equitable opportunity to demonstrate high levels of achievement.

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Appendices

Appendix A Family Engagement Course Data

Title: Family Engagement Activities and Barriers to Family Engagement

Question	How confident are you in your ability to increase family engagement?	How many family engagement activities do you initiate per month?	How confident are you in removing barriers to family engagement?
Number of participants whose response increased	17 (90%)	11 (58%)	11 (58%)
Number of participants whose response stayed the same	1 (5%)	2 (10%)	7 (37%)
Number of participants whose responses decreased	1 (5%)	6 (32%)	1 (5%)

Data Source: Pre - / Post - Questionnaire Responses Using 5-point Likert Scale

Total Number of Responses = 19 out of 22 (n = 19) / 86% response rate

Title: NNRPDP Evaluation Form Response Ratings

Please rate the following characteristics of the training:	1. The training matched my needs.	2. The training provided opportunities for interactions and reflections.	3. The presenter's experience and expertise enhanced the quality of the training.	4. The presenter efficiently managed time and pacing of the training.	5. The presenter modeled effective teaching strategies.	6. This training added to my knowledge of standards and/or my skills in teaching subject matter content.	7. The training will improve my teaching skills.	8. I will use the knowledge and skills from this training in my classroom or professional duties.	9. This training will help me meet the needs of diverse student populations (e.g., gifted and talented, ELL, special ed., at-risk students).	10. My learning today has prompted me to change my practice.	11. My learning today will affect students' learning.
[1] Not at all											
[2] →											
[3] To some extent											
[4] →	2 (10%)	1 (5%)		1 (5%)	1 (5%)	4 (20%)	7 (35%)	2 (10%)		6 (30%)	4 (20%)
[5] To a great extent	18 (90%)	19 (95%)	20 (100%)	19 (95%)	18 (90%)	16 (80%)	12 (60%)	18 (90%)	20 (100%)	14 (60%)	16 (80%)
[6] Not Applicable					1 (5%)		1 (5%)				

Data Source: NNRPDP Evaluation Form Responses using 6-point continuum scale

[1] Not at all [2] → [3] To some extent [4] → [5] To a great extent [6] Not Applicable

Total Number of Responses = 20 out of 22 (n=20) / 91% response rate

Textual Analysis: Global Themes

Global Themes Pre - Post -

What types of family engagement have you tried? What have they learned? Have they expanded possibilities?

- Events; one-time
- 1-way communication: To inform or direct families
- Traditional modes: Paper letters home, Emails, Phone Calls
- Converse at PTC/IEP meetings • Events are linked to learning, and are routine and systemic; rather than being something "extra," family engagement is embedded within the learning process
- 2-way communication invites families to respond, share feedback, participate, be a partner in the learning, share in decision-making, is positive, consistent and brief
- Multiple modes: Paper, Digital (Email, App, Texts), Phone calls
- Focused on developing relationships and partnerships to support students, including shared decision-making and goal-setting
- Increased frequency and types of family engagement
- Teachers expect more from themselves e.g. "It starts with me" to reach out to families and develop relationships
- For spring cohort, participants listed numerous ways to support students and families during the COVID-19 crisis

What would you consider effective family engagement? What have they learned? Have they expanded the possibilities? • Focus on communication, primarily to inform or direct families

- Check-box approach by doing what is required by the school/district
- Limited modes and approaches
- The burden is on families to come to events or reach out to teachers
- Focus on making "things" easier for the teacher
- Traditional approach in that expectations for when and how families should engage are implied, but not explicit; barriers that exist are not the responsibility of the teacher/school
- Deficit-based beliefs about families' value for education, capacity to support student learning, willingness to partner with the teacher/school • Focus on relationships, collaboration, and partnership
- Communication is two-way, invitation, solicits feedback, linked to learning, and focused on developing relationships with families
- Multiple modes and multiple approaches
- The burden is on teachers and schools
- Explicit communication of teacher/school expectations for when and how families should engage, including recognition that it falls on schools/teachers to remove barriers
- Asset-based beliefs about families' capacities to support student learning and growth, to collaborate and partner for student success, that families include more than "parents," and that families' culture is an important component of family engagement
- Linked to community resources

What kind of engagement is most effective? What have they learned? Have they expanded the possibilities?•

- Physical presence
- Face-to-face dialogue
- 1-way communication from teacher/school to family, "as needed"
- Surface-level relationships with families
- Working together equates to families doing what they are told to by teachers/schools
- Individual context (classroom, or assigned students)
- Broadened and expanded views of what family engagement "means" as well as methods for increasing family engagement
- Family engagement is believed to be the catalyst for student success • Two-way effort, focused on collaboration and partnership
- Communication is two-way, elicits feedback from families, invites them into the learning process, involves them as partners, and includes them in decision-making

- Communication is frequent, positive, and brief
- Mutually trusting relationships are prioritized
- Multiple stakeholders are included within family engagement efforts, including connections to community resources, and other school staff
- Systemic approach

What will you transfer into practice? What have they learned? Have they expanded the possibilities?

- Specific family engagement strategies
- Sharing new knowledge with peers, and expand family engagement from individual contexts to school-wide context
- Continue to reflect on personal fears and vulnerabilities that impede implementation of effective family engagement
- Cultural sensitivity and awareness of families' strengths
- Increased positive, two-way, multi-mode communication
- Increased positive, two-way, multi-mode communication
- Any effort is focused on strengthening relationships with families, and linked to learning, with the belief that families are equal partners in student success
- Increased confidence to implement new methods and strategies
- Changed beliefs about families' capacity, hopes and dreams, and willingness to partner

What is one barrier? What have they learned? Have they expanded the possibilities? • Work schedules, particularly rotating shift work (mining industry)

- Time for both teacher and families
- Reciprocity in communication
- Accurate contact information
- Language
- Belief that families need to initiate conversations/dialogue
- Perception that families' lack of response is due to families' not valuing education; deficit-based lens when identifying barriers
- Ineffective communication • Work schedules
- Language and families' cultural norms for communication
- Families' previous negative experiences with school
- Misconceptions for both families and teacher
- Shift in belief from barriers as "barriers" to barriers as "possibilities"
- Belief that teachers/schools are responsible for identifying and removing barriers
- Using an equity-lens more to identify barriers

How will this impact student learning? What have they learned? Have they expanded the possibilities? •

"Thinking" that family engagement will positively impact students; theoretical "knowing"• Linking "thinking" to research that confirms the value and impact of family engagement on student success; linking "thinking" to positive outcomes of the Family Engagement Inquiry Project implementation process

- Increased student participation and engagement in learning
- Decrease in disruptive behaviors
- Increased support from families linked to learning; in one situation, increased scores on math assessments
- Increased understanding by families of student's academic progress and where student "needs to grow"
- Increased communication and connection to community resources
- Improved relationships with families
- Increased participation of families in decision-making

Data Sources: NNRPDP Evaluation Form, Pre- and Post-Questionnaires, Final Discussion Responses, Family Engagement Inquiry Projects

Appendix B NNRPDP Evaluation Form

NNRPDP Evaluation Form

Participant Name: Training Title:

Training Date: District: Presenter:

Please rate the following characteristics of the training.

		Not at all		To some extent		To a great extent	N/A
1.	The training matched my needs.	1	2	3	4	5	6
2.	The training provided opportunities for interactions and reflections.	1	2	3	4	5	6
3.	The presenter's experience and expertise enhanced the quality of the training.	1	2	3	4	5	6
4.	The presenter efficiently managed time and pacing of the training.	1	2	3	4	5	6
5.	The presenter modeled effective teaching strategies.	1	2	3	4	5	6
6.	This training added to my knowledge of standards and/or my skills in teaching subject matter content.	1	2	3	4	5	6
7.	The training will improve my teaching skills.	1	2	3	4	5	6
8.	I will use the knowledge and skills from this training in my classroom or professional duties.	1	2	3	4	5	6

		Not at all		To some extent		To a great extent	N/A
9.	This training will help me meet the needs of diverse student populations (e.g., gifted and talented, ELL, special ed., at-risk students).	1	2	3	4	5	6
10.	My learning today has prompted me to change my practice.	1	2	3	4	5	6
11.	My learning today will affect students' learning.	1	2	3	4	5	6

From today's learning, what will you transfer to practice?

How will your implementation affect students' learning?

Reflections and Feedback

Appendix C Family Engagement Course Questionnaires

Family Engagement Course Questionnaires

Family Engagement Course: Pre - Questionnaire Items

1. Email Address:

2. Last Name:

3. First Name:

4. County:

5. What grade level do you work with? [K-3] [4-6] [7-8] [9-12] [Other:]

6. What would you consider effective family engagement?

7. How confident are you in your ability to increase family engagement?

[Not Confident] 1 - 2 - 3 - 4 - 5 [Very Confident]

8. What kinds of family engagement have you tried?

9. How many family engagement activities do you initiate per month?

10. What kind of family engagement is the most effective?

11. What is one barrier to effective family engagement?

12. How confident are you in removing barriers to family engagement?

[Not Confident] 1 - 2 - 3 - 4 - 5 [Very Confident]

13. Family Engagement is associated with which of the following? (Select all that apply)

- Student attitude toward learning
- Reduced drop-out rates
- Better social skills and improved conduct
- Increased student achievement
- Reduced absenteeism

14. Which benefits of family engagement apply to schools? (Select all that apply)

- Improved student-teacher relationships

- Higher teacher expectations
- Improved trust in schools
- Cultural competence

15. Which one family engagement practice is least effective for student achievement?

- The ways the family demonstrates the importance of education
- Parenting style, supporting reading, providing supervision, and engaging in home learning activities
- Families helping their children with homework
- Volunteering at school, attending P/T conferences, attending school events, communicating with staff

16. Your current level of Family Engagement Practices:

- Welcoming all families [Level 3 Excelling] [Level 2 Progressing] [Level 1 Emerging] [Not Here Yet]
- Communicating effectively [Level 3 Excelling] [Level 2 Progressing] [Level 1 Emerging] [Not Here Yet]
- Supporting Student Success [Level 3 Excelling] [Level 2 Progressing] [Level 1 Emerging] [Not Here Yet]
- Speaking Up for Every Child [Level 3 Excelling] [Level 2 Progressing] [Level 1 Emerging] [Not Here Yet]
- Sharing power [Level 3 Excelling] [Level 2 Progressing] [Level 1 Emerging] [Not Here Yet]
- Collaborating with community [Level 3 Excelling] [Level 2 Progressing] [Level 1 Emerging] [Not Here Yet]

17. Complete this sentence: I think family engagement is …

Family Engagement Course: Post - Questionnaire Items

1. Email Address:
2. Last Name:
3. First Name:
4. County:
5. What grade level do you work with? [K-3] [4-6] [7-8] [9-12] [Other:]
6. What would you consider effective family engagement?
7. How confident are you in your ability to increase family engagement?

[Not Confident] 1 - 2 - 3 - 4 - 5 [Very Confident]

8. What kinds of family engagement have you tried?

9. How many family engagement activities do you initiate per month?

10. What kind of family engagement is the most effective?

11. What is one barrier to effective family engagement?

12. How confident are you in removing barriers to family engagement?

[Not Confident] 1 - 2 - 3 - 4 - 5 [Very Confident]

13. Family Engagement is associated with which of the following? (Select all that apply)

- Student attitude toward learning
- Reduced drop-out rates
- Better social skills and improved conduct
- Increased student achievement
- Reduced absenteeism

14. Which benefits of family engagement apply to schools? (Select all that apply)

- Improved student-teacher relationships
- Higher teacher expectations
- Improved trust in schools
- Cultural competence

15. Which one family engagement practice is least effective for student achievement?

- The ways the family demonstrates the importance of education
- Parenting style, supporting reading, providing supervision, and engaging in home learning activities
- Families helping their children with homework
- Volunteering at school, attending P/T conferences, attending school events, communicating with staff

16. Your current level of Family Engagement Practices:

- Welcoming all families [Level 3 Excelling] [Level 2 Progressing] [Level 1 Emerging] [Not Here Yet]
- Communicating effectively [Level 3 Excelling] [Level 2 Progressing] [Level 1 Emerging] [Not Here Yet]
- Supporting Student Success [Level 3 Excelling] [Level 2 Progressing] [Level 1 Emerging] [Not Here Yet]
- Speaking Up for Every Child [Level 3 Excelling] [Level 2 Progressing] [Level 1 Emerging] [Not Here Yet]

- Sharing power [Level 3 Excelling] [Level 2 Progressing] [Level 1 Emerging] [Not Here Yet]
- Collaborating with community [Level 3 Excelling] [Level 2 Progressing] [Level 1 Emerging] [Not Here Yet]

17. Complete this sentence: I think family engagement is …

18. What course component was most useful for your learning?

- Powerful Partnerships (Course Text)
- SoftChalk Modules (Videos, Articles, Web Links)
- Family Engagement Interactive Notebook (FEIN)
- Discussion Roundtable
- Strategies Card
- Family Engagement Inquiry Project

19. What course component was least useful for your learning?

- Powerful Partnerships (Course Text)
- SoftChalk Modules (Videos, Articles, Web Links)
- Family Engagement Interactive Notebook (FEIN)
- Discussion Roundtable
- Strategies Card
- Family Engagement Inquiry Project

20. What course component was the most beneficial for future use and application in your context?

- Powerful Partnerships (Course Text)
- SoftChalk Modules (Videos, Articles, Web Links)
- Family Engagement Interactive Notebook (FEIN)
- Discussion Roundtable
- Strategies Card
- Family Engagement Inquiry Project

21. What course component was the least beneficial for future use and application in your context?

- Powerful Partnerships (Course Text)

- SoftChalk Modules (Videos, Articles, Web Links)
- Family Engagement Interactive Notebook (FEIN)
- Discussion Roundtable
- Strategies Card
- Family Engagement Inquiry Project

22. If you could give advice to future course participants to help them succeed, what would you say?

Appendix D Family Engagement Inquiry Project: Planning Template

DEVELOP A PLAN: Set a goal, data collection dates and evidence to be collected
Nevada Parental Involvement & Family Engagement/National PTA Family-School Partnership Standards:

1. **Welcoming All Families into the School Community**
2. **Communicating Effectively**
3. **Supporting Student Success**
4. **Speaking Up for Every Child**
5. **Sharing Power**
6. **Collaborating with Community**

Inquiry Focus (Family Engagement Standard):
Inquiry Goal: Example: How might {} increase … ? What impact would {} have on family engagement in my context?
What strategy will I use to help achieve my goal?
Consider First:

- **What do I know about my students in regard to my inquiry?**
- **What do I need to know?**
- **How will I find out?**

Describe educational context:
What will I implement in my context before our next session?

What evidence/data will I bring back to share?

How will I collect evidence/data? How often/when?

What do I wonder about?

What am I worried about?
Family Engagement Inquiry Project: Planning Template

IMPLEMENT: Carry Out Strategies & Collect Data

Strategy:
Date Record of Changes/Approaches
(What did I try? What did I notice? What evidence/data did I collect?)
Date Record of change
Date Record of change
Date Record of change
Date Record of change
Date Record of change

ANALYZE: Learn From Evidence/Data
What did the evidence/data show? What were the results?

What were the results?

What most surprised you?

What least surprised you?

Reflection on the evidence/results:

LEARNING FROM ADJUSTMENT: Reframe Inquiry Goal and/or Strategy
What does the evidence suggest?

What does research suggest?

Based on the evidence and research, I'm willing to try … (describe the adjustment you will make)

Reflection on adjustment(s) needed:

UPDATE PLAN: Revise goal, strategy and/or evidence/data to be collected
What will I adjust?

Why? (Provide justification for the adjustment)

How might you begin to implement this revised inquiry?

Reflection on revision of plan:

LEARNING FROM INQUIRY: Key Takeaways

What are the key takeaways from your inquiry?

What change in practice(s) occurred as a result of this inquiry?

Reflection on Inquiry Process:

Appendix E Middle School Math Fellowship Facilitator Lesson Planning Rubric Assessment

Middle School Math Fellowship Facilitator Lesson Planning Rubric Assessment

Intentional Planning Components	Scale	Facilitator Notes
Awareness of **RIGOR**	Minimal Proficiency Partial Proficiency Proficient Advanced proficiency N/A = Not required/ applicable	
Members of the group generally demonstrate understanding of how, when, and where **RIGOR** is best applied within lesson planning.	Minimal Proficiency Partial Proficiency Proficient Advanced proficiency N/A = Not required/ applicable	
Members of the group are generally inspired about the potential of intentionally adding **RIGOR** to a lesson plan to further student thinking.		
Awareness of **MAJOR WORK of the GRADE**	Minimal Proficiency Partial Proficiency Proficient Advanced proficiency N/A = Not required/ applicable	
Intentional Planning Components	**Scale**	**Facilitator Notes**
Members of the group generally demonstrate understanding of how, when, and where **Major Work of the Grade** is best applied within lesson planning.	Minimal Proficiency Partial Proficiency Proficient Advanced proficiency N/A = Not required/ applicable	
Members of the group are generally inspired about intentionally focusing on **Major Work of the Grade** to a lesson plan to further student thinking.		
Awareness of **MATHEMATICAL MODELING**	Minimal Proficiency Partial Proficiency Proficient Advanced proficiency N/A = Not required/ applicable	

Intentional Planning Components	Scale	Facilitator Notes
Members of the group generally demonstrate understanding of how, when, and where **MATHEMATICAL MODELING** is best applied within lesson planning.	Minimal Proficiency Partial Proficiency Proficient Advanced proficiency N/A = Not required/ applicable	
Intentional Planning Components	**Scale**	**Facilitator Notes**
Members of the group are generally inspired about the potential of intentionally adding **MATHEMATICAL MODELING** to a lesson plan to further student thinking.		
Awareness of **PRODUCTIVE DISCOURSE**	Minimal Proficiency Partial Proficiency Proficient Advanced proficiency N/A = Not required/ applicable	
Members of the group generally demonstrate understanding of how, when, and where **PRODUCTIVE DISCOURSE** is best applied within lesson planning.	Minimal Proficiency Partial Proficiency Proficient Advanced proficiency N/A = Not required/ applicable	
Members of the group are generally inspired about the potential of intentionally adding **PRODUCTIVE DISCOURSE** to a lesson plan to further student thinking.		
Intentional Planning Components	**Scale**	**Facilitator Notes**
Awareness of **PRODUCTIVE STRUGGLE**	Minimal Proficiency Partial Proficiency Proficient Advanced proficiency N/A = Not required/ applicable	
Members of the group generally demonstrate understanding of how, when, and where **PRODUCTIVE STRUGGLE** is best applied within lesson planning.	Minimal Proficiency Partial Proficiency Proficient Advanced proficiency N/A = Not required/ applicable	
Members of the group are generally inspired about the potential of intentionally planning for **PRODUCTIVE STRUGGLE** in a lesson plan to further student thinking.		

Intentional Planning Components	Scale	Facilitator Notes
Awareness of **RESOURCES** (Digital Library, Progression Documents,)	Minimal Proficiency Partial Proficiency Proficient Advanced proficiency N/A = Not required/ applicable	
Intentional Planning Components	**Scale**	**Facilitator Notes**
Members of the group generally demonstrate understanding of how, when, and where **RESOURCES** are best applied within lesson planning.	Minimal Proficiency Partial Proficiency Proficient Advanced proficiency N/A = Not required/ applicable	
Members of the group are generally inspired about the potential of using **RESOURCES** (Digital Library, Progression Documents,) in lesson planning to further student thinking.		

Appendix F Middle School Math Fellowship Learning Episode Reflection

Middle School Math Fellowship Learning Episode Reflection

1. Name

2. This question relates to the effectiveness of the learning episode in terms of **eliciting mathematical modeling**. Please identify how well the learning episode worked (vertical column) for students with various SBAC/MAP achievement levels (horizontal row). In other words, you are identifying how well the learning episode worked for each achievement level subgroup.

	Student SBAC/MAP Achievement Level: Minimal Understanding	Student SBAC/MAP Achievement Level: Partial Understanding	Student SBAC/MAP Achievement Level: Proficient	Student SBAC/MAP Achievement Level: Advanced
Low Level: Students did not employ mathematical modeling related to the concept.				
Developing Level: Students employed mathematical modeling related to the concept with				

	Student SBAC/MAP Achievement Level: Minimal Understanding	Student SBAC/MAP Achievement Level: Partial Understanding	Student SBAC/MAP Achievement Level: Proficient	Student SBAC/MAP Achievement Level: Advanced
significant prompts/scaffolding.				
Moderate Level: Students employed mathematical modeling related to the concept with some prompting/scaffolds.				
High Level: Students employed mathematical modeling related to the concept without prompting scaffolds.				

3. This question relates to the effectiveness of the learning episode in terms of **eliciting productive discourse**. Please identify how well the learning episode worked (vertical column) for students with various SBAC/MAP achievement levels (horizontal row). In other words, you are identifying how well the learning episode worked for each achievement level subgroup.

	Student SBAC/MAP Achievement Level: Minimal Understanding	Student SBAC/MAP Achievement Level: Partial Understanding	Student SBAC/MAP Achievement Level: Proficient	Student SBAC/MAP Achievement Level: Advanced
Low Level: Students did not engage in productive discourse.				
Developing Level: Students engaged in productive discourse with significant prompts/scaffolding.				
Moderate Level: Students engaged in productive discourse				

	Student SBAC/MAP Achievement Level: Minimal Understanding	Student SBAC/MAP Achievement Level: Partial Understanding	Student SBAC/MAP Achievement Level: Proficient	Student SBAC/MAP Achievement Level: Advanced
with some prompting/scaffolds.				
High Level: Students engaged in productive discourse without prompting scaffolds.				

4. This question relates to the effectiveness of the learning episodes in terms of **eliciting productive struggle**. Please identify how well the learning episodes worked (vertical column) for students with various SBAC/MAP achievement levels (horizontal row). In other words, you are identifying how well the learning episodes worked for each achievement level subgroup.

	Student SBAC/MAP Achievement Level: Minimal Understanding	Student SBAC/MAP Achievement Level: Partial Understanding	Student SBAC/MAP Achievement Level: Proficient	Student SBAC/MAP Achievement Level: Advanced
Low Level: The learning episode was not rigorous enough for students to engage in productive struggle.				
Developing Level: The learning episode was rigorous, but students required some prompting to engage in productive struggle in order to grow.				
Moderate Level: The learning episode was rigorous, and students engaged in productive				

	Student SBAC/MAP Achievement Level: Minimal Understanding	Student SBAC/MAP Achievement Level: Partial Understanding	Student SBAC/MAP Achievement Level: Proficient	Student SBAC/MAP Achievement Level: Advanced
struggle and were able to grow.				
High Level: The learning episode was too rigorous. Students struggled and were unable to grow.				

5. What facets of the learning episode will you use again in the future? Why?

6. What facets of the learning episode will you change in the future to maximize student leaning? Why?

7. Using the SBAC scoring criteria, how would you evaluate the student work sample you selected and submitted from this learning episode?
- The student has demonstrated a **full and complete** understanding of the mathematical content and practices essential to this task. The student has addressed the task in a mathematically sound manner. The response contains evidence of the student's competence in problem solving, reasoning, and/or modeling to the full extent that these processes apply to the specified task. The response may, however, contain minor flaws that do not detract from a demonstration of full understanding (Smarter Balanced Mathematics General Rubric for 4-Point Items)
- The student has demonstrated a **reasonable** understanding of the mathematical content and practices essential to this task. The student has addressed most of the task in a mathematically sound manner. The response contains sufficient evidence of the student's competence in problem solving, reasoning, and/or modeling, but not enough evidence to demonstrate a full understanding of the processes he or she applies to the specified task. The response may contain errors that can be attributed to misinterpretation of the prompt; errors attributed to insufficient, non-mathematical knowledge; and errors attribute to careless execution of mathematical processes or algorithms. (Smarter Balanced Mathematics General Rubric for 4-Point Items)

- The student has demonstrated a **limited** understanding of the mathematical content and practices essential to this task. The student's response is incomplete and exhibits many errors. Although the student's response has addressed at least one of the conditions of the task, the

student reached an inadequate conclusion and/or demonstrated problem solving, reasoning, and/or modeling that was faulty or incomplete as related to the specified task. (Smarter Balanced Mathematics General Rubric for 4-Point Items)

- The student has demonstrated **merely an acquaintance** with the topic, or provided a completely incorrect or uninterruptible response. The student's response may be associated with the task, but contains few attributes of an appropriate response. there are significant omissions or irregularities that indicate a lack of comprehension in regard to the mathematical content and practices essential to this task. No evidence is present that demonstrates the student's competence in problem solving, reasoning, and/or modeling related to the specific task. (Smarter Balanced Mathematics General Rubric for 4-Point Items)

Appendix G Middle School Math Fellowship Pre/Post Survey

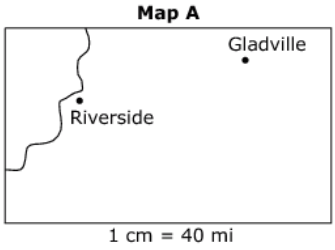
Middle School Math Fellowship Pre/Post Survey

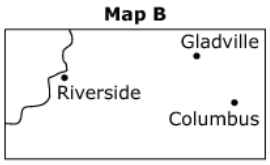
1.Did you participate in the Middle School Math Fellowship last year?

2. Review the sample problem.

These two maps show the same area at two different scales.

- Columbus is not on Map A.
- Map B does not have a scale written on it.
- Riverside and Gladville are 6.8 cm apart on Map A.
- Riverside and Gladville are 3.4 cm apart on Map B.
- Gladville and Columbus are 1.8 cm apart on Map B.





Determine the straight line distance, in miles, from Gladville to Columbus.

Which SBAC Claim is the sample problem representative of?
Claim 1: Concepts & Procedures
Claim 2: Problem Solving
Claim 3: Communicating Reasoning
Claim 4: Mathematical Modeling and Data Analysis

3. What is a grade you teach? What is one major work of the grade for the grade level you selected?

4. True of False: The mathematics task determines which mathematical practice a student will use.

5. What is the difference between mathematical modeling and modeling mathematics?

6. If you wanted to quickly determine the dependency chain of a particular NVACS-M standard, which resource would be the best to consult?
CCSS Math Standards Viewer

Digital Library
Progression Documents
None of the Above

7. If you wanted to determine cognitive difficulties associated with a mathematical concept and possible pedagogical solutions for the difficulties, which resource would be the best to consult?
CCSS Math Standards Viewer
Digital Library
Progression Documents
None of the Above

8. If you want ideas for mathematical tasks associated with a particular NVACS-M standard, which resource would be the best to consult?
CCSS Math Standards Viewer
Digital Library
Progression Documents
None of the Above

9. All of the mathematical content standards for a grade level are equally emphasized?
True/False

Post Survey Only Items

10. To what extent were sufficient resources made available to support your implementation of the learning, i.e. mathematical modeling information and examples, collaboration, feedback, time for sharing, time for reflection, etc.?
Not at all
Minimal
Some
Moderate
Great
11. To what extent did you feel supported by your school site and/or district administration when implementing the learnings?
Not at all
Minimal
Some
Moderate
Great

Appendix H Middle School Math Fellowship Sample Item and Claim Alignment Assessment

Middle School Math Fellowship Sample Item and Claim Alignment Assessment

Whole Group Session 2 Assessment Items

1. Which SBAC Claim does the following Sample Item (Smarter Balanced Sample Item, n.d.) best align?

A biologist tracks the number of bacteria living in a water tank. The biologist used a function that represents the amount of a certain chemical solution that is added to the water.

- When the water has no chemicals, the number of bacteria (b) is 1200 per gallon.
- For each tablespoon of the chemical solution (c) added to each gallon of water, the number of bacteria decreases by 75 per gallon.

How much of the chemical, in tablespoons, must be added to a 500-gallon tank to reduce the bacteria count to a safe 300 bacteria per gallon?

2. Which SBAC Claim does the following Sample Item (Smarter Balanced Sample Item, n.d.). best align?

There are a total of 500 students in grades 1 through 5 in an elementary school.

- 17% of the total number of students are in 1st grade.
- 19% of the total number of students are in 4th grade.
- The number of 3rd-grade students is 9 less than the number of 4th-grade students.
- The number of 2nd-grade students is 10 less than the number of 5th-grade students.

Complete the table to show the number of students in each grade. Enter your answers in the table.

Elementary School Students

Grade	Number of Students
1st	
2nd	
3rd	
4th	
5th	

Whole Group Session 3 Assessment Items

1. Which SBAC Claim does the following Sample Item (Smarter Balanced Sample Item, n.d.) best align?

Roland's family drove $4\frac{6}{10}$ kilometers from their home to the gas station. They drove $2\frac{30}{100}$ kilometers from the gas station to the store.

Which expression can be used to determine the number of kilometers Roland's family drove altogether?

Ⓐ $6+\frac{180}{1000}$

Ⓑ $4+2+\frac{36}{110}$

Ⓒ $6+\frac{6}{100}+\frac{30}{100}$

Ⓓ $4+2+\frac{60}{100}+\frac{30}{100}$

2. Which SBAC Claim does the following Sample Item (Smarter Balanced Sample Item, n.d.) best align?

Your principal surprises you by buying your class a turtle. He brings the turtle to your class along with a sheet from the pet store titled "Turtle Tank Rules".

The rules state:

- Tank walls must be at least 1 foot tall so the turtle can't climb out.
- There must be at least 400 square inches of floor space for the turtle to walk around on.

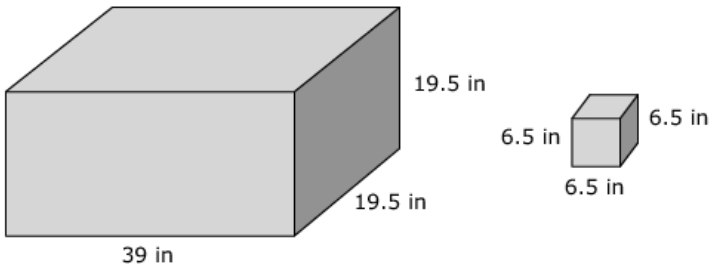
Your teacher says the volume of the tank must be smaller than 5000 cubic inches so it doesn't take up too much room in the classroom.

Give the dimensions of a tank that would work for your new turtle. Use words and numbers to explain how your tank satisfies the "Turtle Tank Rules" and your teacher's requirement.

3. Which SBAC Claim does the following Sample Item (Smarter Balanced Sample Item, n.d.) best align?

Cube-shaped boxes of tissue are shipped to stores in containers. The containers are rectangular prisms.

- The edges of each tissue box measure 6.5 inches.
- The dimensions of the shipping container are 19.5 inches by 39 inches by 19.5 inches.



What is the greatest number of tissue boxes that will fit into one shipping container?

Whole Group Session 4 Sample Items

1. Which SBAC Claim does the following Sample Item (Smarter Balanced Sample Item, n.d.) best align?

Justin is packing a container with books.

- The dimensions of each book are 8 inches by 6 inches by 2 inches.
- The dimensions of the container are 16 inches by 12 inches by 12 inches.
- All of the books and the container are rectangular prisms.

Part A

How many books can fit in the container if the books are packed so that there is no unused space in the container?

Enter your response in the first response box.

Part B

Each book weighs 2 pounds. The maximum weight the container can hold is 40 pounds.

What is the greatest number of books that can fit in the container without going over the container's weight limit?

Enter your response in the second response box.

2. Which SBAC Claim does the following Sample Item (Smarter Balanced Sample Item, n.d.) best align?

A store sells used and new video games. New video games cost more than used video games. All used video games cost the same. All new video games also cost the same.

Omar spent a total of $84 on 4 used video games and 2 new video games. Sally spent a total of $78 on 6 used video games and 1 new video game. Janet has $120 to spend.

Enter the number of used video games Janet can purchase after she purchases 3 new video games.

Appendix I Assessment Knowledge Questionnaire (pre/post assessment)

Assessment Knowledge Questionnaire (pre/post assessment)

Appendix J Smarter Balanced Assessment to NWEA MAP Growth Tests

Linking the Smarter Balanced Assessments to NWEA MAP Growth Tests

Appendix K SBAC Pre/Post Survey

SBAC Pre/Post Survey

1. How is mathematical modeling defined by the Smarter Balanced Assessment Consortium?
2. Which is true of Smarter Balanced assessments?
3. Are each of the four ELA/Literacy claims (Reading, Writing, Speaking/Listening, Research) assessed with an equal number of test items?
4. Identify the four mathematical claims that are assessed with the Smarter Balanced assessments.
5. All four Depth of Knowledge (DOK) levels are assessed on the ELA and mathematics Smarter Balanced assessments.
6. Smarter Balanced Performance Tasks (PT) focus on one important content standard of the specific grade level.
7. Some colleges accept Smarter Balanced scores to determine if students are "college-ready".
8. The Smarter Balanced assessments are reported in two ways: Scaled Scores and Achievement Levels. How many achievement levels are there?

Appendix L Family Engagement Course PLP

PROJECT TITLE: Family Engagement
DISTRICT: Regional
SCHOOL: Regional
COORDINATOR(S): Annie Hicks
ADMINISTRATOR(S): Regional
AUDIENCE: K-12 Administrators, Educators, School Counselors, School Psychologists & School Nurses
LOCATION: Online

STUDENT LEARNING OUTCOMES AND EVIDENCE

Student Learning Outcomes Student Learning Evidence (Guskey)

Students and families feel welcomed, included and valued in school contexts. Course participants will collect evidence of increased engagement through their Family Engagement Inquiry Project.
Students and families participate in two-way communication with the teacher(s) and other school staff. Course participants will collect evidence of increased engagement through their Family Engagement Inquiry Project.
Students and families receive specific support and resources that increase students' academic, social, emotional and developmental achievements. Course participants will collect evidence of increased engagement through their Family Engagement Inquiry Project.
Students and families know how, when, and where to advocate for their needs, and, desired outcomes within the school system. Course participants will collect evidence of increased engagement through their Family Engagement Inquiry Project.
Students and families are equal partners in the decision-making within the classroom context as well as the school system. Course participants will collect evidence of increased engagement through their Family Engagement Inquiry Project.
Students and families partner with the school and community members to increase the availability of support, resources and opportunities afforded each member of the community-at-large. Course participants will collect evidence of increased engagement through their Family Engagement Inquiry Project.

TEACHER LEARNING OUTCOMES AND EVIDENCE

Teacher Learning Outcomes Teacher Learning Evidence (Guskey)

Demonstrate knowledge of the National Standards for Family-School Partnerships [Levels 2, 3, 4, 5] Family Engagement Interactive Notebook (FEIN): Identify effective practices for each standard based on research and evidence, identify current practices and evaluate the effectiveness of current practices using the National Standards for Family-School Partnerships assessment rubric

Demonstrate knowledge of the expectations of the Nevada Educator Performance Framework (NEPF) Professional Standard for Family Engagement [Levels 2, 3, 4, 5] Family Engagement Interactive Notebook (FEIN), asynchronous discussion board post and responses, and synchronous discussion with other course participants describing how the NEPF standard for family engagement aligns with research-based effective practices, in conjunction with a self-assessment on current practices and identification of areas for improvement

Demonstrate knowledge of the Dual Capacity-Building Framework (DCBF) [Levels 2, 3, 4] Family Engagement Interactive Notebook (FEIN) and synchronous discussion with course participants: Identify the primary components and outcomes associated with the DCBF, and identify areas of current practice and areas for improvement using the DCBF, within the individual context (e.g. classroom) and school context

Reflect on and evaluate current family engagement efforts [Levels 2, 3, 4] Family Engagement Interactive Notebook (FEIN) and Family Engagement Inquiry Project: Compare current family engagement practices with research-based practices outlined for each National Family-School Partnership Standard using the corresponding assessment rubric

Research effective strategies, activities, resources, and materials to enhance their current family engagement efforts [Levels 2, 3, 4] Family Engagement Interactive Notebook (FEIN), Family Engagement Strategies Card, and Family Engagement Inquiry Project: Read required research, locate additional research, identify specific resources and materials that support effective practices outlined within research, and describe implementation possibilities within the individual participant's educational context

Design a plan for effective family engagement, with action steps that may be taken immediately, in the near future, and in the distant future [Levels 2, 3, 4, 5] Family Engagement Inquiry Project: Identify an area for improvement using the National Standards for School-Family Partnerships assessment rubric, outline specific action steps to be taken immediately along with a method for collecting evidence for the effectiveness of the change(s) in practice, implement action steps, gather evidence, analyze evidence, modify action steps as needed, gather additional evidence and analyze new evidence, and identify future steps to take

Implement methods and strategies for effective family engagement [Levels 2, 3, 4, 5] Family Engagement Inquiry Project: Identify an area for improvement using the National Standards for School-Family Partnerships assessment rubric, outline specific action steps to be taken immediately along with a method for collecting evidence for the effectiveness of the change(s) in practice, implement action steps, gather evidence, analyze evidence, modify action steps as needed, gather additional evidence and analyze new evidence, and identify future steps to take

ROLES AND ACTIONS

Coordinator Administrator Participant

Annie Hicks, Regional Coordinator: Design, teach, facilitate and evaluate course learning tasks in order to provide specific, focused feedback for each course participant in order to increase effective family engagement practices within the participant's educational context N/A K-12 Administrators, Educators, School Counselors, School Psychologists & School Nurses: Complete course learning tasks, including assigned reading/viewing of research-based practices for effective family engagement, self-assessment of current family engagement practices, identification of areas for improvement with regard to family engagement practices, development and completion of an inquiry wherein participants "put into practice" their learning in through implementation of specific, action-oriented, measurable changes in practice

Jerrad Barczyscyn, Assistant Director for SNRPDP / UNLV Coordinator:

Support course participants' registration process through the partner institution

LAN/SCHEDULE

Date Plan
Week 1 Google Meet Session 1 (Online | Monday, January 27 | 4:30-5:30pm)
** Full participation in all Google Meet sessions is required **
Read: Introduction & Chapter 1 | SoftChalk Module: Anchor & Intro
Family Engagement Interactive Notebook (FEIN): Introduction
Discussion Roundtable: PIFE Standards
Family Engagement Questionnaire (Pre)
Week 2 Google Meet Session 2 (Online | Monday, February 3 | 4:30-5:30pm)
** Full participation in all Google Meet sessions is required **
Read: Chapter 2 | SoftChalk Module: PIFE Standard #1
Family Engagement Interactive Notebook (FEIN #1): Welcoming All Families
Discussion Roundtable: Critical Reflection
Family Engagement Strategy Card: PIFE Standard #1
Week 3 Google Meet Session 3 (Online | Monday, February 10 | 4:30-5:30pm)
** Full participation in all Google Meet sessions is required **
Read: Chapter 3 | SoftChalk Module: PIFE Standard #2
Family Engagement Interactive Notebook (FEIN #2): Communicating Effectively
Discussion Roundtable: Critical Reflection
Family Engagement Strategy Card: PIFE Standard #2
Week 4 Google Meet Session: There is no session during Week 4 due to the holiday!
Read: Chapter 4 | SoftChalk Module: PIFE Standard #3
Family Engagement Interactive Notebook (FEIN #3): Supporting Student Success
Discussion Roundtable: Critical Reflection
Family Engagement Strategy Card: PIFE Standard #3
Family Engagement Inquiry Project: Develop a Plan
Week 5 Google Meet Session 4 (Online | Monday, February 24 | 4:30-5:30pm)
** Full participation in all Google Meet sessions is required **
Read: Chapter 5 | SoftChalk Module: PIFE Standard #4
Family Engagement Interactive Notebook (FEIN #4): Speaking Up for Every Child
Discussion Roundtable: Critical Reflection
Family Engagement Strategy Card: PIFE Standard #4
Family Engagement Inquiry Project: Update #1
Week 6 Google Meet Session 5 (Online | Monday, March 2 | 4:30-5:30pm)
** Full participation in all Google Meet sessions is required **
Read: Chapter 6 | SoftChalk Module: PIFE Standard #5
Family Engagement Interactive Notebook (FEIN #5): Sharing Power
Discussion Roundtable: Critical Reflection
Family Engagement Strategy Card: PIFE Standard #5

Family Engagement Inquiry Project: Update #2
Week 7

Google Meet Session 6 (Online | Monday, March 9 | 4:30-5:30pm)
** Full participation in all Google Meet sessions is required **
Read: SoftChalk Module: PIFE Standard #6
Family Engagement Interactive Notebook (FEIN #6): Collaborating with Community
Discussion Roundtable: Critical Reflection
Family Engagement Strategy Card: PIFE Standard #6
Family Engagement Inquiry Project: Update #3
Week 8 Google Meet Session 7 (Online | Monday, March 16 | 4:30-5:30pm)
** Full participation in all Google Meet sessions is required **
*** The GMS 7 was cancelled due to the COVID-19 school closures the day prior ***
Discussion Roundtable: Critical Reflection
Family Engagement Inquiry Project: Revise & Submit
Week 9 Google Meet Session 8 (Online | Monday, March 23 | 4:30-5:30pm)
** Full participation in all Google Meet sessions is required **
Family Engagement Questionnaire (Post)

NNRPDP INTEGRATION OF STANDARDS FOR PROFESSIONAL LEARNING

Standards for Professional Learning guide our thinking when planning and preparing professional learning opportunities. The Professional Learning Plan (PLP) clarifies outcomes, roles, and responsibilities of stakeholders in the learning and also demonstrates the alignment of projects with the standards.

StandardAlignment

LEARNING COMMUNITIES: Professional learning that increases educator effectiveness and results for all students occurs within learning communities committed to continuous improvement, collective responsibility, and goal alignment ● Course instructor/facilitator created a collaborative "space" for building a learning community with course participants through sharing of personal and professional experiences, guided discussions, and collective feedback through weekly video conference interactive sessions

● Course participants participated in a collaborative learning community throughout the course during weekly video conference interactive sessions where participants: reflected on their learning, shared changes in practice, applied learning to specific contexts and provided feedback for all members of the learning community

LEADERSHIP: Professional learning that increases educator effectiveness and results for all students requires skillful leaders who develop capacity, advocate, and create support systems for professional learning ● Course instructor/facilitator provided opportunities for course participants to develop their own capacity for effective family engagement, including knowledge and implementation of research-based practices and outcomes, shared approaches course participants might use to advocate for students and families to be partners in the learning process, and provided an opportunity for course participants to gather a collection of research-based practices and resources to further their professional learning and application of learning

● Course participants developed their capacity for effective family engagement through reading research-based practices and outcomes aligned with the National Standards for Family-School Partnerships, identified areas for improvement within their educational context along with the advocacy approach that could be utilized to address the necessary improvement, and created a list of research-based practices and resources for professional growth beyond the course

RESOURCES: Professional learning that increases educator effectiveness and results for all students requires prioritizing, monitoring, and coordinating resources for educator learning ● Course instructor/facilitator curated additional research, resources and course materials in response to course participants progress, unique educational contexts and observed/identified barriers to practice and/or implementation of effective family engagement approaches

● Course participants shared weekly feedback about which resources were most beneficial to their unique educational context, and what questions or concerns remained, which was used by the course instructor/facilitator to provide responsive feedback, support, and curate/include additional materials within the course

DATA: Professional learning that increases educator effectiveness and results for all students uses a variety of sources and types of student, educator, and system data to plan, assess, and evaluate professional learning. ● Course instructor/facilitator integrated multiple opportunities for self- assessment using a variety of assessment tools, including the Nevada Educator Performance Framework Professional Standards, the Dual Capacity-Building

Framework, and National Standards for School-Family Partnerships aligned with professional learning within the course structure as well as beyond the course

- Course participants shared self-assessment data, alongside evaluation that designated areas of strength and areas for improvement / continued professional learning

LEARNING DESIGNS: Professional learning that increases educator effectiveness and results for all students integrates theories, research, and models of human learning to achieve its intended outcomes ● Course instructor/facilitator integrated course participants current educational contexts, learning goals and context-specific learning tasks in order to make the learning relevant and action-oriented, utilizing research that supported the course learning objectives in conjunction with research-based located and identified by each course participant

- Course participants shared learning goals based on their current educational contexts in order to identify their desired outcomes for their learning and student/family outcomes

IMPLEMENTATION: Professional learning that increases educator effectiveness and results for all students; applies research on change and sustains support for implementation of professional learning for long-term change ● Course instructor/facilitator provided strategic, and ongoing, opportunities for course participants to critically reflect on current family engagement practices through self-assessment, using a variety of assessment tools, alongside reading and analyzing research-based family engagement practices in order to support participants' in identifying and implementing changes in practice based on their learning and reflection

- Course participants completed weekly self-assessments of current family engagement practices in comparison to research-based, effective family engagement practices using a variety of assessment tools in order to identify areas of strength and areas for improvement, wherein course participants identified potential changes in practice that could be implemented in order to increase meaningful and effective engagement of all families in the learning process

OUTCOMES: Professional learning that increases educator effectiveness and results for all students focuses on equitable access, opportunities and outcomes with an emphasis on achievement and opportunity disparities between student groups. ● Course instructor/facilitator integrated research that demonstrated links between effective family engagement practices and increased positive academic, social, emotional and development outcomes in conjunction with critical reflection tasks that provided opportunities for course participants to reflect on the current, or future, integration of effective family engagement practices by evaluating current outcomes against desired outcomes

- Course participants read and analyzed research that demonstrated links between effective family engagement practices and increased positive academic, social, emotional and development outcomes and completed critical reflection tasks that helped participants identify current, or future, integration of effective family engagement practices through evaluation of current outcomes against desired outcomes, leading to identification of changes in practice with potential to achieve the desired outcomes

EQUITY: Professional learning that increases educator effectiveness and results for all students focuses on equitable access, opportunities and outcomes with an emphasis on achievement and opportunity disparities between student groups. ● Course instructor/facilitator guided discussion, both synchronous and asynchronous, designed to support course participants' identification of inequities within school systems that impact families' inclusion in the learning process, as well as students' academic growth in conjunction to evidence on practices that address and reduce inequity across educational/school systems

- Course participants individually and collectively identified inequities within school systems that impact families' inclusion in the learning process, as well as students' academic growth, through self-assessment and case study examples, and in response, identifying evidence-based practices that could be integrated to address and reduce inequity across educational/school systems

CULTURAL COMPETENCY: Professional learning that increases educator effectiveness and results for all students facilitates educator's self-examination of their awareness, knowledge, skills, and actions that pertain to culture and how they can develop culturally-responsive strategies to enrich educational experiences for all students.

- Course instructor/facilitator implemented and facilitated course learning tasks that: allowed course participants to examine explicit and implicit bias of students and families, provided research on existing disparities in effective engagement of all families in the learning process, and outlined potential action steps participants could take to eliminate barriers to effective family engagement

- Course participants examined bias, both explicit and implicit, in their beliefs about families' strengths and capacities, their beliefs about families' involvement in the learning process, and their beliefs about their role in reaching out to and including all families in the learning process as partners in order identify specific action steps that they could take to address their bias, and thus, the barriers to effective family engagement

Appendix M HCSD K-2 Literacy Support PLP

PROJECT TITLE: HCSD K-2 Literacy Support
DISTRICT: HCSD
SCHOOL(s): Sonoma, Grass Valley Elementary, Winnemucca Grammar School
COORDINATOR(S): Treena Parker, Ketra Gardner
ADMINISTRATOR(S): Lisa Weber, Kristin Holden, Colby Corbitt
AUDIENCE: Literacy Specialists
LOCATION: Elementary schools in Winnemucca

STUDENT LEARNING OUTCOMES AND EVIDENCE

Student Learning Outcomes Student Learning Evidence (Guskey)

A greater percentage of K-2 students will achieve greater reading proficiency in literacy than in the previous year.

Running records

MAP

TEACHER LEARNING OUTCOMES AND EVIDENCE

Teacher Learning Outcomes Teacher Learning Evidence (Guskey)

Increase depth of understanding and/or comfort level in using guided reading and other FPC components Literacy specialist coaching notes
Teacher survey
Utilize running records results to improve reading instruction Literacy specialist coaching notes
Teacher survey

LEARNING SPECIALIST LEARNING OUTCOMES AND EVIDENCE

Learning Specialist Learning Outcomes Learning Specialist Learning Evidence (Guskey)

Increase depth of understanding and/or comfort level in using guided reading and other FPC components Literacy specialist coaching notes

NNRPDP coordinator observation notes

Utilize running records results to improve reading instruction Literacy specialist coaching notes

NNRPDP coordinator observation notes

Develop coaching skills Literacy specialist coaching notes

NNRPDP coordinator observation notes

ROLES AND ACTIONS

NNRPDP Coordinators Literacy Specialists AdministratorsK-2 Classroom Teachers

- Facilitate weekly PLC meetings
- Plan and facilitate monthly 2-day coaching institutes.
- Curate and provide coaching content
- Model coaching
- Coordinate opportunities for LS to practice coaching
- Coach LS as they coach teachers
- Provide just-in-time support for LS as needed • Attend and participate in weekly PLC meetings
- Attend and participate in monthly coaching institutes
- Increase opportunities to impact teachers
- Apply skills and strategies in coaching teachers including providing and receiving feedback • Allow time for LS to attend PLC meetings
- Allow time for LS to attend monthly 2-day coaching institutes.
- Meet with LS and NNRPDP coordinator when needed. • Willingly and actively participate in coaching opportunities both individually, as teams, and as a whole group
- Provide as well as receive feedback

PLAN/SCHEDULE

Date Plan

10.10 & 10.11 Monthly coaching institute

10.31 & 10.31 Monthly coaching institute

11.1 Observation

11.5 Virtual LS PLC

Observation

11.6 Observation

11.8 Observation/coaching

11.12 Virtual LS PLC

Observation

11.14 & 11.15 Monthly coaching institute

11.16 Observation/coaching?

11.19 Virtual LS PLC

12.3 Virtual LS PLC

12.10 Virtual LS PLC

12.16 & 12.17 Monthly coaching institute

1.7 Virtual LS PLC

1.13 & 1.14 Monthly coaching institute

1.28 Virtual LS PLC

1.29 Observation/coaching

1.30 Observation/coaching

2.4 Virtual LS PLC

2.6 Observation/coaching

2.10 & 2.11 Monthly coaching institute

2.18 Virtual LS PLC

2.20 Observation/coaching

3.2 Virtual LS PLC

3.10 Virtual LS PLC

3.16 & 3.17 Monthly coaching institute

4.7 Virtual LS PLC

4.14 Virtual LS PLC

4.21 Virtual LS PLC

NNRPDP INTEGRATION OF STANDARDS FOR PROFESSIONAL LEARNING

Standards for Professional Learning guide our thinking when planning and preparing professional learning opportunities. The Professional Learning Plan (PLP) clarifies outcomes, roles, and responsibilities of stakeholders in the learning and also demonstrates the alignment of projects with the standards.

Standard Alignment

LEARNING COMMUNITIES: Professional learning that increases educator effectiveness and results for all students occurs within learning communities committed to continuous improvement, collective responsibility, and goal alignment NNRPDP coordinators provided multiple opportunities for LS to form and benefit from a productive and collaborative learning community. In weekly virtual PLCs, LS came together on a regular basis to discuss ways to increase their effectiveness and impact across school contexts and to align literacy and coaching goals. Participation in monthly coaching institutes provided LS an opportunity to learn content together, distilling a shared understanding of best practice in literacy learning, best practice in coaching, and space to apply content in a supportive context.

LEADERSHIP: Professional learning that increases educator effectiveness and results for all students requires skillful leaders who develop capacity, advocate, and create support systems for professional learning NNRPDP coordinators provided opportunities for LS to develop leadership capacity. As LS became more knowledgeable and skilled in working with adult learners and more confident in coaching, they also gained greater capacity assuming greater responsibility for developing the teaching capacity within the school and district.

RESOURCES: Professional learning that increases educator effectiveness and results for all students requires prioritizing, monitoring, and coordinating resources for educator learning

NNRPDP coordinators curated relevant research-based texts and materials. They provided materials to build upon the current knowledge and skills of LS and to respond to the collective and individual needs of LS as they arose.

DATA: Professional learning that increases educator effectiveness and results for all students uses a variety of sources and types of student, educator, and system data to plan, assess, and evaluate professional learning. LS participants collaboratively chose elements of Elena Aguilar's Transformational Coaching Rubric on which to focus and gain proficiency. This rubric served as a self-assessment tool, a guide to content, and an observation tool for NNRPDP coordinators to use when observing LS. A teacher survey gave LS and NNRPDP coordinators an opportunity to reflect on the effectiveness of their work and to make adjustments. Student data in the form of running records gave teachers, LS, and NNRPDP coordinators continuous formative data on which to base next steps in instruction.

LEARNING DESIGNS: Professional learning that increases educator effectiveness and results for all students integrates theories, research, and models of human learning to achieve its intended outcomes NNRPDP coordinators designed this professional learning opportunity utilizing adult learning theory, and research-based practice in coaching. The design focuses on developing the specific knowledge and skills necessary to effectively coach teachers. It incorporates active learning as LS are able to try new coaching strategies in authentic, job-embedded contexts. Consistent with current best practice for adult learners, the learning design calls for collaborative practice, gives opportunities to co-create a clear vision of best practice, provides coaching and support, and opportunities for reflection and feedback.

IMPLEMENTATION: Professional learning that increases educator effectiveness and results for all students; applies research on change and sustains support for implementation of professional learning for long-term change NNRPDP coordinators implemented the planned professional learning with a focus on implementation. LS were supported with ongoing opportunities to gain new knowledge and skills and then to apply the knowledge and skills in a systematic and cyclic way. NNRPDP coordinators consistently provided opportunities for LS to give and receive feedback in a safe and supportive environment while promoting continuous growth and change in practice.

OUTCOMES: Professional learning that increases educator effectiveness and results for all students focuses on equitable access, opportunities and outcomes with an emphasis on achievement and opportunity disparities between student groups. NNRPDP coordinators encouraged similar coaching experiences within and across schools in order to ensure that teachers throughout the district received support. This in turn led to students consistently receiving high-quality instruction.

EQUITY: Professional learning that increases educator effectiveness and results for all students focuses on equitable access, opportunities and outcomes with an emphasis on achievement and opportunity disparities between student groups.NNRPDP coordinators facilitated discussions focused on ways to ensure that the literacy coaching support provided by LS would be available to all teachers within the district and that all students would benefit from effective instruction.

CULTURAL COMPETENCY: Professional learning that increases educator effectiveness and results for all students facilitates educator's self-examination of their awareness, knowledge,

skills, and actions that pertain to culture and how they can develop culturally-responsive strategies to enrich educational experiences for all students. NNRPDP coordinators facilitated discussions with the LS giving opportunities for self-examination and promoting a greater awareness of cultural norms and biases and the role they play in teaching and learning.

Appendix N Middle School Math Fellowship PLP

PROJECT TITLE: Middle School Math Fellowship V2.0
DISTRICT: Regional
SCHOOL:
COORDINATOR(S): Thomson, Byrnes, Reagan
ADMINISTRATOR(S):
AUDIENCE: Middle School Math Educators
LOCATION: Onsite Elko and Virtual

STUDENT LEARNING OUTCOMES AND EVIDENCE

Student Learning Outcomes Student Learning Evidence (Guskey)

Increase student capacity for mathematical modeling, productive discourse, and productive struggle. Student Learning Outcomes: Lesson Implementation Reflection, SBAC (math) aggregated by cohort of MS Math Fellows, measured against service area totals and/or comparison group annually, per grade.

TEACHER LEARNING OUTCOMES AND EVIDENCE

Teacher Learning Outcomes Teacher Learning Evidence (Guskey)

Increase awareness and understanding of NVACS-M, Major Works of the Grade, SBAC Claim 4
Participants' Reactions: Reflections, Lesson Planning Evaluation Rubric, student work analyses, State evaluations, Semi-Structured interviews

Participants' Learning: Reflections, pre and post assessments, Lesson Planning Assessment Rubric, Claim Identification Alignment assessments

Organization Support and Change: Permission to attend provided by administrators, participants' evaluations of supports received from the organization, post survey.

Participants use of knowledge and skills: Facilitator Grade Level Lesson Planning Assessment Rubric, Learning Episode Reflections, Semi-Structured Interviews, State Evaluations

Student learning outcomes: student work analyses, SBAC assessment results

Increase lesson creation and implementation of NVACS-M, Major Work of the Grade, SBAC Claim 4 Participants' Reactions: Reflections, Lesson Planning Assessment Rubric, student work analyses, State Evaluations, Semi-Structured interviews

Participants' Learning: Reflections, pre and post assessments, lesson planning rubric, Claim Identification Alignment assessments

Organization Support and Change: Permission to attend provided by administrators. Participants' evaluations of supports received from the organization, Post survey.

Participants use of knowledge and skills: Facilitator Grade Level Lesson Planning Assessment Rubric, Learning Episode Reflections, Semi-Structured Interviews, State Evaluations
Increased ability to elicit mathematical modeling, productive discourse and productive struggle into lesson creation and lesson implementation Participants' Reactions: Reflections, lesson planning evaluation rubric, student work analyses, State evaluations, Semi-Sstructured interviews

Participants' Learning: Reflections, pre and post assessments, Lesson Planning Assessment Rubric, Claim Identification Alignment assessments

Organization Support and Change: Permission to attend provided by administrators. Participants' evaluations of supports received from the organization, Post survey.

Participants use of knowledge and skills: Facilitator Grade Level Lesson Planning Assessment Rubric, Learning Episode Reflections, Semi-Structured Interviews, State Evaluations
Increased ability to utilize the Digital Library, Progression Documents, and standards viewer Participants' Reactions: Reflections, lesson planning evaluation rubric, student work analyses, State Evaluations, semi-structured interviews
Participants' Learning: Reflections, pre and post assessments, Lesson Planning Assessment Rubric, Claim Identification Alignment assessments

Organization Support and Change: Permission to attend provided by administrators. Participants' evaluations of supports received from the organization, Post survey.

Participants use of knowledge and skills: Facilitator Grade Level Lesson Planning Assessment Rubric, Learning Episode Reflections, Semi-Structured Interviews, State Evaluations
Increase awareness and understanding of NVACS-M, Major Works of the Grade, SBAC Claim 4 Participants' Reactions: Reflections, lesson planning evaluation rubric, student work analyses, State evaluations, semi-structured interviews

Participants' Learning: Reflections, pre and post assessments, lesson planning rubric, Claim Identification Alignment assessments

Organization Support and Change: Permission to attend provided by administrators. Participants' evaluations of supports received from the organization, Post survey.

Participants use of knowledge and skills: Facilitator Grade Level Lesson Planning Assessment Rubric, Learning Episode Reflections, Semi-Structured Interviews, State Evaluations

Student learning outcomes: student work analyses, SBAC assessment results

ROLES AND ACTIONS

Coordinator Administrator Participant

Plan and facilitate onsite and virtual sessions. Support implementation into practice.

Participate in onsite and virtual sessions. Implement learnings into practice.

PLAN/SCHEDULE

Date Plan

Fall - Winter 2019 Plan onsite and virtual sessions. Support implementation.

September 23, 2019 Onsite session

- Whole Group Session:
- Overview of SBAC Claims
- SBAC Claim 4 Model lesson
- Break Out Session:
- Introduction of intentional lesson planning structure with analyses of SBAC Claims via model lesson analysis
- Introduction of intentional planning structure and considerations of rigor, Major Work of the Grade, SBAC Claims, productive struggle, productive discourse
- Introduction to student work analysis protocol

October 7, 2019 Onsite Session

- Whole Group Session
  - Incorporation of modeling (SBAC Claim 4) via lesson modifications
- Break Out Session:
  - SBAC Claim 4 intentional planning

October 23, 2019 Virtual Session

- Lesson implementation debrief and student work analysis

November 4, 2019 Onsite Session

- Whole Group Session
  - Incorporation of modeling (SBAC Claim 4) via lesson modifications
- Break Out Session:

o SBAC Claim 4 intentional planning

November 19, 2019 Virtual Session

• Lesson implementation debrief and student work analysis

December 4, 2019 Onsite Session

• Whole Group Session

o Incorporation of modeling (SBAC Claim 4) via lesson modifications

• Break Out Session:

o SBAC Claim 4 intentional planning

January 2020 Final Reflection

Lesson implementation and student learning analysis

NNRPDP INTEGRATION OF STANDARDS FOR PROFESSIONAL LEARNING

Standards for Professional Learning guide our thinking when planning and preparing professional learning opportunities. The Professional Learning Plan (PLP) clarifies outcomes, roles, and responsibilities of stakeholders in the learning and also demonstrates the alignment of projects with the standards.

Standard Alignment

LEARNING COMMUNITIES: Professional learning that increases educator effectiveness and results for all students occurs within learning communities committed to continuous improvement, collective responsibility, and goal alignment Targeting middle school math teachers created a cohort to develop a learning community which was also extended from work prior year. The design of the Fellowship created opportunities to engage in collaborative practice.

LEADERSHIP: Professional learning that increases educator effectiveness and results for all students requires skillful leaders who develop capacity, advocate, and create support systems for professional learning The Middle School Math Fellowship will be led by experts in the field with the goals of increasing understandings and developing a mind trust of mathematical educations in the region. The agendas for sessions will be aligned to classroom, school, district, and state goals for student and educator learning. Structures are in place to support collaboration to set clear goals for student achievement based on educator and student learning data.

RESOURCES: Professional learning that increases educator effectiveness and results for all students requires prioritizing, monitoring, and coordinating resources for educator learning

The Middle School Math Fellowship will include resources for attending the Middle School Math Fellowship, such as travel and substitute costs. Resources will be coordinated to support effectiveness.

DATA: Professional learning that increases educator effectiveness and results for all students uses a variety of sources and types of student, educator, and system data to plan, assess, and

evaluate professional learning. The effectiveness and impact of the Middle School Math Fellowship on teachers' understandings will be assessed using qualitative data from observations and debriefings, surveys, lesson planning rubric assessments, State Evaluations, SBAC Claim alignment assessments, Pre/Post surveys, Semi-structured interviews aligned to Guskey
LEARNING DESIGNS: Professional learning that increases educator effectiveness and results for all students integrates theories, research, and models of human learning to achieve its intended outcomes Sessions will include active engagement, modeling, reflection, metacognition, application, feedback, and ongoing support to support acquisition of understanding and application of understanding to practice, such as leading participants through tasks that infuses SBAC Claims, rigor, modeling, and productive struggle. The structure of the Fellowship will be based off of adult learning theory and incorporate the elements of effective professional development. The design is based on Guskey's Five Levels of Professional Development and the Seven Elements of Effective Professional Development.
IMPLEMENTATION: Professional learning that increases educator effectiveness and results for all students; applies research on change and sustains support for implementation of professional learning for long-term changeFuture Middle School Math Fellowships will be offered as a means to continue to sustain support. Through the use of protocols and methods for creating a collaborative environment where participants feel safe to take risks will be incorporated into implementation of the Fellowship. Examination of data will be used to inform refining instruction practice.
OUTCOMES: Professional learning that increases educator effectiveness and results for all students focuses on equitable access, opportunities and outcomes with an emphasis on achievement and opportunity disparities between student groups. The goals of the Middle School Math Fellowship will be aligned to the Nevada Academic Content Standards for Mathematics as assessed by the Smarter Balanced Assessment Consortium. The methods and strategies provided will align to the standards and indicators outlined in the Nevada Educator Performance Framework
EQUITY: Professional learning that increases educator effectiveness and results for all students focuses on equitable access, opportunities and outcomes with an emphasis on achievement and opportunity disparities between student groups. The Middle School Math Fellowship will address equitable access and achievement for all students by addressing disparities between student groups through investigation of scaffold and extension strategies to make mathematics accessible, include the incorporation of research on neuroplasticity and its relationship to productive struggles.
CULTURAL COMPETENCY: Professional learning that increases educator effectiveness and results for all students facilitates educator's self-examination of their awareness, knowledge, skills, and actions that pertain to culture and how they can develop culturally-responsive strategies to enrich educational experiences for all students. The design of the Middle School Math Fellowship will promote fellows' awareness and skills to embed culturally-responsive strategies into their practice to align with the standard. In the design and customization of tasks

and resources, fellows will draw upon their cultural knowledge to provide students with learning opportunities that honor the cultural and identify backgrounds of students.

Appendix O LS Collaborative Inquiry Teams PLP

PROJECT TITLE: LS Collaborative Inquiry Teams 2019-2020
DISTRICT: Charter
SCHOOL: LS
COORDINATOR(S): Ketra Gardner and Annie Hicks
ADMINISTRATOR(S):
AUDIENCE: Elementary K-8
LOCATION: Elko

Teachers who have completed Collaborative Inquiry Teams will demonstrate the ability to choose and implement new teaching strategies targeted to areas of need identified by multiple assessments.

Outcomes Evidence
Teachers will: Gusky's Professional Development Evaluation
(Guskey)

1. Teachers will learn to interpret and compare data from multiple assessments (learner-centered problem) Level 1
Participants' Reactions
- NNRPDP Evaluation

2. Teachers will learn and implement new teaching strategies targeted to areas of need identified by data (problem of practice) Level 2
Participants' Learning
- Data. Google Form. Assessment Knowledge Survey pre/post and Stoplight Report
- New Strategies. Primarily qualitative
- Observation Protocol, Action Plan, Coaching Notes

Level 3
Organization Support & Change
- End of Cycle Survey

Level 4
Participants' Use of New Knowledge and Skills
- End of Cycle Survey,
- Coaching Notes,
- Action Plan,
- Observation Protocol

- Semi-Structured Interviews

Level 5

Student Learning Outcomes

- SBAC, aggregated by subject, by cohort of Collaborative Inquiry Teams, measured against service area totals, annually
- MAP

Actions

Coordinator(s) will:

1. NNRPDP will provide group training during early outs every Wednesday for 75 minutes per session from Sept. through June
2. Full group instruction can be supplemented by individual coaching at the teacher's request
3. Peer groups, facilitated by NNRPDP, will observe classroom instruction and provide feedback to teachers
4. Teachers will complete Action Plans tying data points to specific teaching strategies and expected outcomes
5. Peer groups will review reassessment data to measure outcomes of Action Plans

Administrators will:

- Provide time during the workday for professional learning (Wednesday early out).
- Meet with teachers individually (weekly) to provide support in the Collaborative Inquiry work as needed.

Plan/Schedule

- September
  - 4th-1.1, 1.2, 1.3, (ACE Habits of Mind, Ladder of Inference, Stoplight Protocol)
  - 11th -Coherence Protocol (identify entry point), Assessment Knowledge Questionnaire (Baseline data)
  - 18th-Organizing for Collaborative Work
  - 25th- Build Assessment Literacy, Create a Data Overview, analyze data and find the story, identify a school-wide priority question
  - 26th (½ Day)- Build Assessment Literacy, Dig into Student Data: Analyze Beginning of Year (BOY) data (SBAC, MAP, writing samples, running records), identify a school-wide learner-centered problem
- October
  - 2nd-Build Assessment Literacy, Examine Instruction
  - 9th- Identify a problem of practice
  - 16th-Develop an Action Plan
  - 23rd- Act, Assess, Adjust (implement the action plan, assess progress, adjust)
  - 30th -Act, Assess, Adjust

- November
  - 6th P/T Conferences (no meeting)
  - 8th (All Day) Act, Assess, Adjust
  - 13th Collaborative Inquiry Teams: Act, Assess, Adjust
  - 20th Act, Assess, Adjust
  - 27th Early Out Thanksgiving (no meeting)
- December
  - 4th Act, Assess, Adjust
  - 11th Act, Assess, Adjust
  - 18th Christmas Program (no meeting)
- January
  - 8th Act, Assess, Adjust
  - 15th Collaborative Inquiry Teams: Act, Assess, Adjust
  - 22nd Create Data Overview
  - 24th (All Day) Dig into Student Data (identify a learner-centered problem)
  - 29th Collaborative Inquiry Teams: Examine Instruction identify a problem of practice)
- February
  - 5th Create Action Plan
  - 12th Collaborative Inquiry Teams: Act, Assess, Adjust
  - 19th Act, Assess, Adjust
  - 26th Collaborative Inquiry Teams: Act, Assess, Adjust
- March
  - 4th Act, Assess, Adjust
  - 11th Collaborative Inquiry Teams: Act, Assess, Adjust
  - 13th (½ Day) Dig into Student Data (identify a learner-centered problem)
  - 25th Examine Instruction (identify a problem of practice)
- April
  - 1st P/T Conferences (no meeting)
  - 3rd (All Day) Create Data Overview, Dig into Student Data, Create Action Plan
  - 8th Spring Break (no meeting)
  - 15th Develop Action Plan
  - 22nd Collaborative Inquiry Teams: Act, Assess, Adjust
  - 29th Act, Assess, Adjust
- May
  - 6th Collaborative Inquiry Teams: (SBAC testing week) Act, Assess, Adjust
  - 13th Collaborative Inquiry Teams: (SBAC testing week) Act, Assess, Adjust
  - 20th Create Data Overview
  - 27th Collaborative Inquiry Teams: Dig into Student Data
- June
  - 3rd Create Action Plan

- 10th Collaborative Inquiry Teams: Create Action Plan (Last Day of School)

NNRPDP Integration of Standards for Professional Learning

Standards for Professional Learning guide our thinking when planning and preparing professional learning opportunities. The Professional Learning Plan (PLP) clarifies the outcomes, roles, and responsibilities of stakeholders in the learning and also demonstrates the alignment of projects with the standards.

Standard Alignment

LEARNING COMMUNITIES: Professional learning that increases educator effectiveness and results for all students occurs within learning communities committed to continuous improvement, collective responsibility, and goal alignment.A learning community will be formed with the staff (one per grade band level k-8) for one large group of roughly 12-15 and smaller groups of both grade bands and heterogeneous groups. Weekly professional learning will provide a forum for this community. The learning community participants will follow the Data Wise Improvement process through the implementation of Collaborative Inquiry Teams.

In this community, learners will explore data analysis, examine problems of practice, develop action plans, assess progress, adjust action plans including new instructional strategies, and reflect on personal practice and implementation.

LEADERSHIP: Professional learning that increases educator effectiveness and results for all students requires skillful leaders who develop capacity, advocate, and create support systems for professional learning. The PLP is designed to develop capacity in all participants and support systems for ongoing professional learning.

RESOURCES: Professional learning that increases educator effectiveness and results for all students requires prioritizing, monitoring, and coordinating resources for educator learning.
Human resources include two NNRPDP coordinators, as well as the teaching staff at EIAA willing to commit to weekly professional learning meetings, implementation of the Data Wise Improvement Process and Collaborative Inquiry Teams, and coaching.

DATA: Professional learning that increases educator effectiveness and results for all students uses a variety of sources and types of student, educator, and system data to plan, assess, and evaluate professional learning. Short term measures:

1. Teachers will demonstrate an increased level of understanding of data (including statistical terms and methods and various assessment benchmarks and proficiency levels) as measured by the Assessment Knowledge Questionnaire and End of Cycle Survey

2. Teachers will demonstrate the ability to choose and implement new teaching strategies based on the results of data as evidenced by Observation Protocol, Action Plan, Coaching Notes, and End of Cycle Survey

Midterm measures:

1. Teachers will demonstrate increased levels of confidence and understanding data as measured by Assessment Knowledge Questionnaire (and the Stoplight Report aggregate results)

Long term measures:

1. Increased student learning and growth as measured by aggregate assessment scores and those scores compared to comparison group

LEARNING DESIGNS: Professional learning that increases educator effectiveness and results for all students integrates theories, research, and models of human learning to achieve its intended outcomes. Guskey's Five Levels of Professional Development and the Standards for Professional Learning are the basis for this professional learning. The learning includes opportunities to identify personal and professional relevancy through reflection, inquiry, practical engagement, collaboration, interconnection, integration, and application of concepts.

IMPLEMENTATION: Professional learning that increases educator effectiveness and results for all students; applies research on change and sustains support for implementation of professional learning for long-term change. Participants are provided with tools to support their efforts in making essential instructional shifts required to successfully implement Collaborative Inquiry Teams through the use of the Data Wise Improvement Process. Continued support of outcomes will be made available to all stakeholders upon request.

OUTCOMES: Professional learning that increases educator effectiveness and results for all students aligns its outcomes with educator performance and student curriculum standards. NNRPDP coordinators encouraged similar Collaborative Inquiry Team experiences across grade levels and content areas in order to ensure that teachers throughout LS received support. This in turn led to students consistently receiving high-quality instruction

EQUITY: Professional learning that increases educator effectiveness and results for all students focuses on equitable access, opportunities, and outcomes with an emphasis on addressing achievement and opportunity disparities between student groups. NNRPDP coordinators

facilitated discussions and focused on ways to ensure that the Collaborative Inquiry Team support would be available to all teachers within the school and that all students would benefit from effective instruction.

CULTURAL COMPETENCY: Professional learning that increases educator effectiveness and results for all students facilitates educator's self-examination of their awareness, knowledge, skills, and actions that pertain to culture and how they can develop culturally-responsive strategies to enrich educational experiences for all students. NNRPDP coordinators facilitated discussions with the LS teachers giving opportunities for self-examination and promoting a greater awareness of cultural norms and biases and the role they play in teaching and learning.

Appendix P SBAC Course PLP

PROJECT TITLE: SBAC Course
DISTRICT: Regional
SCHOOL: Regional
COORDINATOR(S): Valerie Byrnes
ADMINISTRATOR(S): N/A
AUDIENCE: Regional educators K-8
LOCATION: Online only / Canvas LMS

STUDENT LEARNING OUTCOMES AND EVIDENCE

Student Learning Outcomes Student Learning Evidence (Guskey)

N/A
N/A
N/A

TEACHER LEARNING OUTCOMES AND EVIDENCE

Teacher Learning Outcomes Teacher Learning Evidence (Guskey)

Increase participants' knowledge of the ELA/Literacy and mathematical claims and targets as identified by SBAC Level 2. Did participants acquire the intended knowledge and skills? Assessed via pre/post survey, online discussion board posts, and assignments. Increase participant's ability to analyze sample items as they relate to the SBAC claims and targets

Level 2. Did participants acquire the intended knowledge and skills? Assessed via pre/post survey, online discussion board posts, and analysis of claims assignments. Increase participant's ability to analyze examples from their own instructional practice with the intention of improving classroom instruction. Level 2. Did participants acquire the intended knowledge and skills? Assessed via pre/post survey, online discussion board posts, and analysis of claims assignments.

ROLES AND ACTIONS

Coordinator	Administrator	Participant
Facilitate the online learning modules	NA	Complete and submit evidence of learning per each lesson within the module

PLAN/SCHEDULE

Module	**Objectives**
Module One	
Introduction	Build community
Pre-assess learner's knowledge of SBAC	
Module Two	
Mathematics	Understand the differences between the four mathematical claims
Analyze the practice test items, identifying the claim and target	
Provide classroom examples of each of the four mathematical claims	
Module Three	
Mathematics	Self-assess the practice test claim and target analysis
Develop an understanding of modeling mathematics	
Complete the performance task	
Module Four	
ELA/Literacy	Understand the differences between the four ELA/Literacy claims
Analyze the practice test items, identifying the claim and target	
Complete the performance tasks	
Module Five	
ELA/Literacy	Self-assess the practice test claim and target analysis
Explore ELA/Literacy resources	
Provide classroom examples of each of the four ELA/Literacy claims	
Module Six	Explore SBAC resources
Analyze a sample student SBAC report	
Post Survey	

NNRPDP INTEGRATION OF STANDARDS FOR PROFESSIONAL LEARNING

Standards for Professional Learning guide our thinking when planning and preparing professional learning opportunities. The Professional Learning Plan (PLP) clarifies outcomes, roles, and responsibilities of stakeholders in the learning and also demonstrates the alignment of projects with the standards.

Standard	Alignment
LEARNING COMMUNITIES: Professional learning that increases educator effectiveness and results for all students occurs within learning communities committed to continuous improvement,	

collective responsibility, and goal alignment Course participants participated in a collaborative learning community throughout the course by engaging in group discussion prompts during weekly assignments. Participants reflected on their learning and were transparent as they revealed their own misconceptions and shared future plans to change instructional practice to better align with the claims, targets and rigor level of SBAC.

LEADERSHIP: Professional learning that increases educator effectiveness and results for all students requires skillful leaders who develop capacity, advocate, and create support systems for professional learning Course participants developed their knowledge of SBAC through the module assignments, discussions, readings, and videos. This knowledge empowered them to share with other teachers at their school sites, whether that be in a grade level meeting or in a more formal capacity during school-wide professional development.

RESOURCES: Professional learning that increases educator effectiveness and results for all students requires prioritizing, monitoring, and coordinating resources for educator learning Course facilitator curated additional research, resources, and course materials in response to course participants' progress as well as participant requests.

Course participants shared feedback about which resources were most beneficial to their unique educational context, how they planned to use the resources, and what questions or concerns remained.

DATA: Professional learning that increases educator effectiveness and results for all students uses a variety of sources and types of student, educator, and system data to plan, assess, and evaluate professional learning. Course facilitator integrated opportunities in both ELA/Literacy and mathematics for self- assessment using SBAC Scoring Guides.

Course participants reflected on their own learning, including misconceptions, after self-assessing. They also compared their own instructional classroom examples to the Scoring Guides.

LEARNING DESIGNS: Professional learning that increases educator effectiveness and results for all students integrates theories, research, and models of human learning to achieve its intended outcomes Course facilitator integrated participants' current educational contexts with ELA/Literacy and mathematics learning tasks in order to make the learning relevant and action-oriented.

IMPLEMENTATION: Professional learning that increases educator effectiveness and results for all students; applies research on change and sustains support for implementation of professional learning for long-term changeCourse facilitator provided strategic, and ongoing, opportunities for participants to critically reflect on their new knowledge of ELA/Literacy and mathematics claims, targets, rigor level, assessment types, and available resources for planning and implementation.

OUTCOMES: Professional learning that increases educator effectiveness and results for all students focuses on equitable access, opportunities and outcomes with an emphasis on achievement and opportunity disparities between student groups. Course facilitator empowered all participants with learning opportunities and resources that enabled them to plan and implement equitable instruction for all students. Knowledge of the math and ELA/Literacy blueprints, as well as application of the claims and targets, can have a positive impact on all students

EQUITY: Professional learning that increases educator effectiveness and results for all students focuses on equitable access, opportunities and outcomes with an emphasis on achievement and opportunity disparities between student groups. Course facilitator posed critical reflective questions designed to support participants' effectiveness in planning and delivering high-quality lessons for all students, regardless of any disparities between student groups.

Emphasis was placed on how each and every participant could support other teachers' instruction in ELA/Literacy and mathematics which are the two discipline areas assessed by SBAC.

Course facilitator shared the bias attributes that guide the SBAC item writing.

CULTURAL COMPETENCY: Professional learning that increases educator effectiveness and results for all students facilitates educator's self-examination of their awareness, knowledge, skills, and actions that pertain to culture and how they can develop culturally-responsive strategies to enrich educational experiences for all students. Course facilitator implemented and facilitated course learning tasks that allowed participants to name and notice explicit and implicit bias of students in the SBAC assessment.

Course participants' task of self-assessing their own classroom examples of each claim supports participants' awareness of cultural competency.