NWRPDP

Northwestern Nevada Regional Professional Development Program

2021-2022 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 oversees 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).

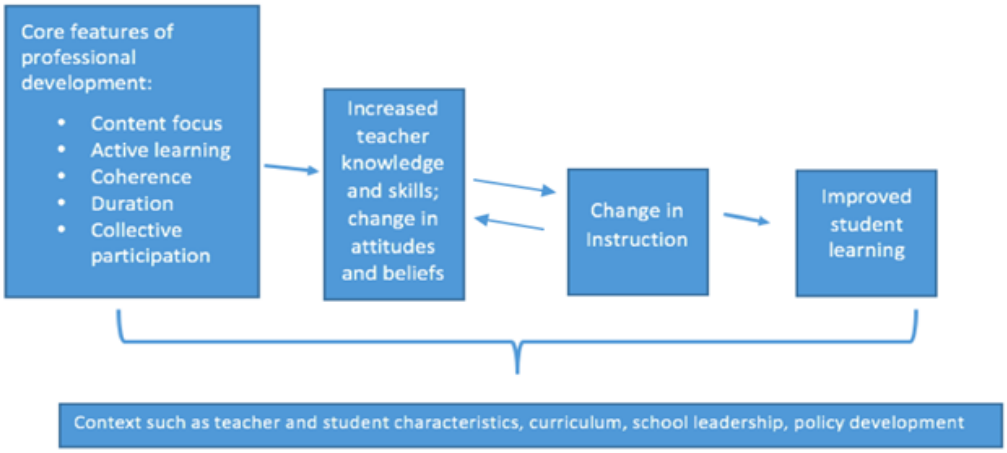

Figure 1: Conceptual Framework for Studying Effects for Professional Development on Teachers and Students

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)	**2021-22**
1. The training matched my needs.	4.58
2. The training provided opportunities for interactions and reflections.	4.79
3. The presenter's/facilitator's experience and expertise enhanced the quality of the training.	4.72
4. The presenter/facilitator efficiently managed time and pacing of activities.	4.70
5. The presenter/facilitator modeled effective teaching strategies.	4.67
6: This training added to my knowledge of standards and/or my subject matter content.	4.63
7. This training will improve my teaching skills.	4.63
8. I will use the knowledge and skills from this training in my classroom or professional duties.	4.69
9. This training will help me meet the needs of diverse student populations.	4.61

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	*Carson*	*Churchill*	*Douglas*	*Lyon*	*Storey*	*Washoe*
Total Trainings	**216**	**18**	**21**	**25**	**9**	**7**	**52**
Instructional	172	14	12	24	7	6	38
Observation and Mentoring	21	0	1	1	2	1	9
Consulting	22	4	7	0	0	0	5

Note: Aggregate total trainings equals the total of all 2021-2022 NWRPDP trainings. Because educators from different districts often attend the same trainings, totals by district may exceed the aggregate total.

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	*Carson*	*Churchill*	*Douglas*	*Lyon*	*Storey*	*Washoe*
Total Regional Teachers	**4,633**	**454**	**205**	**323**	**179**	**31**	**3,235**

	Aggregate	*Carson*	*Churchill*	*Douglas*	*Lyon*	*Storey*	*Washoe*
Unduplicated Teachers	2,158	228	201	229	175	9	1,243
Duplicated Teachers	4,030	399	377	486	317	18	2,305
Total Regional Administrators	**598**	**37**	**13**	**29**	**58**	**4**	**457**
Unduplicated Administrators	284	21	13	15	28	2	199
Duplicated Administrators	431	44	27	21	42	2	284

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	*Carson*	*Churchill*	*Douglas*	*Lyon*	*Storey*	*Washoe*
Unduplicated Administrators	284	21	13	15	28	2	199
Duplicated Administrators	431	44	27	21	42	2	284

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	*Carson*	*Churchill*	*Douglas*	*Lyon*	*Storey*	*Washoe*
Teachers, Admin, OLEP	51	0	11	21	0	0	19

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	*Carson*	*Churchill*	*Douglas*	*Lyon*	*Storey*	*Washoe*
Unduplicated Teachers	146	18	3	12	23	0	85
Duplicated Teachers	147	18	3	12	24	0	85

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	*Carson*	*Churchill*	*Douglas*	*Lyon*	*Storey*	*Washoe*
Para-professionals	44	0	39	1	3	0	1

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	*Carson*	*Churchill*	*Douglas*	*Lyon*	*Storey*	*Washoe*
Total Trainings	**216**	**18**	**21**	**25**	**9**	**7**	**52**
NVACS	162	14	3	18	6	7	45
NEPF	97	7	9	7	5	7	23
Culturally Relevant Pedagogy	109	10	5	10	4	1	31

Note: Aggregate total trainings equals the total of all 2020-21 NWRPDP trainings. Because educators from different districts often attend the same trainings, totals by district will exceed the aggregate total. The proportions of NVACS, NEPF, and Culturally Relevant Pedagogy will not add to 100% because there were other types of trainings included in the total.

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.*

NWRPDP

Northwestern Nevada Regional Professional Development Program

Five Year Plan

Establishment

The Northwestern Nevada Regional Professional Development Program (NWRPDP) 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 NWRPDP 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 and schools (e.g., coaching, credit classes, modeling, instructional rounds).

The NWRPDP Five-Year Plan is a living document and is routinely examined and revised according to changing needs and focus within the region as well as changes in personnel.

Service Area

The NWRPDP serves over 6,076 teachers and administrators in schools across six counties in Northwestern Nevada. The NWRPDP services Carson City, Churchill, Douglas, Lyon, Storey, and Washoe County School Districts. Among districts there is considerable disparity in the number of students, ranging from approximately 445 in Storey County to 62,000 in Washoe County.

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; Desimone, 2009) 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 Coordinating 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.

Northwest Regional Professional Development Five-Year Plan 2022-27

Northwestern Nevada's Regional Program Development Program services the following school districts: Carson City, Churchill, Douglas, Lyon, Storey, and Washoe.

Vision and Mission

Our Vision: Nevada's Northwest Regional Professional Development Program, in accordance with the Nevada Revised statutes, is committed to elevating teaching and learning by providing sustained professional development and building regional partnerships.

Our Mission: Nevada's Northwest Regional Professional Development Program (NWRPDP) collaborates with stakeholders to provide high-quality learning opportunities that are aligned with the Nevada Professional Learning Standards and the Nevada Academic Content Standards. NWRPDP offers diverse professional learning opportunities and support based on current empirical research on effective instruction for student learning. We are committed to increasing communication between regional members and families in order to develop capacity among all partnerships and to increase student achievement.

Professional Development Standards

The goals, strategies, and outcomes in this five-year plan are guided by the professional learning standards outlined by the Nevada Professional Learning Standards (based on the Learning Forward Standards for Professional Learning). When professional learning is standards-based, educator effectiveness has greater potential for change.

Goals

The mission and vision of the NWRPDP 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 four major goals to improve our performance and meet the needs of our region along with bulleted strategies identified to meet these goals:

Goal 1:

Accelerate and deepen professional learning for *teachers* that increases their content knowledge of the Nevada Academic Content Standards, maximizes their implementation of empirically research-based instructional strategies, and ensures their ability to understand and use a variety of classroom assessments to make instructional decisions and changes based on data.

- Provide ongoing leadership and support for understanding the Nevada Academic Content Standards.
- Create robust professional development and implementation plans with specific outcomes in collaboration with stakeholders.

- Provide professional development that improves teaching and learning through the Standards.
- Provide and communicate professional development choices for teachers.
- Develop and provide professional development training to teachers on how to use data effectively to change and/or enhance student instruction.
- Provide professional development in the uses of technology integration for the purposes of teaching, learning, and college and career readiness.
- Provide professional development that has an immediate and sustained impact on teacher effectiveness and student achievement.
- Provide professional development that will increase the knowledge and understanding of evaluation and supervision expectations.
- Provide professional development opportunities for the NWRPDP Facilitators in order to stay current in their areas of expertise and to meet the needs of the region.

Goal 2:

Accelerate and deepen professional learning for *school administrators* by increasing their instructional leadership skills, improving their ability to ensure teacher effectiveness, and maximizing their ability to make sure all classrooms are based on the Nevada Academic Content Standards.

- Partner with administrators in order to develop positive relationships and trust.
- Provide ongoing leadership and support for understanding the Nevada Academic Content Standards.
- Encourage administrators to participate actively with teachers in content specific professional development.
- Provide professional development that improves teaching and learning through the Standards.
- Provide professional development on instructional leadership that has an immediate and sustained impact on teacher effectiveness and student achievement.
- Develop and provide professional development that trains administrators on how to use data effectively to change and/or enhance student instruction.
- Provide professional development in the uses of technology integration for the purposes of teaching, learning, and college and career readiness.
- Provide professional development that will increase the knowledge and understanding of evaluation and supervision skills.
- Provide professional development opportunities for the NWRPDP Facilitators in order to stay current with meeting the needs of administrators in the region.

Goal 3:

Measure the impact of professional development work on teacher effectiveness and student learning.

- Strategically collect and use data to provide direction for and assess professional development effectiveness.
- Apply appropriate models of measurement required for evidence, which may include but are not limited to: the State RPDP evaluation, case studies, post-reflective surveys, and other formative assessments and surveys.

- Continue to update data management systems to analyze evaluation data for decision-making for future services (Access, Google, work with UNR, etc.).
- Design professional development goals for and with NWRPDP Facilitators that are based on assessment and meet the needs of the region.
- Communicate findings to stakeholders.

Goal 4:

Develop partnerships and enhance our public profile to support the expanded work of the NWRPDP.

- Solicit partnerships to enhance the resources and services of the NWRPDP with teacher and administrator support.
- Identify common services, actions, and practices of the six districts in Northwestern Nevada as well as with the remaining districts and RPDPs across the state.
- Continue collaboration with systems of higher education and the Nevada Department of Education.
- Where appropriate, develop partnerships to secure financial resources to support expanded work of the NWRPDP.

A Two-Year Focus (2022-24)

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.

Biennial Budget for the NWRPDP for 2021-23: $2,172,984.00

NWRPDP Sponsored Training Programs

The Northwest Regional Professional Development Program (NWRPDP) 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 NWRPDP 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 NWRPDP has developed and provided the training listed below for teachers and administrators during the 2021-23 biennium.

- Gifted and Talented Education (GATE) endorsement courses- NWRPDP has partners with leaders from Carson and Washoe County School District to develop the four required courses for educators to earn their endorsement to teach GATE. Three cohorts, with approximately 30 educators enrolled in each cohort, ran throughout the 2021-22 school year.
- Dare to Lead for school administrators and teacher leaders. NWRPDP facilitated multiple book studies for educators with the book, Dare to Lead, as well as with all Washoe County School District administrators.
- NVACS K-12 Computer Science Standards implementation and professional learning opportunities including Computer Science Endorsement courses, Python Programming with Raspberry Pi, Programming C with Robots, and Code.org courses.
- Technology Integration
    - Various self-paced professional learning opportunities were developed in CANVAS for educators in Churchill County
- NVACS Social Studies implementation and instructional resource support.
    - Various book clubs were facilitated with a focus on content and lesson development as a support in social studies classrooms.
    - ECON Summit
    - Vanguard group
- (NELIP) Early Literacy Cadre/Literacy Cohorts:
    - Year 1 and year 2 of the Early Literacy Cadre was held for PreK-third grade teachers. Classroom observation and feedback, peer observation, lesson study, and video self-analysis are included. Content to include: strategies for teaching and learning in reading and writing, guided reading, running records, choice of literature, speaking and listening, assessment.
    - Phonological Awareness training
    - Early Childhood Learning Series-
        - Kindergarten cohort Year 1 and Year 2
        - Make May about play workshops
- Math professional learning opportunities
    - Math support will include a variety of models
        - Math Routines for Reasoning site professional learnings- Three school sites participated in training targeted in the eight mathematical practices.
        - Site support for novice math teachers focuses on lesson design, standards, and assessment of student learning.
        - Building Thinking Classrooms

        - Cognitively Guided Instruction (CGI) workshops. Teachers will explore how CGI starts with what students know and builds on their intuitive problem-solving processes so that students grow in their understanding of rigorous math concepts.
- Retrieval Practice
    - Teachers participated in a16 hour course focuses on incorporating retrieval practice into content instruction.
- Science of Reading- Educators engage in a book study with the text ***Shifting the Balance*** and participated in new learning and discussions regarding new trends and research in reading instruction.
- STEM Program
    - Teachers across the region participated in an Introduction to STEM course.
    - AWIM kit training was provided for schools that requested. Each teacher participating received an instructional kit
- Teacher Leadership Cohort (TLC) – continuation
    - Teachers engage in a two-year program based on teacher leadership competencies. Teachers engage in workshops to learn the competencies and to develop action research plans. By developing and acting upon action research, teachers practice the competencies and self-assess their efficacy. A professional learning community model is practiced and teachers learn to give and receive highly effective feedback. Content includes but is not limited to: Reflective practice, personal effectiveness, interpersonal effectiveness, communication, continuing learning and education, group processes, adult learning, technological facility, coaching, resistance, research, and assessment, among others.
- National Board Certification (NBC) - continuation
    - Teachers meet throughout the year in a cohort model to learn the NBC process, work on submissions, receive feedback from facilitators and colleagues, as well as provide feedback and support to other candidates. Teachers are responsible for practicing the NBC expectations in their classrooms and bringing student samples to share and analyze. Classroom observation, peer observation, and video analysis are included.
- NVACS Science training for three content areas: Life, Earth, and Physical
    - Teachers receive training in science standards, cross-cutting concepts, science and engineering practices, and disciplinary core ideas.
    - Supports for all areas of science standards were provided on an ongoing basis. Integrated opportunities will be provided as follow up.

    - Nevada CONNECTS year 2

- Parent and Family Engagement
    - SUU three-credit course was offered three times during the 2020-21 school year. This course focuses on strategies for educators to engage families in their child's educational experience.
    - Family literacy club are designed to support teacher leaders in planning and implementing 2-4 literacy events at their individual school sites.
- Multicultural Education
    - Educators receive training on the foundations of multicultural education and culturally responsive teaching practices.

Professional Development Standards Recommendations

Nevada State Board of Education Adopted 7/19/18

Recommendation 1(a):

The Legislature should direct the State Board of Education (SBE) to adopt (either by regulation or policy) professional development standards to be used by all school districts and Regional Professional Development Programs (RPDPs).

Recommendation 1(b):

When adopting standards, the SBE should consider the nine standards below. These mirror the Seven Learning Forward Standards and include two additional standards, which have been adopted as is or with modifications by many other states. Two additional standards, Equity and Cultural Competency, are modeled after those adopted in California and Connecticut, respectively.

Standard #1 (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.

Standard #2 (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.

Standard #3 (Resources):

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

Standard #4 (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.

Standard #5 (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.

Standard #6 (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.

Standard #7 (Outcomes):

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

Standard #8 (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.

Standard #9 (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.

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 revised two gifts and grants in the 2021-2022 academic year: 1) TESLA (Computer Science) and). The Southern RPDP served as the fiscal agent for the TESLA award and the Northwest RPDP for the Developmentally Appropriate Practices for Kindergarten (DAP K) professional learning sub-grant award.

TESLA

Seventy-seven teachers received a stipend or a 0.5 in-service credit for participating to attend a one-day workshop with emphasis on code.org computer science curriculum. The workshop was offered on weekends by a certified code.org computer science trainer.

Developmentally Appropriate Practices for Kindergarten (DAP K) Professional Learning

One hundred and seventy-two teachers participated in professional learning offered through a series in-service and/or workshops offered throughout the Northwest region and state. In collaboration with the Nevada Department of Education, the NWRPDP staff designed two cohorts of professional learning targeted for kindergarten teachers with a focus in develop appropriate practices in schools. In May, 122 teachers participated in the "May is About Play" workshops. Each workshop offered focused on best practices in supporting a child academic and social-emotional goals through play in the classroom.

Regional Projects: NWRPDP Case Studies

Self-Evaluation Procedures

As outlined in NRS 391A.190, Director Sara Cunningham, directs the in-house evaluation, assisted by support staff who coordinate data collection and compilation. The Director and an outside consultant, Dr. Pamela Payne from UNR, 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 case studies. The case studies, based on the Killion (2002) staff development evaluation model, and aligned with prominent teacher professional development frameworks (Desimone, 2009; Guskey, 2002), provide in-depth analysis of specific professional development projects, while showcasing the diversity and scope of the support provided by the NWRPDP 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 NWRPDP professional development activities this past year. An inclusive logic model depicting NWRPDP activities is shown in Figure 2. This conceptual model presents the overall professional development resources (inputs) and training activities (outputs), and links them to the short, medium, and long-term outcome objectives of the NWRPDP.

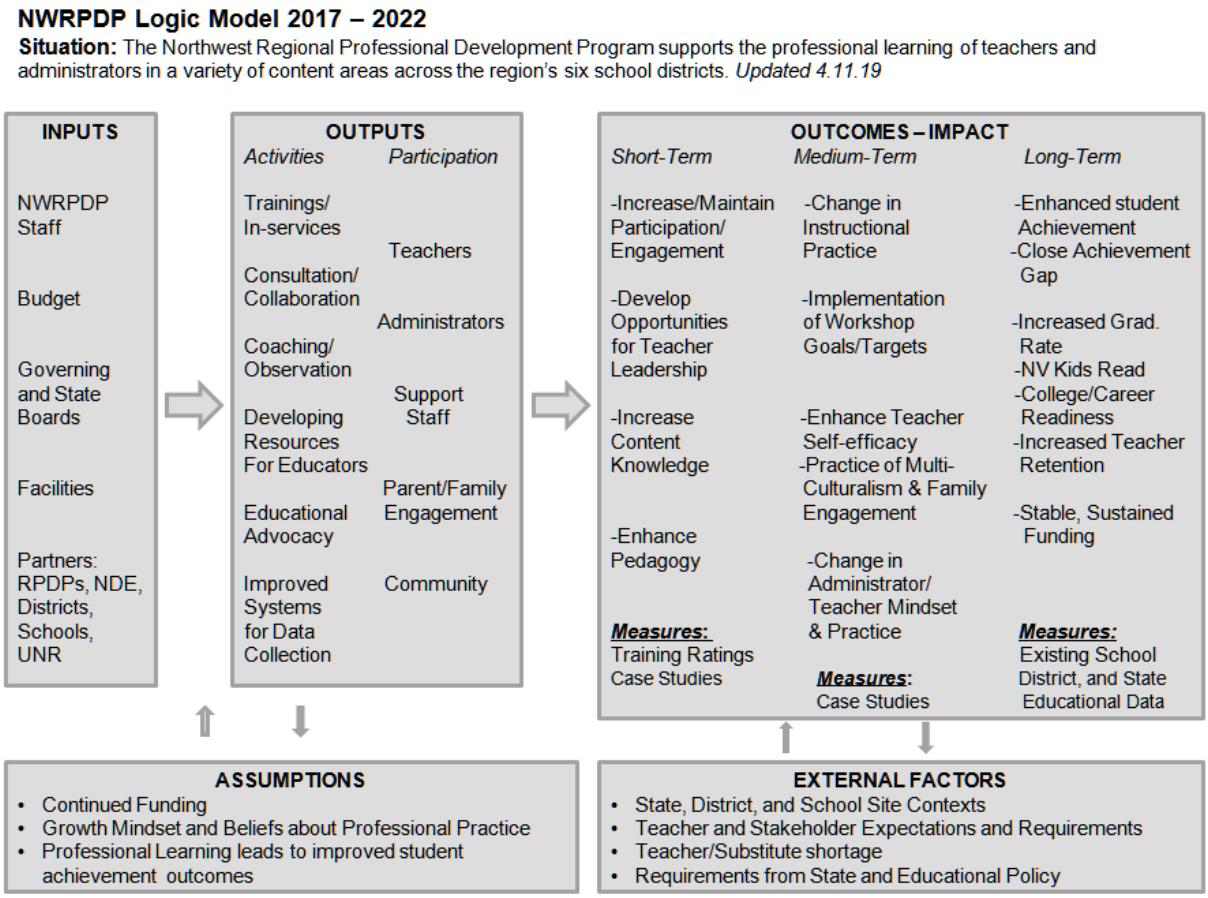

Figure 2: NWRPDP Logic Model

Key Findings from 2021-2022 NWRPDP Evaluation Activities:

Professional development services were conducted in all six districts that comprise the NWRPDP, reaching a total of 2,211 unique educators during 2021-22. Because professional development covers varied training topics and consulting services, and educators often attend multiple trainings, the total number of duplicated educators receiving services was 4,614. Elementary teachers (*unique* total served = 2,327) again were the largest educator group served this past year; followed by High school teachers (1,341); Others, which include substitutes, counselors, paraprofessionals and district personnel (277); Middle school teachers (948); and Administrators (268). Overall, 32% of the approximate 5,751 educators employed in the region (as reported by each district) participated in programs provided by the NWRPDP during 2021-22. Remarkably, the numbers of unduplicated participants are greater than 2020-21, despite lower numbers of duplicated participants in 2021-22 than last year suggesting a change in the impacts of of the ongoing COVID-19 pandemic.

Case study evaluation data reveal a variety of positive outcomes across the 11 NWRPDP 2021-22 case study projects. The diverse foci of case studies this past year included continuing to help teachers develop new Nevada centric resources to meet NVACS-S Science standards: improving educator retrieval practices to foster improved instruction; fostering teacher retention through participation in a National Board Cohort, improving resources in alignment with NVACS Social Studies through the inclusion of Indigenous Cultures of the Americas; and enhancing parent involvement and family engagement through the development of a 3-credit

graduate course for teachers. Evaluation results revealed that general education teachers who participated in Professional Learning Communities and Growth Mindset workshops showed significant increases in using those skills both in professional settings and with students directly. Participants in Building Thinking Classroom in Mathematics showed significant (<.001) increases in utilizing the course practices (e.g., forming collaborative groups, consolidating lessons). The Early Literacy Cadre showed significant (<.01) increases in creating learning environments and independent activities, planning read aloud, shared and guided reading as well as early writing teaching methods. Several educators completed Python Programming with Raspberry Pi course showing significant increases in knowledge related to Nevada Computer Science Standards (<.01), and coding/programming in C (<.001), among other positive outcomes. Educators increased their knowledge of and use of retrieval practices in their classes (<.001) following participation in a course on retrieval practices in professional learning. Following participation in the Social Studies Vanguard, participants showed significant increase (<.001) in understanding intergenerational trauma of indigenous cultures, Indian Boarding schools, Tribal governments, and current issues facing Indigenous cultures. Those participating in a graduate Parent Involvement and Family Engagement course showed significant (.001) increases in knowledge of NV Law NRS, dual capacity frameworks, ways to support and communicate with families.

The ongoing COVID-19 pandemic continued to disrupt all public educational activities throughout the 2020-21 school year—including NWRPDP professional development and trainings. NWRPDP facilitators, however, flexibly completed their ongoing case study and training activities. Specific pandemic related adjustments to professional development projects and evaluation activities can be found in the case study section of this report. Due to the ongoing pandemic, professional services this past year were predominately delivered virtually through web-based meeting platforms in the form of in-service classes and workshops.

The Case Study Model

Over several years, the NWRPDP has employed a case study model to document professional development training. The NW regional program engages in an ongoing internal evaluation for all training activities, which incorporates case studies from projects throughout the region to document the diversity and wide-ranging impact of professional development activities. Evaluation results are then used to inform practice and help document the long-term effects of the support provided to teachers in the region. Evaluative case studies facilitate exploration of complex phenomena within their contexts—in this case, professional development (PD) within schools and districts—often using a variety of data sources. This ensures that PD is not explored through one lens, but rather through a variety of perspectives, which allows training effectiveness to be revealed and understood more fully (Desimone, 2009; Guskey, 2002; Killion, 2002; Yin, 2003). NWRPDP staff actively design and implement each evaluative case study 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 case studies 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 NWRPDP staff over the past year. Each case study also is guided by a logic model framework--developed to link the case study training activities to the short, medium, and long-term outcomes expected from the professional development project.

Groups at Work (that Work): Effective Strategies for Learning Communities

Introduction/Abstract

One of the primary requests in supporting educators who coach other educators is how to deal with resistant teachers. Unpacking resistance, thinking about intentional design for leading groups, and being aware of your interpersonal effectiveness in communicating with others are some of the identified skills and strategies for supporting resistant teachers. In December 2021, NWRPDP was contacted by the Director of Equity in Curriculum and Instruction in one of the school districts in our region. The request was to support Teachers on Special Assignment (TOSAs) in the development of presentation skills for adult learners and coaching resistant educators. After an initial consultation, it was determined that the NWRPDP trainer would provide professional learning based on the research and the work of Laura Lipton and Bruce Wellman for leading professional learning communities. This case study outlines the learning sequence and outcomes of this work.

Instructional Context

Located in Nevada's capital city and surrounding area, Carson City School District is a rural school district made up of 451 teachers at 14 schools supporting 8,085 students (Public School Review, 2022). For this case study, 15 Teachers on Special Assignment (TOSAs) were brought together to explore design theory and coaching habits for leading teams of educators. The educators who support Carson City School District serve more than 8,000 students.

The Covid pandemic continued to have implications in the 2021-2022 school year. At times there were school closures and exclusions that impacted staff and students at various institutions. Trying to provide professional learning and strategic support continued to be impacted by Covid protocols.

The 15 TOSAs were called to fill in as substitute teachers during the Covid pandemic which impacted the delivery of professional learning services. The support to educators varied because some of the TOSAs were site-based while others were district-level support assigned to a particular content area. Table 9 shows the various assignments of the 15 participating TOSAs.

***Table 9**:Carson City School District Curriculum & Instruction TOSAS*

Number	Assignment	Supports
6	Elementary Site-Based Coaches	PreK-5 teachers at elementary schools
9	Content-Area/Specialty Coaches (English Language Arts, Math, Science & Sustainability, Social Studies, GATE, ELL, CTE, Technology Integration, Professional Learning	PreK-12 teachers across the district
15 Total TOSAs	10 Varying Assignments	451 District-wide teachers

The intent for the professional learning was to ground TOSAs learning theory in strategically supporting Carson City School District educators to decrease attrition rates.

Initial Data/Planning

The Director of Equity in Curriculum and Instruction contacted NWRPDP to provide professional learning on coaching educators and facilitating professional learning. Based on the initial needs assessment, it was determined the TOSAs would each be given a copy of *Groups at Work* and engage in professional learning based on Laura Lipton and Bruce Wellman's research. The challenge with this group of educators was the varying levels of knowledge, skills, and experience. The trainer designed the

professional learning based on Nevada's nine Standards for Professional Development by incorporating implementation and evaluation expectations with feedback surveys between each session (2018). The standards served as a guidepost for professional learning and a way to emphasize links to the Nevada Educator Performance Framework (NEPF) and how designing professional learning for adult learners mirrored best instructional practices for our teachers and students. In order to mitigate the challenge of differentiating the professional learning for the varying levels of experience, knowledge, and skills, the NWRPDP facilitator outlined learning intentions that acknowledged the diversity of the groups' understanding:

Delivery of Services

Five sessions were scheduled to unpack the practices and premises for leading groups based on Lipton and Wellman's research. Included in the professional learning was specific content from Elena Aguilar on dealing with resistant teachers and Jane Kise's research on differentiating support for educators. All five of the meetings were designed to be face-to-face meetings. The expectation was by the final session, participants would apply and implement their learning in a coaching or professional learning session with educators and report back to the TOSA group.

Participants educational experience varied from first-year coaches to coaches who had been supporting teachers for more than 11 years. In order to honor the diversity of the groups' experiences the trainer established learning outcomes as follows:

- Develop collaborative skills for ourselves and others.
- Understand and apply premises and practices for leading groups.
- Engage in professional learning content to affirm, develop, and/or enhance our skills in supporting the educators we serve.
- Identify practical strategies we can use tomorrow.

To measure these learning outcomes the trainer designed the professional learning to incorporate strategic collaboration in understanding the practices and premises for leading groups. The activities selected for relationship building, processing, or completing a task related to the professional learning were captured on a "Pedagogical Moves and Strategies" chart that was displayed during the training and revisited at the end of each session to discuss how teachers could use similar strategies in their classrooms with students. The participants also spent time aligning the activities with the NEPF Standards.

During the first professional learning session, the facilitator guided participants through a "container building" activity in order to establish psychological safety in the learning space and create working agreements for the remaining sessions. These working agreements were posted at each session and used to guide the session survey feedback. Table 10 outlines these agreements.

***Table 10**: Carson City TOSAs Working Agreements*

Carson City TOSAs Working Agreements
We agree to be present, engage fully, and exhibit a growth mindset for ourselves and others.
We agree to conduct regular check-ins to make sure our learning is meaningful and relevant.
We agree to balance quiet reflection and verbal processing time.
We agree to ask questions – "Clear is kind."
We agree to honor confidentiality in our learning space

The second scheduled session had to be canceled due to school exclusions from Covid and TOSAs needed to act as substitutes to fill in for excluded staff members and provide direct instructional support to their students.

Results and Reflection

In reviewing the data collected from the group between each session, the NWRPDP facilitator was able to determine what was working for the group and where to make adjustments to the learning design for the group. For example, one participant "appreciated the interactive element and modeling of various strategies" along with the importance of remembering how to "envision groups as they might be and believe in the group's potential" much like the high expectations teachers hold for their students. Another participant shared finding one activity challenging because partners finished reading at different times and started their discussions before all the participants were done reading which was a distraction. This feedback allowed the trainer to be intentional in allowing for quiet reading and reflection before engaging in a discussion about the content during the next learning session.

As the participants noticed the trainer's use of the feedback survey in the design moving forward, discussions around the strategic design of group work continued and set the stage for participants to start thinking about which of the *Groups at Work* strategies they might try with a group of educators and be prepared to share their results during our final learning session.

All participants at the final learning session shared a strategy they had implemented with a group of teachers during a Professional Learning Community (PLC) group or while facilitating professional learning with other educators. 100% of the participants agreed the *Groups at Work* professional learning sequence successfully made the case for intentional design for group meetings and interactions.

Conclusion

The overall design of this professional learning sequence provided participants with an "inside out" view of design theory and application of the practices and premises for leading groups. Participants were able to engage in professional learning and then reflect on the professional learning design to consider how to effectively engage educator groups in working together. All the participants in this professional learning asked to continue engaging in training with the NWRPDP trainer. The participants created a slide show presentation as a thank you for the facilitator to individually express their appreciation for the thoughtful design and relevant content. Plans are in place to continue coaching professional learning and support for the 15 Carson City School District TOSAs in the 2022-2023 school year.

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2021-22 Case Study: Groups at Work (that Work) Logic Model

Situation: What structures and strategies are necessary to support teacher group development and implementation of change? In this case study, district-level Teachers on Special Assignment (TOSAs) participated in professional learning to identify skills and design structures necessary to impact meaningful change. The participants were able to put their learning into practice and share their findings in the final learning session.

Inputs	Outputs		Outcomes -- Impact		
	Activities	*Participation*	*Short*	*Medium*	*Long*
Funding (copies of *Groups at Work*) NWRPDP Director NWRPDP Professional Learning Facilitator Carson City School District Director of Equity in Curriculum & Instruction Carson City School District Curriculum & Instruction Teachers on Special Assignment (TOSAs) Educator Groups Supported by TOSAs (PLCs, Professional Learning participants, educators receiving coaching support)	Five 2-hour training sessions over the course of three months. Professional learning content on the practices and premises for leading effective groups. Strategies for navigating educator resistance. Exploration of cognitive diversity and its impact on group development. Reflection on interpersonal effectiveness and collecting evidence of impact.	1 NWRPDP Professional Learning Facilitator 1 Director of Equity in Curriculum & Instruction 15 Curriculum & Instruction TOSAs	Educators report an increase in the ability to recognize the practices and premises for leading effective groups. Educators use vocabulary, strategies, and resources from *Groups at Work*. **Measures**: Session Feedback Surveys	Educators report an increase in intentional design for leading effective groups. Educators will begin to see and acknowledge the impact of using vocabulary, strategies, and resources from *Groups at Work* on their behavior. **Measures:** Session Feedback Surveys	Educators report plans to implement *Groups at Work* strategies and protocols in their own practices. Educators share the intentional design of strategies and structures with teachers for use with their students. **Measures:** Final Session Feedback and Sharing of Implementation including design, purpose, and outcome.

Assumptions: Educators are committed to engaging in professional learning

External Factors: COVID-19 Pandemic, Substitute shortage, educator fatigue

Figure 3: Case Study: Groups at Work (that Work) Logic Model

Re-engaging with Mathematical Mindsets Principles in Middle School Math Classrooms

Introduction/Abstract

It would be an understatement to say that COVID-19 has had a significant impact on schools and the world. For our students, this "normal" school year follows two very unique years. Even though all students are attending school in-person every day, this school year has been characterized by many long-term absences of five days or more by students impacted by COVID. The lockdown in the spring of 2020, which closed schools to in-person learning for one quarter of the school year, and hybrid instruction for middle school students during the 2020-21 school year, where students attended school every other day in-person, had great impacts on math learning for students. During the 2020-21 school year, students could not use math manipulatives freely and they could not sit in groups or work cooperatively without maintaining a social distance. These safety practices, coupled with inconsistent math learning, have caused teachers to rely on more traditional math teaching practices. The need for high quality math instructional practices is more critical now than ever before.

In 2018, Jo Boaler and her team at Stanford, released five mathematical mindset principles designed to promote a journey of mathematical growth and learning for teachers. The principles are organized into three strands: beginning, developing, and expanding, where teachers can identify themselves along the spectrum and work toward expanding their practices (www.youcubed.org). Middle school math teachers were trained on these principles prior to the COVID-19 lockdown and are re-engaging with them this year.

Instructional Context

Douglas County School District (DCSD) is a rural school district located in Northern Nevada. DCSD is comprised of fourteen schools, including seven elementary schools, two middle schools, four high schools and one online school. Approximately 5380 students were enrolled in DCSD during the 2021-22 school year. The student population is comprised of 66.68% white students, 23.47% Hispanic students, 3.16% American Indian students and 5.68% students who are more than one race. DCSD has an Average Daily Attendance rate of 94.6%. It has a cohort graduation rate of 88.91% as reported in the Nevada Report Card (2021). Chronic absenteeism for the 2020-2021 school year was 16.9%, which increased from 12.7% in 2018-19 (www.nevadareportcard.nv.gov).

Initial Data and Planning

Table1 shows a summary of the standards-based Criterion-Referenced Test (CRT) performance for grades six through eight leading up to the pandemic and for the 2020-21 school year, where middle school students attended school in-person every other day and participated in online work from home the remaining days. Students scoring ED (emerging development) and AS (approaching standard) do not meet proficiency. Students scoring MS (meets standard) and ES (exceeds standard) meet or exceed the standard.

Table 11: Standards-based Test Performance Grades 6-8

Grade Level	Mathematics 2016-17	Mathematics 2017-18	Mathematics 2018-19	Mathematics 2020-21
6	ED 27.4% AS 41.8% MS 21.2% ES 9.6%	ED 31.7% AS 38.0% MS 21.1% ES 9.3%	ED 29.3% AS 33.7% MS 25.1% ES 12%	ED 34.9% AS 35.2% MS 21.3% ES 8.6%
7	ED 28.9% AS 35.8% MS 22.6% ES 12.7%	ED 25.4% AS 34.7% MS 25.2% ES 14.7%	ED 26.3% AS 33.8% MS 25.6% ES 14.3%	ED 34.1% AS 31.0% MS 25.1% ES 9.5%
8	ED 28.7% AS 30.5% MS 21.1% ES 19.7%	ED 35.5% AS 33.1% MS 18.6% ES 12.5%	ED 31.7% AS 32.9% MS 19.2% ES 16.1%	ED 42.6% AS 29.0% MS 17.9% ES 10.5%

Delivery of Services

In the spring of 2021, Douglas County School District adopted a new material for middle school math instruction. During the 2021-22 school year, all middle school teachers attended three days of training on how to implement the new materials in their instruction. After spending several years prior to the pandemic focusing on how to develop mathematical mindsets in students and how to teach using mathematical mindset principles in their instruction, it was necessary to look at how the newly adopted materials supported the mathematical mindset instruction that has been the focus of previous professional learning. The new instructional materials are being used by fourteen middle school math teachers across DCSD. Three middle school math teachers chose to attend an optional in-service workshop to further explore their new instructional materials.

In addition to training on the new instructional materials, one walk-through was conducted. Teachers were observed for twenty minutes during math instruction and given immediate written feedback highlighting the mathematical mindset principles observed. Data was collected on the mathematical mindset principles on a scale from one to five. Middle school math teachers were also asked to complete a post-reflective survey thinking about the implementation of the mathematical mindset principles prior to COVID, during the pandemic and during the current school year.

Results and Reflection

Walk-through data showed several areas of growth with the new materials. It was encouraging that mindset messages and praising effort and the learning process showed increases over spring 2021 and were frequently observed. Students dealing with mistakes as part of the learning process was also frequently observed and showed the greatest gain over last year. Brain science shows that students learn when they make mistakes and understand the reasoning behind their mistakes, which is essential to math learning. Seeing students struggle to make sense of their mistakes shows a large shift in math instructional practices. The gain in students making connections between mathematical concepts was also notable.

While the mean for open tasks remained the same, the frequency of observing open tasks showed that there is a need for some improvement in that area. In fifteen observations, open math tasks were observed in three instances. The new instructional materials include open tasks for students; however, teachers often feel pressured to move quickly through content and have been feeling concerned about

gaps students have in their learning, and the open tasks are often skipped. This also probably explains the decrease in seeing lessons where depth of math understanding was the focus over speed. The data collected will help create areas of focus for professional learning next year.

Table 12: Walk-through Data

Question	Spring mean 2021	Mean 2021-22	Frequency of observation (n=15)
Practice 1: Growth Mindset Culture [mindset messages]	**3.00**	**3.73**	**11**
Practice 1: Growth Mindset Culture [praising effort and learning process]	**3.18**	**3.73**	**11**
Practice 1: Growth Mindset Culture [student's mindset]	**3.86**	**3.67**	**11**
Practice 2: Nature of Mathematics [open tasks]	**3.50**	**3.50**	**3**
Practice 2: Nature of Mathematics [reasoning and multiple perspectives]	**3.50**	**3.22**	**8**
Practice 2: Nature of Mathematics [depth over speed]	**3.50**	**3.00**	**9**
Practice 3: Challenges and Struggle [mistakes]	**2.50**	**4.33**	**10**
Practice 3: Challenges and Struggle [struggle and persistence]	**3.36**	**3.33**	**9**
Practice 3: Challenges and Struggle [questioning]	**3.73**	**3.73**	**12**
Practice 4: Connections and Collaborations [mathematical connections]	**3.50**	**4.00**	**11**
Practice 4: Connections and Collaborations [connecting in small groups]	**3.67**	**3.00**	**8**
Practice 4: Connections and Collaborations [connecting as a whole class]	**3.29**	**3.73**	**7**

Post-reflective data was collected asking teachers to think about the practices prior to COVID, last year during hybrid math instruction, and this year when they have their students back at school full time. Post-reflective data is summarized in Table 2. Post-reflective data showed that some of the practices have strengthened even during the pandemic. Teachers reported that giving praise for effort and the learning process and sharing growth mindset messages with their students are areas of strength. Making mathematical connections also shows an improvement despite challenging teaching circumstances in the last two school years. Interestingly, these areas were also seen as strengths in the walk-through data.

Teachers reported seeing a decrease in students' mindsets about themselves in mathematics and that open tasks are more challenging now than they were previously. Teachers also mentioned that students are having more difficulty making mistakes as part of learning and are not as persistent when it comes to challenging math tasks. One teacher wrote, "Students struggle to stay focused and be persistent; they struggle to listen to both the teacher and their classmates; and they struggle to care about school. I feel that this year I have had to start over and try to build up their confidence (so much anxiety about being wrong and taking tests) and their basic understanding of being both a student and a mathematician." Teachers also reported that they are seeing more difficulty with students connecting with one another in

small groups. This was observed in the walk-throughs as well. Teachers see students struggling more socially as a result of the pandemic.

Table 13: Post-reflective Data

Questions	Prior to COVID Mean	Hybrid Instruction Mean	Current school year Mean
Practice 1: Growth Mindset Culture [mindset messages]	**4.6**	**4.7**	**5**
Practice 1: Growth Mindset Culture [praising effort and learning process]	**4.2**	**5**	**5**
Practice 1: Growth Mindset Culture [students' mindsets]	**4.6**	**3.67**	**3.67**
Practice 2: Nature of Mathematics [open tasks]	**4.2**	**4.33**	**3.67**
Practice 2: Nature of Mathematics [reasoning and multiple perspectives]	**4.2**	**4**	**4.67**
Practice 2: Nature of Mathematics [depth over speed]	**3.8**	**4.33**	**4**
Practice 3: Challenges and Struggle [mistakes]	**4.2**	**3.67**	**3.67**
Practice 3: Challenges and Struggle [struggle and persistence]	**4.2**	**3.67**	**3.67**
Practice 3: Challenges and Struggle [questioning]	**4.2**	**4.33**	**4.33**
Practice 4: Connections and Collaborations [mathematical connections]	**3.8**	**3.67**	**4.33**
Practice 4: Connections and Collaborations [connecting in small groups]	**3.8**	**4**	**3.67**
Practice 4: Connections and Collaborations [connecting as a whole class]	**4.6**	**3.67**	**4.33**

Conclusion

The last three school years have presented some very unique challenges for educators, students, and schools in general. Middle school math scores have always shown a decline from elementary school, with last year's students who were meeting or exceeding standards on the CRT falling even lower than they were prior to the pandemic. Middle school math continues to need to be an area of focus. High quality instructional materials are one important element in supporting students and teachers. Teachers are recognizing that the new instructional materials are helping them develop the mathematical mindset principles in their classrooms. Next year, teachers in DCSD will continue to focus on helping students connect with one another and how they can use open tasks more in their instruction.

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2021-22 Case Study: Re-engaging with Mathematical Mindsets Principles in Middle School Math Classrooms Logic Model

Situation: Middle school math scores show a steady decline from sixth through eighth grade. Creating instructional change through the implementation of mathematical mindsets in math classrooms grades 6-8.

Inputs	Outputs		Outcomes -- Impact		
	Activities	Participation	Short	Medium	Long
RPDP trainer Math instructional materials trainer Teacher access to youcubed.org & 5 Mathematical Mindset Practices 6-8 Grade Math Teachers Students Administrative Expectations New math instructional materials Budget Training room facilities Support from Douglas County School District Resources: youcubed.org website	6-8 math teachers are training on the use of their new math materials during their professional development days (Three half day trainings). Lesson planning Modeling lessons in classrooms Classroom walkthroughs twice per year In-service classes for credit Mathematical Mindset 5 Practices post-reflective survey	6-8 teachers, specialists, administrators	Increased knowledge of the mathematical mindset materials and their organization Increased understanding of best practices in math instruction Increased understanding of the NVACS in math Increased rigor in math classrooms by using high quality instructional materials **Measures:** Training Ratings Case Study Post-reflective survey Qualitative Feedback	Increased self-efficacy in teaching using mathematical mindset practices Improvement in instructional practice in math • Increased use of open tasks • Increased collaboration student to student and whole class Increased growth mindset for students in math class **Measures:** Case study Walkthrough Observational data	Increased student achievement in math Increased graduation rate Increased passing rate in middle school math courses Increased student engagement in mathematics Increase in students at grade level in math Decrease in the number of students needing math remediation **Measures**: School, District, and State data

Assumptions: Attendance at training sessions, customization of training sessions, shifting instructional practices, developing mathematical mindset shifts, theory of change that teacher training coupled with high quality instructional materials will lead to teacher efficacy and improved pedagogy

External Factors: District math scores, budget constraints, district and site initiatives, lack of substitute teachers, ongoing pandemic

Figure 4: Case Study: Re-engaging with Mathematical Mindsets Principles in Middle School Math Classrooms Logical Model

Building Thinking Classrooms in Mathematics

Introduction/Abstract

"Thinking is a necessary precursor to learning, and if students are not thinking, they are not learning" (Lilijedahl, 2021, pg. 5). Historically mathematics has been seen as a subject of following step by step procedures and answer-getting which leads to a classroom of students mimicking mathematics. A problem with this approach is if we want our students to think, we need to give them tasks that require thinking. Often when selecting tasks or classroom activities, educators focus on finding tasks that target learning the steps involved in solving a problem as opposed to the thinking involved. The introduction of the Common Core Mathematical Standards addressed this misunderstanding of mathematics by including Eight Standards for Mathematical Practice. The Standards for Mathematical Practice set forth expectations for how students engage with mathematical content and do mathematics.

After fifteen plus years of research and visiting over 400 classrooms, Dr. Peter Liljedahl found that institutionalized norms have a large impact on how classrooms look and what happens in them today. These institutional norms have not changed since the inception of the industrial-age model of public education (Lilijedahl, 2021, pg. 11). Through his research, Dr. Liljedahl focused on disaggregating teaching into discrete factors, each acting as individual variables in the pursuit of building a thinking classroom. Fourteen factors emerged, providing educators tools to effectively implement the Standards for Mathematical Practice both easily and systematically.

Instructional Context

The Building Thinking Classroom in Mathematics, one and one half credit course, was offered to kindergarten-12th grade educators in the Northwest Nevada region. This region includes urban, suburban, and rural areas with a broad range of socioeconomic statuses and student ethic representations. Participants in this study were from Washoe County School District and represented seven elementary schools, two middle schools, and one high school. The elementary educators (kindergarten - 5th grade) that participated in this course are responsible for teaching all core subjects and devote on average 75-90 minutes of mathematics instruction into their daily schedule; the secondary educators (6th-12th grades) teach the subject of mathematics exclusively, two of which service special education mathematics instruction.

Table 14: Participants Who Received Training

Grade Level	Number of Teachers
Kindergarten	2
1st Grade	1
3rd Grade	5
5th Grade	4
Middle School (6th-8th Grades)	2
High School (9th-12th Grades)	2

Initial Data and Planning

Data for both Nevada and Washoe County School District indicate a lack of growth in Mathematics. The 2019 National Assessment of Educational Progress (NAEP) data shows only 34% of Nevada students were proficient while 26% of 8th grade students showed proficiency in mathematics. The NAEP data also indicates that students in both 4th and 8th grade did not show significant growth between the 2017 and 2019 testing years which shows a trend of slow growth predating the pandemic (*NAEP report card:*

Mathematics 2021). Data from Smarter Balanced Assessment Consortium (SBAC) also support NAEP's findings when looking at students who showed proficiency in mathematics. During testing years 2015-2019 mathematics proficiency rates for 3rd through 8th graders hovered between 32.7 % and 37.5%. In 2021, the average mathematics proficiency rate dropped to 26.3%. In addition, multiple studies have shown the learning impact of mathematics is greater than that of other subjects such as ELA which only dropped from 48.5% (2019) to 41.4% (2021) (*Nevada State - Nevada Accountability Portal, 2021*).

Further complicating this drop in proficiency were the initial safety protocols put in place when students returned to the classroom from an online learning platform such as three to six feet distance between students. This prevented many educators from using strategies they relied on pre-COVID. It was important to remind educators of the importance of student-centered activities, many of which they had used pre-pandemic.

Additionally, observations of educators show a lack of understanding/knowledge of how to teach through problem solving in which students learn mathematics through real contexts, problems, situations, and models that help them build meaning for the concepts rather than apply mathematics after it is learned (A., V. de W. J., & A., V. de W. J., 1998, pgs. 13-14) which is often seen through direct instruction and teaching students to follow and/or memorize steps. This lack of a problem-solving approach is detrimental when helping students to connect concepts and transfer knowledge across mathematical content. The pre-assessment data supports these observations and showed limited knowledge of the five of the 14 Practices of Enhanced Learning in a Thinking Classroom as identified by Dr. Liljedahl (Lilijedahl, 2021, pg. 14); the average score was 1.95 out of 5.

Delivery of Service

This course was set up as a hybrid course with a total of five meetings, two in person and three virtual. The class meetings took place over a one month period affording participants ample time to implement the Learning Practices in a systematic manner. In addition to the in person and virtual meetings, participants completed three and one half hours of asynchronous work. As an instructional tool, each participant received a copy of the book, *Building Thinking Classrooms in Mathematics: 14 Teaching Practices for Enhanced Learning* (Liljedahl, 2021). This book guided this course's instruction. While all 14 practices from the book were introduced, this course spent more time digging deeper into and focusing on implementation of the following five of the practices:

- Practice 1: Types of tasks we provide students
- Practice 2: Forming Collaborative Groups
- Practice 3: Where we work
- Practice 5: How we answer Questions
- Practice 10: Consolidating from the Bottom

The first and fourth meeting took place in-person on a Saturday. During the in person meetings, the focus was on both introducing new learning practices and implementation of those practices in a classroom setting. This was done by having participants engage in the practices as their students would, followed by a debrief with fellow educators as to how this might be put into practice in their classrooms. This format was well received by participants as demonstrated by many in the post-reflective survey, "You guys really brought thinking classrooms to life during our Saturday classes and we were able to experience learning like how our students would be able to." During our first in-person meeting, Practice 1: Types of tasks we provide students, Practice 2: Forming Collaborative Groups, Practice 3: Where we work, and Practice 10: Consolidating from the Bottom were introduced. Practices 1-3 were

introduced as they are easily implemented. Practice 10: Consolidating from the Bottom was also introduced as it required a large amount of practice in order to fully understand and apply in the classroom setting. The fourth meeting focused on exploring Practice 5: How we answer questions as well as putting all the practices together into a single lesson by taking participants through an entire Building Thinking Classrooms lesson and embedding pause points to collaborate about specific practices as they organically occurred.

The three Tuesday evening meetings took place virtually. The evening meetings were held virtually to accommodate participants from rural areas. These meetings were structured in a way that allowed participants to share their successes, struggles, and collaboratively discuss their work. Grade-level banded breakout rooms were used to provide participants the space to engage with colleagues who had similar-aged students. In addition, readings from *Building Thinking Classrooms in Mathematics: 14 Teaching Practices for Enhanced Learning* (Liljedahl, 2021) were discussed as well as micro moves that participants which easily embed into their instruction were explored for the Learning Practices that were not the center of focus for this course. These Learning Practices included defronting the classroom, building student autonomy, hints and extensions, and student notes.

For the asynchronous component of this course, participants read the supplied book and completed asynchronous work which included planning for implementation and reflection of the five Learning Practices of focus. Additionally, participants read and responded to Jo Boaler's article "Aligning Assessment with Brain Science" which supports and enhances Liljedahl's Learning Practices involving assessment.

The option of post-course support was offered to all participants. Nine participants took advantage of this support which included but was not limited to classroom set up and supplies, observing and coaching, and on-site collaboration during the implementation process.

A Building Thinking Classroom Microsoft Teams was created to offer a platform for collaboration and resource sharing among participants and facilitators. Files that were shared in the Building a Thinking Classroom Team included PowerPoints from the course, curricular and non-curricular tasks, graphic organizers, and podcasts. In addition, participants shared pictures of their classroom set-up and students engaging in the Learning Practices.

Results and Reflection

At the completion of the course, all participants were asked to complete a post-reflective survey on their knowledge of Peter Liljedahl's Practices that Enhance Learning that were focused on during this course. Participants rated themselves from 1 (not familiar at all) to 5 (extremely familiar). The results are shown in the table below.

Table 15: Post Reflective Survey Data

Practice	**Before attending** ***(mean before)***	**After attending** ***(mean after)***	**Difference**	**t-score**	**Significance** ***(p-value)***
Practice 1: Types of tasks we provide students	1.56	4.14	2.58	-9.15	<.001
Practice 2: Forming collaborative groups	2.25	4.6	2.35	-8.73	<.001
Practice 3: Where students work	1.94	4.53	2.59	-8.72	<.001
Practice 5: How we answer questions	2.13	3.47	1.34	-3.78	<.001
Practice 10: Consolidating a lesson	1.88	3.33	1.45	-4.39	<.001

The results reveal that significant growth occurred in all five practices as a result of this course. Practices 1-3 showed the largest increase which was to be expected as these practices did not require a fundamental change in mathematics instruction. Practices 5 and 10 required participants as well as their students to employ a systemic change in how they approached mathematics instruction and learning in the classroom. While these two practices did experience significant growth the familiarity and comfort with utilizing these practices in the classroom will inevitably take more time and practice.

Throughout the course participants had many opportunities to reflect on their learning in addition to offering feedback on this professional learning experience. This professional learning experience was delivered as a modified version of a book study where participants read parts of the book and then had the opportunity to receive training on implementing the Learning Practices, similar to a flipped classroom format. This format was well received which was evident by following comments:

- Peter's book is amazing! I love how you guys explained the chapters not only verbally but also by actions. Most classes that include a book are pretty basic... read, write a response, talk about, repeat. But this class shows the book in action. I love how you guys model everything because for teachers like me who are visual learners make a huge difference.
- I found this entire class helpful. I really enjoyed when the instructors put on their teacher hats and we put on our student hats. That was a fantastic way to deliver the information.
- You guys really brought thinking classrooms to life during our Saturday classes and we were able to experience learning like how our students would be able to.
- In chapter 2, Liljedahl tells how random grouping increases engagement, collaboration, and empathy within the classroom community (2021). I started to notice this after we had a conversation on collaboration and it would look like in the classroom. It had increased once the random grouping started happening. The groups that I initially thought would struggle, turned out to be the ones having math discussions and sharing the pen to get their ideas on the board. There is indeed a possibility where these groups could find success.

The hybrid approach and length of the course showed positive results in the course post survey as well. Participants appreciated the mix of in person and virtual meetings where each type of meeting had a well-defined purpose.

- I really loved both ways- it was powerful to use the whiteboards and the shorter online classes were a really nice balance!
- I like the hybrid we did. In person was great to get a feel of implementation and be able to experience a thinking classroom.
- I really liked the format. The first day in person really set us up for immediate success and implementation. Then those couple Tuesday classes were good as check-ins and a little more depth, while the second class was diving deeper to see how it looked in real life. It was nice to see a whole day from start to finish, so we could realistically plan for that span of time in our rooms too.
- Love this class, especially the sat/virtual format!

There are some considerations for future offerings of this course. The first being the potential of breaking the course into two separate sections one being geared towards elementary educators and the other towards secondary educators. Another modification to consider is to build in more time to discuss and explore selecting, sequencing and connecting students solutions in order to assist with understanding and implementation of Practice 10: Consolidating from the Bottom, and exploring assessing and advancing questions to complement Practice 5: Hints and Extensions.

The majority of participants in this course have a desire to continue their learning and implementation of Liljedahl's 14 Practices of Enhanced Learning. 71% of participants are interested in joining a Building Thinking Classrooms in Mathematics II if available.

Conclusion

As the shift in focus of mathematics instruction from simply following procedures and getting answers to a focus on the creativity and problem solving necessary to fully and conceptually understand mathematics, it is imperative that educators are provided with the training and resources to effectively and systematically make this change.

When participants utilized Liljedahl's 14 Practices, many positive outcomes emerged. First and foremost the Nevada Academic Content Standards for the Eight Mathematical Practices materialized organically which is the foundation for creating student-centered learning. Second, students developed a positive mathematical mindset and built confidence in their ability to solve complex problems, both individually and in collaboration with peers. Next, Teachers were given the resources in addition to a well-researched action plan to implement practices and lessons that help students go beyond rote memorization and repetitive calculations.

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2021-22 Case Study: Building Thinking Classrooms in Mathematics Logic Model

Situation: This case study will utilize Peter Liljedahl's book, *Building a Thinking Classroom in Mathematics,* in which he identified 14 optimal practices for getting students to think mathematically where the focus is on the process of problem-solving in mathematics versus answer getting. During this study, teachers will be introduced to and explore how to implement 5 of the 14 practices to increase student engagement and problem solving skills.

Inputs	Outputs		Outcomes -- Impact		
	Activities	*Participation*	*Short*	*Medium*	*Long*
RPDP Trainer Curriculum Coaches Teachers Students Curriculum Instructional Videos Book Standards	(5) 2-6 hour trainings utilizing *Building Thinking Classrooms in Mathematics* by Peter Liljedahl 14 hours collaborative planning times focused on implementation of 9 practices Observation and Feedback and/or Coaching Presentation of Work to colleagues	12 Elementary Teachers 2 MS Teachers 2 HS Teachers	Teachers will incorporate 3 of the 14 practices of a Thinking Classroom. 1. Rich Grade Level Tasks (Thinking Task) 2. Random Grouping of 3 3. Vertical Learning Spaces Students will engage in open-ended questions that require high levels of problem-solving and perseverance. Measures: Teacher Reflection and Teacher/Student Surveys	Teachers will incorporate 2 more of the 14 practices of a Thinking Classroom 4. Answer only "Keep Thinking" Questions 5. Consolidating the lesson from the bottom Students will ask more questions that allow them to continue to engage with the given task. **Measures**: Retrospective Survey for Teachers	Teachers who complete the course will continue to implement thinking classroom strategies and share these strategies with colleagues. Increased student achievement and connection making. Increased proficiency rates on SBAC and secondary math tests Increased Graduation Rates **Measures:** Increase proficiency level on SBAC Increase scores in Mathematics on ACT

Assumptions: Teacher training will lead to increased student-centered and learner-responsive classrooms. Teachers that participate will have the desire to be there. Participants are open and willing to have their students participate in group work. Drawn to hybrid nature of course. Teacher training will lead to increased efficacy

External Factors: Initiative fatigue (Covid 2.0). Teachers have had fewer opportunities for professional learning in mathematics in recent years due to **SB 391**, Nevada's Read by Grade 3 Act which has created a priority focus on literacy.

Figure 5: Case Study: Building Thinking Classrooms Logic Model

Early Literacy Cadre – Year One

Introduction/Abstract

"A synthesis of research compiled by John Hattie found that the greatest influence on student progression in learning is having highly expert, inspired and passionate teachers and school leaders working together to maximize the effect of their teaching on all students in their care (Hattie 2015, p 2; Hattie 2017). In fact, collective teacher efficacy has a stronger influence on achievement than ANY OTHER FACTOR at the school, teacher, or student level." (Fountas and Pinnell Blog 2020) The design of the multi-year Early Literacy course endeavored to help teachers develop their expertise in high-quality teaching practices and individualized responsive teaching of early learners. The underpinnings of the design utilized the continuous improvement model of professional learning by offering a multi-year opportunity for teachers to engage deeply in a variety of aspects of early literacy instruction. This case study highlights the learning of participants in Early Literacy Cadre Year One. The year one course is intended to be an overview of the high-quality teaching practices that comprise the elementary school literacy block. Twenty-two primary grade teachers across three districts in the Northwest Nevada region enrolled in the year one Early Literacy Cadre. In August, the trainer conducted a needs assessment to assess prior knowledge and determine a scope and sequence for the course that matched the needs of the participants. The main needs and learning goals of the participants identified included: teaching reading in small groups, writing instruction, and phonological awareness. All identified outcomes fit well into the course objectives, scope and sequence of the original design of the course.

Instructional Context

This year the trainer increased the credits earned for the Early Literacy Cadre Year I from a one credit course to a one and a half credit course. This decision was based on feedback gathered from a survey from last year's cohort that additional, asynchronous time is needed to complete the application assignments. Here are some examples of the feedback I collected that led to the changes. "Thank you for the gifts and teaching this class. It was great. My only concern is it seemed like a lot of work for a one credit class not sure if there is anything you can do about that in the future though." "This class was great it was just a lot of work for one credit." The class now meets synchronously each month for two hours after school and participants complete assignments outside of class and contract time for a total of 6 asynchronous hours. The Early Literacy Cadre is offered to educators in grades K-5 across the Northwest Nevada region. This region includes six counties and six school districts: Washoe, Carson, Lyon, Douglas, Storey and Churchill. These regions vary widely in size and in demographics (See Table 1). Two counties use the same English Language Arts (ELA) curriculum, all others use different ELA programs.

Table 16: County Demographics

County	Enrollment	Schools	Am In/AK Native	Asian	Hispanic	Black	White	Pacific Islander	Two or More Races
Carson	7500	13	2.25	1.6	45.31	0.71	45.16	0.28	4.69
Churchill	3200	7	5.5	1.63	24.25	1.72	59.22	0.81	6.88
Douglas	5385	17	3.16	1.34	23.47	0.41	65.68	0.26	5.68
Lyon	8817	20	3.48	1.05	27.02	0.84	61.31	0.67	5.63
Storey	448	4	0.45	0.89	10.49	1.12	82.81	0.22	4.02
Washoe	61709	117	1.26	4.2	41.78	2.55	42.59	1.4	6.22

Participants enrolled in this year's cohort have a range of experience from starting this year to twenty-nine years in the profession and teach a variety of grade levels (See Table 2).

Table 17: Participants by Grade Level

Grade Level	Number of Teachers	Average Years of Experience
Pre-K	**2**	**21.5**
Kindergarten	**6**	**11.1**
1st	**7**	**7**
2nd	**4**	**4.25**
3rd	**1**	**8**
Specialist (EL, Sped, LF)	**2**	**21**

Initial Data and Planning

Teaching students in the early grades requires different techniques, assessments, and supports than teaching upper grade students. Last year, there were a surprising number of participants that had over 10 years of experience but had signed up for a year one class. Initial surveys revealed that many teachers were switching from a higher grade level to a lower level and wanted a "refresher" course on the demands of early literacy learners. Others were in districts that had recently adopted a new English Language Arts curriculum and they wanted to meet and discuss with other teachers how to best utilize the materials with their students. This year there were still many participants with over 10 years of experience, but the overall average experience was lower. The average years of experience in last year's 2020-21 cohort was 13 years whereas the average experience in this year's 2021-22 cohort was 10 years. The variety of interests and goals challenged the trainer to design the class with both opportunities for instruction as well as time for discussion in grade level, like-district, or vertical groups. Another issue that came up from last year's cohort was that the course covered a lot of content, but the trainer felt that participants needed more time to process and discuss the content. There was also a need for differentiation due to such variety in teaching experience, curriculum, and familiarity with technology. This analysis led to the creation of a new component of the class added this year, a "choice board." The choice board allowed participants to process information given in class and decide as individuals what particular aspect of the content they wanted to explore further. The choice board provided articles, videos or simply time for discussion with other participants. The funding provided by the Northwest Regional Professional Development Program allowed for each teacher to receive a book to study throughout the class, *Literacy Essentials* by Regie Routman. Participants also received $50 each to spend on supplies that directly support one or more of the teaching practices taught in the class or assessment of early literacy. The book and course were divided into three main sections: Engagement: Building relationships and classroom environment, Excellence: High quality assessment and teaching practices, and Equity: Intentionally creating opportunities for all students to succeed. Undergirding the three main sections are the six fundamental reading skills as defined in NRS391.A – 1) Phonemic Awareness 2) Phonics 3) Vocabulary 4) Fluency 5) Comprehension and 6) Motivation. Participants chose three "focus" students that they would consistently observe to collect data whenever they were trying any of the teaching strategies covered in the course. There was also an option to meet one on one with the trainer to address any additional questions, plan, assess, or co-teach utilizing the strategies taught in any of the sessions. The overview of high-quality teaching practices was grounded in the Gradual Release of Instruction model, in which teachers intentionally and strategically plan whole group, small group and independent learning activities as well as differentiated support for students. The eventual goal of the Early Literacy Cadre is for students to become self-directed learners and fluent readers with deep comprehension.

Delivery of Services

The course began in September 2021. The main objective for the first learning session was to build relationships among the participants, modeling the classroom community relationship building that is crucial to a successful elementary school classroom. The trainer presented some easy to implement phonics activities using student names as an equitable and motivating starting place for phonics development. The participants and the trainer worked together to learn to navigate the technology of Zoom meetings and Hyperdocs that were used when the course shifted from in-person to virtual.

The October session focused on creating the classroom environment. The session began with the physical setup of the classroom to allow for multiple modes of learning such as whole group, small group, and independent work. It also addressed the importance of setting up routines so that students, especially in kindergarten – sometimes the first experience with formal school, are supported until they are gradually able to participate in the routines with increasing independence. This class also provided ideas for high quality independent work activities so that students use their time wisely even when they are not working directly with the teacher. Student independence and agency are pivotal to the function of the rest of the literacy block, so the trainer intentionally placed this session at the start of the course.

In November, the session covered a whole group teaching practice, Interactive Read Aloud. During read aloud time, the teacher takes responsibility for the decoding and fluency demands of the text so that students can fully devote their energy to comprehension and discussion. This practice allows for all students in a classroom to participate in higher order thinking skills and discussion regardless of his or her individual reading ability. Read aloud time provides access to grade level text to all students. In this session participants looked closely at the 10 characteristics of text that educators need to consider when planning a read aloud. They also discussed the importance of volume of text, variety of genre, and diverse representation in the literature that is chosen to be read aloud. Two video examples of 1st grade read alouds were watched, analyzed, and discussed.

The Cadre paused for winter break and resumed in January with a session on the instructional practice of Shared Reading. In this practice the teacher and students share responsibility for reading the text, allowing for discussions that focus on comprehension and analysis of writer's craft as well as a focus on aspects of the actual print in the text. This year the trainer included a shared reading lesson plan and reflection assignment as part of the asynchronous work. The lesson plans, pictures, and reflections were collected in an Early Literacy Cadre Google Classroom.
Sessions 5 and 6 which were held in February and March last year were combined into one four-hour in-person session held on February 12th, 2022. Cadre participants studied the instructional practice of Small Group Reading, a responsive technique that individualizes reading support for four to six students at a time. Participants studied early literacy development, how to scaffold instruction while promoting independence, and how to assess the growth of each student's individual reading ability. Participants looked closely at both leveled and decodable texts and the demands that each type put on the learner. The trainer presented a variety of assessments to assist in planning for next steps as well as to identify student strengths.

The April and May sessions from last year were combined into a four-hour in-person session held on April 23rd, 2022 which focused on early writing. Participants examined the developmental continuum as well as the development of teaching pedagogy around writing over time. The trainer presented a variety of teaching techniques that can be used depending on student need and the educator's purpose. The educators evaluated writing samples to look for student strengths and to consider needs that will help them plan future writing minilessons. Additionally, participants were given time at the end of the session to more deeply explore one of the aspects of the practices presented in the session that was of interest to them.

The May session content returned to the importance of phonics and phonemic awareness. The trainer introduced a practice called orthographic mapping that has been identified in research as a more effective way to teach high frequency words. Participants were broken into groups to talk about reflections from their final projects, which was another asynchronous assignment added this year. The assignment asked participants to plan, deliver, and reflect upon a lesson utilizing one of the instructional practices we had discussed in the Early Literacy Cadre.

The choice board component was added to the October, November, and January sessions. The choice boards allowed time for participants to reflect upon the learning, dive deeper into aspects that were the most useful to them and collaborate with other teachers that shared similar interests. It also provided time for participants to ask individual questions of the trainers and have time to talk through how they might apply the learning from the session to their classroom.

Results and Reflection

At the final session in May, participants completed a retrospective survey using a Likert scale rating of 1 to 5 on several indicators of their knowledge of early literacy instructional practices with 1 being "not at all," 3 being "somewhat," and 5 "very." Group scores for each indicator were averaged for pre- and post-implementation with the gain shown in the fourth column. Results shown below in Table 3 indicate gains in the group's overall understanding of the literacy instructional practices presented in the course.

Table 18: Retrospective Survey Results

Statement	How knowledgeable were you about this instructional practice *before* participating in Cadre? *(mean before)*	How knowledgeable would you say you are on each of the following *now*? *(mean after)*	*t*-score	*p* value
Creating a learning environment and independent work time activities	**3.0**	**4.68**	**-8.293**	**< .01**
Planning and implementing Interactive Read Aloud	**3.16**	**4.63**	**-6.296**	**< .01**
Planning and implementing Shared Reading	**2.89**	**4.47**	**-6.429**	**< .01**
Planning and implementing Guided Reading	**3.00**	**4.42**	**-5.295**	**< .01**
Early writing teaching methods	**2.63**	**4.26**	**-6.106**	**< .01**

n = 19

The data indicates that participants increased their knowledge in all areas. As stated earlier, the participants in this year's Early Literacy Cadre had less teaching experience overall when compared to the group from last year. This difference in experience may have contributed to the significantly higher t-scores in this year's data when compared to last year's.

The participants were asked to reflect in writing on their overall experience with the course. Bulleted below are some of the comments gathered in response to the following question: What resource(s) or information did you find the most helpful from this course?

- All the videos and models that were shown to help us see and understand what it looks like
- meeting with peers and hearing their strategies
- I loved all of the information we were given throughout the course!
- Honestly, so many take-aways. I appreciated the pre-made resources and the information shared that I was not aware of. Guided Reading tips, resources, videos, etc. Writing tips have been phenomenal.
- Discussions
- Videos, handouts, discussions
- The Literacy Essentials Book was wonderful.
- Honestly all of it. After our classes I go back and use whatever we discussed in my teaching. I switch up my teaching methods and adjust[sic] with the kids. It has made my Benchmark program so much more engaging!! Thank you for sharing all your insight and ideas about literacy and very young learners.
- The breakout sessions where we explored different sites and activities. Then sharing the links so we could go back in after class and research more on our own. I also appreciated the structure of the class. Two hours flew by every class.

Teachers were asked to reflect on learning throughout the course in the asynchronous work by sharing observations about their three focus students. Below is some evidence of reflection and observation of the focus students that teachers chose to observe closely throughout the course.

- Student A didn't participate in the table discussion. Student B participated, but did not add details, just agreed. Student C was able to facilitate the conversation.
- Low – interested in the pictures and animal talk off and on. Not able to order animals. Didn't participate in questions.
  Medium – engaged with putting animals in order.
  High – engaged with animal order. Could give details of story. Worried about wanting to color my animal printouts.
- Most kids engaged in retell. Loved putting the pictures in order.
- My students enjoyed the story, were very engaged and wanted to predict who was coming next in the story.
- Students attended to details in order to anticipate what would happen next
- This student is in the partial alphabetic stage
- The student knew the sight words the, go, am, and plays

These reflections show that teachers were implementing the practices presented in the course and were closely observing students to determine what worked well, what the student needs were, and what would be a good next step for student learning.

Conclusion

Early literacy is a complex and challenging topic. Educators often begin their careers without the proper training or materials to successfully guide all students through the developmental continuum to become fluent, independent readers. Although teachers are fluent, independent readers themselves, they often forget the many pieces that contributed to their development of literacy. Experienced teachers that leave the early grades often find they have forgotten some of the developmental components upon their return. The Early Literacy Cadre provides support for both new and experienced teachers to refine their practice

and hone their observation abilities in order to skillfully determine the needs of the students in their classes and guide students toward proficiency, providing and removing supports along the way. As Ainsworth (2015) wrote, "Learning progressions represent the prerequisite knowledge and skills that students must acquire incrementally before they are able to understand and apply more complex or advanced concepts and skills." This work is no easy task. The Cadre provides a place to learn, review, and discuss how to be a responsive teacher in a safe environment with other teachers of the early grades. So often these teachers must "adapt" professional development from school wide initiatives to meet the needs of early learners. However, in the Cadre, the focus is squarely on early literacy development. The Cadre provides opportunities to discuss the curriculum and skills needed to teach these young learners without having to "reinvent the wheel." As such, the Early Literacy Cadre serves as a positive environment to take risks and endeavor to improve the literacy outcomes of our youngest learners. Following best practices for continuous improvement, the trainer endeavored to offer a multi-year opportunity by offering Cadre Year Two. This course digs deeper into assessment, responsive teaching and high-quality lesson design. Participants observe lessons and talk about what worked well, what could have been better and articulate the learning that occurred with specific evidence. The educator and the trainer plan and co-teach a lesson to students together. During class sessions they discuss the observations and reflections from these co-teaching sessions and set goals for further improvement. Year Two takes the overview of the instructional practices and applies it to practical, everyday teaching. This encourages educators to learn more about all aspects of the instructional practice and refine their teaching over time. The eventual goal is to improve student outcomes by supporting teachers in the difficult but rewarding work of teaching young children.

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2021-22 Case Study: Early Literacy Cadre Year 1 Logic Model

Situation: Regional Early Literacy Cadre Course. Course will explore Nevada Academic Standards for Literacy in Grades PreK- 2. Participants will learn and implement best practices in literacy instruction based on the Nevada Early Literacy Intervention Program (NELIP) methods as outlined in NRS391A.120. The course will be divided into three main sections: Engagement – Building relationships and classroom environment, Excellence: High quality assessment and teaching practices, and Equity: Intentionally creating opportunities for all students to succeed. Participants will learn methods to teach fundamental reading skills including 1) Phonemic Awareness 2) Phonics 3) Vocabulary 4) Fluency 5) Comprehension and 6) Motivation.

Inputs	Outputs		Outcomes -- Impact		
	Activities	*Participation*	*Short*	*Medium*	*Long*
NWRPDP Facilitator 18 hours of synchronous instructional time via Zoom and 6 asynchronous hours for reading, planning and reflection. 1.5 inservice credit *Literacy Essentials* by Regie Routman and other readings Budget Instructional Videos Choice boards for collaborative application time	Teachers discuss and reflect upon assigned text Teachers observe and implement high quality literacy instructional strategies Teachers brainstorm and have dialogue about implementation Teachers connect learning to NVAC standards Teachers use assessment to monitor student progress on 3 focus students	K-4 Classroom Teachers K-5 Special Education Teachers K-5 EL Teachers Literacy Specialists	**Learning** Increased pedagogical knowledge emphasizing the importance of high quality texts and instruction Increased Teacher Collaboration Focus on formative assessment practices Inservice credit that allows for salary advancement **Measures:** Post-reflective measure Observation and discussion	**Action** Increased use of high quality literacy instructional practices and texts Increased teacher confidence and efficacy Increased focus on incremental student progress using formal and informal assessment measures **Measures**: Coaching Post-reflective measures Formative Assessment	**Result** increased Student engagement and achievement Increased Graduation rates Improvement of data pertaining to NV Kids Read Frequent participation in professional learning opportunities **Measures:** MAP Tests Proficiency Exams

Assumptions: Training will increase student achievement and be evident to the administration during the evaluation process. Continued Funding Participants will be engaged and reflective

External Factors: Time in school day. Range of student needs and abilities. Administrator Expectations. State, District, and Social Site Contexts. COVID-19 Pandemic

Figure 6: Case Study: Early Literacy Year 1 Logic Model

Coordinating Professional Learning Efforts for Teacher Access and Scalability

Introduction/Abstract

The structures and habits which have dominated public schools have changed very little for decades. Within these are traditional methods of presenting and receiving professional learning for educational staff. Focusing exclusively on synchronous events in a large staff environment have been the norm for many years and often have been a source of frustration with staff who struggle to see their relevance and are frustrated with the inflexible scheduling this format offers. District leaders as well face challenges with providing learning to staff who may be unavailable at the time of presentation or who enter the workforce later, missing the learning sessions of the past. With schedules stretched and restrictions for gathering physically, we see the value in reassessing our professional learning efforts to provide a more flexible accessible format.

Advances in our modern society have made tools and methods for communication and learning more accessible to all in asynchronous and varied ways. An urgent need to pair these new methods with traditional methods is now not an idea to consider, but an essential change which offers new links and opportunities to all educators and administrators. This case study describes the efforts of a rural school district taking new roads towards increased access to professional learning through the experimentation of using technology to organize, preserve, and document the professional learning experiences of its staff.

Instructional Context

This study was completed in the Churchill County School District in Fallon, Nevada. Churchill County School District employs about 255 teachers and administrators along with an additional 60 instructional support staff.

Participants from this case study were administration, professional learning facilitators, and school staff from Churchill County, Nevada. In coordination with the Northwest Regional Professional Development Program, a plan was developed to help the district develop a system to coordinate and preserve the professional learning opportunities for its staff in a way that allowed for a more flexible learning and teaching experience for those involved in the learning and facilitation. It was found that often staff wanted to learn, but were not always available for the training, or missed training that were featured in years before their employment. This lack of opportunity contributed to the ineffectiveness of professional learning teams and efforts. With this need in mind, a plan was developed in the summer of 2021 and began to be offered in the fall of 2021 to address the needs of professional learning with the goal in mind of supporting student learning.

In the commencement of this study most of the staff had no previous experience with CANVAS and the trainer provided opportunities to grow personally and professionally at the same time as they learned through experience as a participant in the CANVAS platform.

Initial Data and Planning

Initial planning for this effort came in coordination with the work of the Churchill County School district strategic plan. The district focuses on the efforts of ‘Everyone Always Learning’ and of course this includes the continuous opportunities for staff to grow professionally to meet changing demands of society and needs of students. There have been great efforts made to find and address the needs and the

wants of the community in regards to helping students become life ready through continuous staff growth and learning in.

With consideration of changing professional needs and environments along with other information the development of improvement in these efforts was identified and a strategy created for improvement. Previous observations had revealed that there was a pattern of professional learning offerings which in many ways remained unchanged and which offered a deficit in flexibility for staff. In addition, it was observed that improvement could be made with the conservation of training for future staff, or those whose schedules prohibited their attendance. Planning was conducted to create a recurring opportunity that would give all the benefit of gradual development and knowledge about skills and activities occurring in society and education in general. A collection of learning modules was the format chosen to meet staff needs and was developed within the CANVAS learning management system for tracking and organizational purposes. All modules were designed utilizing a template which was created to help staff navigate and complete learning with minimal challenges. This also was a way to organize the modules so that they could be preserved. An introduction at the beginning of each template clearly stated the learning objectives followed by resources, examples, and an opportunity to submit an artifact of learning to the facilitator, and a way to document their learning time for future creation of professional learning certificates for staff recertification.

The last few school years have shown us in many instances the need to be flexible and willing to try new things. This effort was not an exception. Although it is in its first iteration, there are positive things observed which will surely serve as a foundation for future growth and progress.

Delivery of Services

The work summarized in this document was a long term and continuous effort throughout the majority of the 2021-2022 school year. As occurs every year, a focus on the development of professional skills with the staff was a focus point of district leadership. Determining useful and relevant topics and skills to develop is a hinge point in that it determines the future course of staff outcomes and their effectiveness in serving students.

In light of the importance of professional development for staff and students careful consideration was placed on the ability to offer flexible options to learners which provided meaningful and consistent learning opportunities in a way that allowed the district to preserve modules of learning for future use.

The planning and delivery of these services began with a review and focus on the strategic plan of Churchill County School District. A priority has been a part of all operations within ChurchillCSD to coordinate all efforts to reflect the key strategic themes of the district. Professional learning is one of those efforts. Challenges from the past were identified with coordination of district leadership and a plan was developed to help with the mentioned focus points while also addressing some challenges for professional development. After planning, construction of our learning management system within CANVAS began with great results.

The first step of the process was to familiarize the staff of Churchill County School District with CANVAS. Very few had experience on the ChurchillCSD instance and guidance was needed to help them familiarize themselves with logins, accessing the course, and how to submit learning artifacts. Within a couple months more than 325 staff members were enrolled and with access to the learning modules.

The structure of the modules within CANVAS was intentionally made in a way that allows the facilitation of many different styles and formats of professional learning. Module templates guided facilitators who were able to provide a familiar and consistent format which eased anxiety levels and

increased confidence within the staff. Sections of these modules included a preview page with the module learning objectives and expectations, and agenda for live sessions or outline for asynchronous, useful materials and resources, an area for submitting documentation of learning which might include photos, documents, reflections, or other as outlined by the facilitator, and a place to document their completion for administrative record keeping and feedback purposes. This type of module allowed live, as well as asynchronous learning to take place when convenient or possible for all staff. It is also preserved now in a way which is building a learning library for the Churchill County School District which can be reused for future needs.

An important part of the learning for each module was the feedback given to them by their facilitator or supervisor. After staff participated in learning, administrators of each building were able to access the learning modules to view the learning artifacts and encouraged to provide feedback, either written or live to the learners. This feedback also served as a focus point for building level collaboration and improvement.

As the year begins to end, there are currently 2056 learning sessions that have been submitted by Churchill County School District staff for review and approval for recertification hours by the state of Nevada. These learning sessions have been varied. Book studies, live collaborative sessions led by a facilitator, guided workshops, asynchronous workshops and learning, video broadcasted sessions from experts out of the area, and educational technology tutorials with practice have all been offered. Administrators, teachers, and support staff have all had the opportunity to and participated in the learning within these 2056 sessions.

Results and Reflection

The work summarized in this document was a long term and continuous effort throughout the majority of the 2021-2022 school year. Professional learning opportunities began before the school year started with some workshops and new teacher orientation opportunities logged. The staff were guided through the sign-in procedure which was more time consuming than anticipated and then supported as they gradually became independent and more apt to problem solve on their own. At the end of the year a total of 2,230 professional learning sessions were completed by the staff and recorded for facilitator feedback and documentation for professional license renewal. These sessions were offered to a variety of learners from administrators to paraprofessionals and support staff. Moreover, these learning opportunities are now preserved for future use by the Churchill County School District in future school years with their employees.

As with other efforts, continual adjustments and improvements will build upon this initial experience and outcome. Additional support and learning by administrators will aid them in giving even more relevant and timely feedback on the learning being delivered. This is essential and should be a priority for upcoming years. This adjustment is a learning process and should not be viewed as a failure, but a rise to the challenges faced and in the end there were many lessons learned in the process.

Continuing construction of additional modules will build a catalog of relevant learning opportunities for all staff in a flexible way which will serve Churchill County School District for years to come.

Conclusion

When considering the growth in the staff throughout the year, it is positive to remember the starting point from where we began.

In light of the new challenges we have uncovered through the COVID-19 learning from a distance and collaborating with families from a distance beginning in the Spring of 2020, it is clear that a further development of these types of professional learning opportunities will be available and it is prudent for

school districts to involve their efforts in similar ways so as to add their own personal needs to the ever expanding catalog of opportunities available to educators. This will be an essential part of any plans for the future.

This study served as an effective introduction to the development of digital partnerships and methods of developing them. Principals, teachers, and other administrators of Churchill County School District have come to recognize the value of this introduction, as well as how further in-depth applications will have in their schools.

2021-22 Case Study: Coordinating Professional Learning Efforts for Teacher Access and Scalability- Logic Model

Situation: All districts now face the combination of changing teacher needs and limited resources including time. My work this year is to help create and begin using a system that allows educators to learn relevant information and skills in easy to manage modules while allowing the district to align these learning opportunities with their district strategic plan and preserve the learning for future use. All this can be done while documenting learning and feedback given regarding artifacts of learning

Inputs	Outputs		Outcomes -- Impact		
	Activities	Participation	Short	Medium	Long
Budget NWRPDP Facilitators Teachers and other employees of ChurchillCSD Administration Expectations ChurchillCSD Strategic Plan	ChurchillCSD Canvas Instance Modules completed by educators based on administration need and personal selection. . Preserving modules for the use of future educators in ChurchillCSD	• All ChurchillCSD staff will be invited to participate including administrators, teacher, and support staff.	Administration will be introduced to the system and invited to use it to coordinate districtwide learning at the site level while participating as facilitators giving feedback to their staff. Educators will increase understanding of topics and skills useful for the learning and support of students as guided by the strategic plan.. **Measures:** Number of notifications received and interacted with. Reservations and attendance to learning lab sessions. Post-reflective evaluation measure	Enhanced communication opportunities between administration and educators Increased utilization of tools and services offered to support students and educators Increased collaborative attitudes in the district. **Measures:** Numbers of users of various tools and services. Post Reflective evaluation measure	Educators increasingly solve problems through personalizing their own learning. Increased feedback from administration builds a positive attitude towards professional learning. Increased student demonstration of learning as the support by educating team strengthens. Increased graduation rates Increased teacher reported job satisfaction **Measures:** Existing school, district, state, and data.

Assumptions: Staff awareness of services and opportunities will engender appreciation and engagement. All participants will learn if they use learning modules. Positive attitudes and beliefs about Professional learning. All participants will shift attitudes towards collaboration between school and community.

External Factors: Competing district initiatives; Teacher burnout; Schedule conflicts for collaborative workshop dates

Figure 7: Case Study: Coordinating Professional Learning Efforts for Teacher Access and Scalability Logic Model

Python Language Acquisition through Physical Science Components

Introduction/Abstract

When educators are challenged to teach a new topic such as computer science the acquisition of new pedagogy is critical to develop the confidence for instruction. In a study of teachers improving their understanding of computer science pedagogy the teachers reported the desire not to just do coding. They asked to "learn the theory first" and to "introduce more computational thinking concepts rather than just code" and to focus on practical projects and applications. (Rich et al., 2019) In addition the Comprehensible Output Hypothesis as it pertains to Second Language Acquisition suggests that the act of communicating with feedback in the target language contributes to improvement. Learning with no contact outside the learning environment i.e. immersion schools, lessened the communicative performance of grammatical knowledge (Swain, 1985). Historical beginner Computer Science language teaching and learning such as basic keyboard input and visual output to a monitor "coding" without the direct interaction and feedback is less effective than immediate feedback (interaction).

The Interaction Hypothesis (Gass, 1997; Hatch, 1978) of second language acquisition suggests that the comprehension of understanding goes beyond the exposure of input and stresses the importance of the role between the learner's interaction with the input. Modified interaction is the necessary mechanism in language comprehension (Long, 1983).

This study proposes a strong connection to the skills and methods of second language comprehension to computer science language acquisition. Interaction with a physical object (Raspberry Pi) with a high degree of immediate interaction with the code (input) was used as the mechanism for making CS Language (Python) comprehensible in the form of LED outputs, buzzers, motors and sensors for task completion.

Non-Computer Science educators and novice programming students struggle with abstract and non-interactive methods of learning CS languages. Increasing the learner's capacity to acquire a language through interaction with the Raspberry Pi helps novice learners analyze syntax, create and troubleshoot logic and conditionals, structure program development, create and use variables along with functions and libraries associated with the new language.

Instructional Context

A three credit graduate course focused on CS programming (coding) in the language Python, utilizing a single board computer with General Purpose Input and Output pins (GPIO), that was offered to educators through Southern Utah University (SUU) and the Northwest Regional Professional Development Program (NWRPDP). The programming course Python Programming with Raspberry Pi was offered to educators in all the sixteen counties in Nevada. Each participant had the same online platform (Canvas) and a Raspberry Pi with a variety of output devices and sensors that focused on the same concepts and skills.

The Python Programming with Raspberry Pi course included thirteen teachers, ranging from K-5 teachers to Advanced Placement teachers at the high school level. Six school districts were represented by teachers in this group.

Tables 19, 20, and 21 below show the number of teachers, by county and grade level, who completed the Python Programming with Raspberry Pi course.

Table 19: Training Participants by County (Python Programming with Raspberry Pi)

County	**K-5 Teachers**	**6-8 Teachers**	**9-12 Teachers**	**Other (TOSA)**	**TOTAL (District)**
Carson	2	1			3
Douglas				1	1
Clark		2	1		3
Other		1			1
Lyon	1	1			2
Washoe			3		3
TOTAL (Grade Band)	3	5	4	1	**13**

Table 20: Training Participants by County (Without previous language training)

County	**K-5 Teachers**	**6-8 Teachers**	**9-12 Teachers**	**Other (TOSA)**	**TOTAL (District)**
Carson	2	1			3
Lyon	1	1			2
Washoe			1		1
TOTAL (Grade Band)	3	2	1	0	**6**

Table 21: Training Participants by County (With previous language training)

County	K-5 Teachers	6-8 Teachers	9-12 Teachers	Other (TOSA)	TOTAL (District)
Douglas				1	1
Clark County		2	1		3
Other		1			1
Washoe			2		2
TOTAL (Grade Band)		3	3	1	**7**

Equity in Computer Science education is a consistent talking point in computer science education. County demographics support the need for accessible Computer Science education that reaches all students.

Table 22 below shows the demographic information for each county. (Nevada Report Card, 2020)

Table 22: Demographic Data for Participating Counties

County	Total Enrollment	Ethnicities other than White	Individualized Education Plans	English Language Learners	Free and Reduced Lunch
Carson	7500	4125	14.38%	13.76%	60.08%
Douglas	5385	1831	13.4%	5.21%	46.82%
Clark	310342	242066			
Other-CA	NA	NA	NA	NA	NA
Lyon	8817	3438	13.8%	5.45%	59.68%
Washoe	61709	35174			

Initial Data and Planning

Eleven participants completed previous computer science training either through NWRPDP or other organizations. Seven participants had not completed computer science training before this course. A range of experience from beginner to experienced programmer was present and required strategic planning and instruction along with best practices for distance learning in a setting where hands-on and direct instructor feedback and support is critical.

Physical computing environment with instructor support had many benefits. Participants engaged with the instructors in the building of and demonstration of the physical science elements of wires, breadboards, switches, input and output power pins from the board as well as lights, buzzers and other various output devices. Participants had to first understand the physical computing elements before they could code the elements to perform various tasks.

The Python Programming with Raspberry Pi course had two major components other than general problem solving and application. The course required instruction in physical computing with such elements as circuits, LEDs, capacitors, sensors and graphical user interfaces (GUI). The course also required the knowledge of program development, python syntax, and the libraries for the python functions and methods. Participants were challenged with both elements and had the benefit of instructors and classmates to help with problem solving and debugging of their code.

Once the basic knowledge of physical computing as applied to the Raspberry Pi was built, participants shifted into programming or "coding" in python using the Thony IDE interface that was preloaded on the NOOBS from the Raspberry Pi foundation. Sessions included guided activities that allowed scaffolding of learning with blended tasks of physical computing along with coding in Python. These activities or challenges allowed the immediate interaction with the participants code (input) and the Raspberry Pi output.

Participants learned and practiced programming in Python while collaborating on the variety of tasks. Participants were able to share their outcomes and help each other troubleshoot code and physical computing errors. Connections were made to the various grade level standards for computer science. Proof of learning and application was demonstrated when participants accomplished a variety of tasks and challenges that utilized problem solving and programming with immediate output from the Raspberry Pi. Participants were given opportunities for pair programming and the sharing of their code through Google Drive and a shared class folder.

All participants completed a post-reflective survey at the conclusion of each course.

Delivery of Services

The Python Programming with Raspberry Pi course began with three full day training sessions where participants were introduced to physical computing concepts, functions, libraries, syntax of Python language including basic physical science elements of electricity, circuits, capacitors, LED, switches, resistors, motor and servo principles, along with the engineering design and control of the physical elements through the Raspberry Pi and its General Purpose Input and Output (GPIO) pins.

Following the three days of instruction participants completed four 3 hour sessions where we spent time instructing on programming conditionals such as “if”, “else,” “while,” “else if,” statements while collecting environmental data for input from analog sensors such as range finders, IR, light sensors. Programmers were challenged to create a model intersection with the standard light configuration along with a buzzer interfaced into the coding to allow a pause in the light function and allow a pedestrian to safely cross the street.

Participants were issued “challenges” after every class where they had to program the Raspberry Pi utilizing the instruction from the session. Their code along with a video of the challenge was then uploaded and shared to folders where their fellow classmates could access and troubleshoot their own code or others who needed help.

At the beginning of each session participants were given 30 min to share their code. While in these sharing sessions it was observed that there was much troubleshooting and collaboration between the individuals as they shared their code and challenges with others.

For the final day participants were asked to solve a real-life problem utilizing the Raspberry Pi. Participants were given a rubric to guide them in the required utilization of the GPIO pins, GUIs or a variety of environmental sensors that would accomplish their chosen task that required the programming of their Raspberry Pi to accomplish a number of assigned tasks that represented their learning throughout the course. Participants were encouraged to partner up and collaboratively solve the challenges.

The big challenges were troubleshooting incorrect wiring and sensor use along with the coding. Participants had great ideas and visions of what they wanted their project to do but struggled as novice programmers in the execution of their code. We were able to allow extra time and assistance to help with the process and development of their projects. In the final presentation participants were excited and had a great sense of accomplishment when they described the problem they were solving through the use of the Raspberry Pi and their coding skills.

Many course comments reflected this final challenge and the growth they had in physical computing and coding to skills acquired that will help them feel more comfortable in presenting this content to their students.

Results and Reflection

All participants were also asked to complete a post-reflective survey at the conclusion of the training. The rating scale ranged from 1 (poor) to 5 (excellent). Due to school closures related to Covid-19, the post-reflective survey was sent to participants and completed electronically. However, we are confident that the means would not differ significantly based on learner feedback in each session. Table 23 shows the results from the survey.

Table 23: Teacher Post-Reflective Mean Results

Question	Before attending	After attending	Difference	t-score	Significance (*p*-value)
Nevada Computer Science Standards	2.92	3.92	1.08	-3.071	<.01
Coding or Programming in C	2.75	3.92	1.25	-5.631	<.001
Computational Thinking Skills	2.92	3.83	1.01	-3.188	<.01
Creating prototypes and simulations with robots	2.83	4.25	1.47	-3.957	<.01
CS iterative process	3.08	4.42	1.38	-3.752	<.01
Engaging students in CS language acquisition through comprehensible output	2.67	4.17	1.56	-3.546	<.01

*All questions show significant growth at the p=<.01 value. There were statistically significant improvements in all areas.

Participants were also asked to rate the use of the Raspberry Pi as a comprehensible output to their CS Python language acquisition. Teachers ranked the use of the Raspberry Pi as feedback to help them understand, apply and correctly code in Python. The participants were asked to rank the Raspberry Pi for CS language acquisition on a scale ranging from 1 (not effective/likely) to 5 (highly effective/likely). The results shown in Table 24 indicate a high probability of the Raspberry Pi being a good tool for comprehensible output in CS language acquisition.

Table 24: Participant Feedback Ranking

Participant Feedback	Ranking
How did using the Raspberry Pi help you understand and code using proper language syntax?	4.89
How did the Raspberry Pi help you in understanding the application and format such as functions, conditionals and program development of the Python programming language?	4.64
How did having the Raspberry Pi help you with the iterative process of design, program development, testing and refining your code?	4.46
What is the likelihood that you will implement the skills and concepts learned in this training into your classroom instruction?	4.38

Conclusion

“I really appreciated the hands-on learning and time to process the new concepts. This class did a really good job of building learning in a progression and not too much at one time.”

Participants found value in using the Raspberry Pi as comprehensible output, “I really loved the hands on learning with the Raspberry Pi. It made the coding more engaging and enjoyable for me. Thank you!”

Learning within context with comprehensible input is a strong model for educators who are not native to or highly trained in computer science. Traditionally computer science language courses do not have immediate comprehensible input to the learner. Many traditional courses have participants code many lines, functions and modules only to have a function(s) with a single output. There is a strong need for novice and nontraditional computer science majors to have comprehensible output as they are learning.

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2021-2022 Case Study: Python Language Acquisition through Physical Science components Logic Model

Situation: Typical introductory Computer Science (CS) language acquisition is usually constrained to a computing device with basic input and output coding. Non CS educators and novice programming students struggle with abstract and non-concrete methods of learning CS languages. Increasing educator capacity to acquire a language through applied cause and effect coding by utilizing physical science elements such as circuits, LEDs, capacitors, sensors, resistors, buttons and GUI interfaces can increase the understanding of logic flow, libraries, methods and syntax associated with Python.

Inputs	Outputs		Outcomes -- Impact		
	Activities	Participation	Short	Medium	Long
Course Instructor NWRPDP Facilitators K-12 teachers in the Carson City School District, Washoe County School District, Lyon County School District, Douglas School District and Clark County School District. Administration Expectations	Course on Python Training via synchronous and asynchronous opportunities • Independent assignments • Small Group Collaboration • Group Discussion, problem solving and sharing code Optional Training opportunities	K-12 teachers in the Building Skills for K-12 Technology Integration Courses • State wide Nevada Districts. • Carson City School District ( ) • Douglas County School District ( ) • Lyon County School District ( ) • Washoe County School District ( ) • Clark County School District ( )	Increased understanding of the physical sciences in computer science such as circuits, LEDs, capacitors, sensors and graphical user interfaces (GUI). Increased conceptual understanding of language syntax, libraries and methods associated with Python language Increased teacher confidence in CS language acquisition and physical science. **Measures:** RPDP Feedback Form, Post Reflective survey. Speed and accuracy of recepie building and final project that solved a real life problem utilizing the physical science and coding language of Python.	Enhanced instructional practice (e.g., clubs, classroom integration, and use of Raspberry Pi as a tool for language instruction. Increased implementation of training goals/objectives Increased integration of appropriate technology tools. Increased teacher efficacy **Measures:** Post Reflective Survey Endorsement progression for individual teachers	Increased teacher & student application of concepts Increased pedagogical practice relative to CS Increased collaborative meeting/training at schools and districts Increased teacher capacity for CS language instruction. Increased teacher capacity for physical science in computer science. **Measures:** Observation of implementation level of the Raspberry Pi at teacher sites. Measured participation in advanced Raspberry Pi classes/training.

Assumptions: Applied robotic CS language training will lead to teacher efficacy. All participants will successfully complete the course/s. Positive attitudes and beliefs about Professional Practice. All participants will shift instructional practices. Distance learning will not be a limiting factor in knowledge acquisition and problem solving for the Las Vegas cohort.

External Factors: Competing district initiatives. District resources. Funding. Teacher burnout

Figure 8: Case Study: Python Language Acquisition through Physical Science Components Logic Model

Phase II of Nevada CONNECTS – Refining Task Items to Align with the Three Dimensions of the Next Generation Science Standards

Introduction/Abstract

Nevada CONNECTS (Nevada Communities Offering Networking and Education: Connecting Teachers and experts) is a collaborative project between all three Regional Professional Development Programs (RPDP), the Nevada State Science Teachers Association (NSSTA), and participating Nevada school districts. This project aims to meet the diverse needs and abilities of teachers and STEM professionals in all regions of the state by providing teachers and STEM professionals a space to collaboratively develop Nevada Academic Content Standards in Science (NVACS-S) aligned, Nevada-centric resources while connecting with others doing similar work across the state. The ultimate goal of Nevada CONNECTS is to engage Teachers in professional learning that will allow them to develop a grade specific, NVACS-S aligned, locally-based, performance task with the help of a partnered STEM Professional who will provide context, science knowledge expertise, and data surrounding a specific Nevada-based science phenomenon.

Phase one of the project was conducted in spring of 2021 with the development of a phenomenon and scenario for each performance task. The use of phenomena in the Next Generation Science Standards (NGSS, NGSS Lead States, 2013) known in Nevada as the NVACS-S, are essential to anchoring student learning and provide students with a real world observable event to investigate, or for assessment purposes, to apply their scientific understanding while developing an explanation of the event. Attributes of phenomena in science instruction and assessment aligned to the NGSS and the Framework for K-12 Science Education include specific, natural, observable events that have underlying scientific principles that students use their knowledge to explain or predict future events. Centralizing phenomena in investigations and assessments shifts the focus away from simply learning about a topic and all its related facts towards figuring out why something happens. In instruction a well-developed phenomenon provides students with something to investigate and understand using the three dimensions outlined in the NGSS.

In assessment tasks the phenomenon to be explained or used to make claims and predictions about other events is framed through a compelling scenario with which all of the items in the assessment task are related. The items reveal student understanding in all three dimensions, requiring students to engage in a Science and Engineering Practice (SEP), and use their understanding the Crosscutting Concepts (CCC) to explain facts and principles of the Disciplinary Core Ideas (DCI) and how those relate to the phenomenon in the task. Assessment items must be two-dimensional, meaning each item in the assessment task must relate to two of the three components (SEPs, CCCs, and DCIs) in various ways and at various cognitive levels and complexities. Developing these items requires careful wording, a strong understanding of the standard components and facets of knowledge required to explain the science and phenomenon, and in depth understanding of the underlying science of the phenomenon and scenario.

If the phenomenon and scenario are too complex, or not complex enough, the associated items will not be robust enough to elicit student knowledge and understanding. This is why the first year focused solely on the development of the compelling phenomenon and scenario with the help of the partnered subject matter experts. A series of items was developed in year one but were intentionally rudimentary with the understanding that they would be revised in the upcoming year.

Instructional Context

Phase two of the project continues the work started in the previous year. Teacher developers from phase one were invited back to refine the tasks they developed in phase one, with a focus on refining prompts to elicit desired student understanding in all three dimensions of the NGSS through an iterative process of collecting student results and refining prompts.

Eight teachers from phase one were recruited for phase II. However only six finished this phase of the project. In order to be considered, teachers needed to have completed all required work from phase one of the project on time. Participating year two teachers received a stipend of $744 to complete the work for phase two, including fifteen hours of synchronous learning and twelve hours of asynchronous work. Of the six teachers involved with phase II, two taught elementary grades, three were middle school science teachers, and one was a high school science teacher.

Initial Data and Planning

One essential component to improve science education in Nevada and impact student achievement is equitable access to high-quality, standards-aligned materials. Currently, there is a lack of already-made materials for Nevada teachers and students in our schools. Developing these resources requires opportunities for collaboration. Nevada CONNECTS provides a pathway to addressing this problem by supporting Nevada teachers in developing assessment performance tasks about a Nevada scenario with support from Nevada STEM professionals (Subject Matter Experts; SMEs).

Three of the four Key STEM Indicators for our state, as identified by the Nevada OSIT office, directly connect with student test scores in Science (and Math). According to the Nevada Report Card, only 25.8% of combined fifth and eighth grade students and 29.7% of students in ninth and tenth grade are proficient in Science as measured by the CRT for the year 2020-2021. This suggests several things could be happening to result in such low achievement scores across the state, including misaligned assessments to measure student achievement. As a result, the developers of the project sought to determine if developing assessment tasks closely aligned to the NVACS-S would better measure student achievement across the state. Including teachers as developers would bolster capacity across the state as well, and an additional variable was to include localized topics around which to develop the performance tasks, with the idea that students would be more engaged in the tasks if they were focused on events that actually take place in our state, and even more closely in the region the student lives.

Tasks developed in phase one of the project were analyzed using the Science Task Screener (Achieve, 2018). The Science Task Screener has four criteria, each with a set of indicators, that the tasks were measured against:

A. Tasks are driven by high-quality scenarios that focus on phenomena or problems
B. Tasks require sense-making using the three dimensions
C. Tasks are fair and equitable
D. Tasks support their intended targets and purpose

Delivery of Services

The COVID pandemic led to unintended effects for professional learning across the state of Nevada, including the collaboration between multiple entities in multiple regions to plan for big picture impacts related to science education with a definitive purpose and direction. Whereas collaboration for science education across the state had been spotty in the past, the ability to use digital tools to plan, meet, and deliver professional learning has provided an avenue to develop statewide initiatives and provide the much needed support to all districts and populations across the state. Although the pandemic

eliminated any chance of conducting professional learning sessions in person, it provided ample opportunities to shift practices to virtual trainings.

The leadership team met virtually every week and utilized shared files through Google Suite for Education to work collaboratively and provide resources with teacher developers and STEM professionals. This format for sharing work enabled the leadership team to review the work being done asynchronously by teacher developers at any point during the project, instead of having to wait until the next synchronous training, thus eliminating wait time for review and feedback to teacher developers. Conducting virtual synchronous learning sessions also allowed teacher developers to participate in diverse formats using virtual tools such as PearDeck, science simulations, videos, and more, taking a training from "sit and get" to more interactive formats.

The planning of phase II of Nevada CONNECTS took place in fall of 2021. The leadership team met virtually every two weeks to plan the work that the cohort would engage with in spring, 2022. Teacher recruitment took place from November to December 2021, with teachers being notified of acceptance into the cohort the week prior to winter break. A total of 15 hours of synchronous instruction was planned over five classes held virtually from 4pm-7pm every two weeks starting February 1 and ending April 15. The five classes engaged the cohort with different components of the Task Screener including (1) review of phenomena, (2) developing questions that elicit student understanding, (3) using the task screener and peer reviews, (4) revisions and partner work time, and (5) sharing of tasks and results. Each class was designed to provide teachers with some explicit knowledge in the criteria for the session, give examples of the criteria in different tasks, revision time, and peer feedback time. Between each virtual meeting, teachers made further revisions to their task components, gave the task to a sample of students or teachers, and then used the results to inform the next synchronous session.

Teacher developers used the Task Screener at the end of last year which was used as a baseline score for this iteration of the project. Initially, the teachers were going to complete a mid-cycle assessment of their task using the Task Screener, however that did not pan out and a post score was collected at the completion of phase II.

Results and Reflection

Due to the small sample size a Wilcoxon signed-rank test was applied to the data rather than a paired samples *t*-test. The purpose was to determine if differences in alignment to indicators identified in criteria A, B, and C of the Task Screener were found from Phase I to Phase II as a result of the revision process. Results suggest the participants increased their alignment to many indicators outlined within each criteria through the revision process. Table 25 displays results indicating the significant increases in alignment to each criteria A, B, and C from Phase I to Phase II ($p < 0.05$).

Table 25: phase I to phase II results

	Mean		*SD*		
Criteria	*Phase I*	*Phase II*	*Phase I*	*Phase II*	*p*
Criteria A	2.23	2.49	0.16	0.19	0.031*
Criteria B	2.00	2.83	0.30	0.18	0.034*
Criteria C	1.97	2.40	0.15	0.18	0.034*

*Note. Wilcoxon signed-rank test. * indicates significant changes from phase I to phase II.*

Conclusion

Explicit instruction in developing item prompts can lead to greater alignment to identified indicators for assessment criteria. Teachers who undergo explicit instruction can identify where items

lack alignment, refine those items given specific tools and language to use, and after administering the task to students can determine how the item rates within the identified indicators and criteria. However the process of refining individual task items multiple times to increase alignment to the three-dimensions of the Next Generation Science Standards is unreasonable for the average teacher to undertake. These items and tasks need to be available for teachers in Nevada to aid in determining student achievement. A lack of resources including funding, time, and capacity limit the ability of tasks like these to be developed in a timely manner. However, with the heavy lifting begun, momentum has increased the desire for tasks that are Nevada-centric to be available and teachers are seeing the benefits of including these tasks as part of their teaching. The project in its entirety was presented at several national conferences, where teachers and science leaders from other states were excited to start similar projects in their regions and districts. One participant suggested a next step could be developing a national database with tasks developed for each state that could be shared, and also could serve as a project to develop multistate plans for science education.

Struggles shared by teachers from year one of the project were echoed this year, including changes to the educational landscape resulting from COVID, time commitments, and other personal commitments. These struggles became barriers to participants being able to fully participate in the asynchronous work, leading to asynchronous requirements being crammed in at the last moment. Reducing the effects of these struggles is not an easy feat, requiring changes to the culture of teaching and education in the state. Providing stipends for teachers to complete work outside of contract hours is a great start, but limited funding doesn't allow for compensating teachers for all out of contract work. Even with the struggles shared by participants in both years of the project, developing a community of science educators has been a beneficial for teachers, and maintaining and building those relationships across our state remains a necessity.

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2021-2022 Case Study: <u>Phase II of Nevada CONNECTS – Refining Task Items to Align with the Three Dimensions of the Next Generation Science Standards-</u> Logic Model

Situation: One essential component to improve science education in our state and impact student achievement is equitable access to high-quality, standards-aligned materials. Currently, there is a lack of already-made materials for Nevada teachers and students in our schools. Developing these resources requires opportunities for collaboration. Nevada CONNECTS provides a pathway to addressing this problem by supporting Nevada teachers in developing assessment performance tasks about a Nevada scenario with support from Nevada STEM professionals. Year one situated teachers in developing a phenomenon and scenario for an assessment task aligned to a NVACSS standard. Year two will engage teachers in professional learning focused on developing prompts to elicit student understanding of the scenario and phenomenon.

Inputs	Outputs		Outcomes -- Impact		
	Activities	*Participation*	*Short*	*Medium*	*Long*
8 teachers returning from year one of the project Stipend of $500 for each participating teacher 16.5 hours of professional learning in developing task items to elicit student knowledge in science Virtual setting (Zoom)	Teachers will learn how to • Professional learning for teachers on standards, phenomena, task development, item development Feedback from RPDP/NSSTA trainers	8 teachers in k-12 grade across Nevada 16.5 hours of Professional Learning (synchronous) and task item development (asynchronous) RPDP science trainers (from NWRPDP and SNRPDP) NSSTA trainers	Teacher self-assessment of Task (pre-assessment) **Measures:** Science Task Screener (Achieve, 2018)	Student data of task collected through Field Testing **Measures:** Student samples for each task aligned to scoring rubric.	Teacher self-assessment of revised task and prompts (post-assessment) **Measures:** Science Task Screener (Achieve, 2018)

Assumptions: Teachers have a basic understanding of the NGSS at their grade level, however the curriculum adopted at the state level provides limited ability to evaluate student learning aligned to the NGSS performance expectations. Participating teachers and STEM professionals value the collaboration between the groups and will ensure the time provided to work on this project is meaningful for everyone involved, resulting in a product that will be useful to teachers across the state.

External Factors: District initiatives that will impede the ability of the teachers to spend time focusing on developing their task. Workload for teachers as task development requires a lot of work and revision based on each iteration of student data.

Figure 9: Case Study- Phase II of Nevada CONNECTS- Refining Task Items to Align with the Three Dimensions of the Next Generation Science Standards Logic Model

The Impacts of Retrieval Practice Professional Learning on Instruction

Introduction/Abstract

This case study focused on 13 teachers across six school districts across the Northwest region who participated in a 1 credit/16-hour course focused on studying and implementing retrieval practice into classroom instruction. The course was an online hybrid course lasting four weeks. This case study focused on the change in teacher knowledge, skill, and implementation of effective retrieval practices.

Instructional Context

At the time of this case study, retrieval practices as part of content instruction was not a commonly known set of practices that align to the science of learning research in the Northwest region. The course that is the focus of this case study was designed to provide both theoretical foundations and practical strategies to teachers with the goal of increasing teacher knowledge, skill, and the application of retrieval practices into instruction.

Kate Jones (2020), a leading educator in implementing retrieval practices, offers us the following definition: "Retrieval practice refers to the act of recalling learned information from memory (with little or no support) and every time that information is retrieved, or an answer is generated, it changes that original memory to make it stronger." Retrieval practices focus on pulling learned information out of long-term memory. In research it is often referred to as the 'testing effect'. Some benefits of utilizing retrieval practices from Ten Benefits of Test and Their Applications to Educational Practice are outlined below (Jones, 2020).

10 Benefits of Testing and Their Applications to Educational Practice

- Aids later retention
- Identifies gaps in knowledge
- Learn more from the next learning episode
- Improves organization of knowledge
- Improves transfer of knowledge to new contexts
- Can facilitate retrieval of non-tested information
- Improves metacognition monitoring
- Prevents interference from prior material when learning new material
- Provides feedback to instructors
- Frequently encourages students to study

The benefits of incorporating retrieval practice into instructional practices and also align with the Nevada Educator Performance Framework (NEPF) Instructional Standards. Retrieval practice tasks prompt students to remember content unaided or with limited support. Although alignment can be found to all the instructional standards, there is a high level of alignment with Standards Four and Five. Standard Four, students engage in metacognitive activity to increase understanding of and responsibility for their learning. Standard Five, assessment is integrated into instruction. By design, retrieval practice tasks as part of the instructional cycle have students identify what they understand, and what they still need to study because the task is done individually with limited support. This facilitates student self-monitoring based on learning goals presented in the tasks. Retrieval practice tasks incorporated into the instructional cycle have learning benefits and align to the NEPF.

Initial Data Planning

According to The Nevada Accountability Portal, less than half of Nevada students are scoring proficient on state standardized tests. (See table below.) In addition, teachers are expressing concerns about

student learning in terms of retaining essential content knowledge across time and having sufficient background knowledge to be successful in content classes. These concerns link together when analyzed through the lens of learning being a change in long term memory. Students not only need to be able to initially learn and understand content learned in school, they must be able to retrieve and manipulate information. These are life skills, and they are the skills needed to be successful in classrooms and on achievement tests.

Table 26: State Achievement Data

State ELA Proficiency 20-21

Elementary	**40.3%**
Middle	**43.6%**
High	**46.8%**

State Math Proficiency 20-21

Elementary	**28.7%**
Middle	**24.2%**
High	**22.6%**

In addition, the focus of the case study supports the following goals in the Statewide Plan for the Improvement of Pupils (STIP):

- Goal 2: All students have access to effective educators.
    - Access to quality strategy: Provide quality professional learning

Delivery of Services

The hybrid (synchronous and asynchronous) 1 credit/16 hour course was offered during the 2021-2022 school year to teachers in the Northwest region of Nevada. Thirteen teachers in elementary, middle and high schools across six districts completed the course. The course focused on theoretical foundations, classroom application to teaching with a focus on decision making that matches instructional design to student need.

Results and Reflection

Teachers were asked a total of eight questions about their change in knowledge and level of implementation before and after taking the Retrieval Practice course. The questions and the teacher responses are in the table below. The teachers were asked to complete a Likert scale where they self-evaluated their knowledge before and after taking the course. A level 1 indicated the lowest level and a level 5 indicated the highest level. There were statistically significant improvements in all areas that indicate there was teacher growth in both knowledge about retrieval practice and level of implementation of retrieval practice tasks into the instructional cycle. The results also indicate that the course resources will continue to be utilized after the end of the course. In addition, the results indicate that many teachers taught their students how retrieval practice impacts learning.

Table 27: Retrieval Practice Post Reflective Results

	Before class	**After class**	***t*-score**	***p*-value**
Your knowledge of what retrieval practice is	**1.23**	**4.31**	**-22.48**	**< .001**

	Before class	After class	*t*-score	*p*-value
Your knowledge about spaced retrieval practice	**1.15**	**4.15**	**-15.3**	**< .001**
Your knowledge of retrieval practice tasks	**1.08**	**4.38**	**-15.88**	**< .001**
Your knowledge about how to incorporate retrieval practice into the instructional cycle	**1.23**	**4.38**	**-14.2**	**< .001**
I incorporate retrieval practice tasks into instruction.	**1.58**	**3.92**	**-9.41**	**< .001**
I plan retrieval tasks with spaced practice in mind.	**1.31**	**4.08**	**-13.77**	**< .001**
I have taught my students about retrieval practice: what it is, why it works, how they can use it to learn and study.	**1.15**	**3.46**	**-8.78**	**< .001**
I use the resources from the class when I plan retrieval practice tasks.	**1.08**	**4.54**	**-18.9**	**< .001**

Conclusion

"There is an ethical imperative to provide the best possible classroom conditions in which students in our charge can flourish, this means rejecting what wastes time and embracing that which makes the most use of it." Carl Hendrick

When asked one way their teaching had changed, one teacher responded, "I went from not being sure what to do to help my students to finding ways to change up my teaching by using more retrieval practices more effectively and frequently." Another teacher stated, "I realized the importance of teaching children how to frequently review material in various ways. I feel like I have always experienced a certain amount of frustration when students can't recall material that we've gone over. But now, I realize that the human brain needs constant recall strategies to cement the material." These responses indicated a shift in understanding about how long-term learning takes place. They also indicted that teachers who took this class made changes in their instruction to include retrieval practices and had the resources they needed to be able to make changes. These changes potentially lead to student access of the elements of effective high-quality instruction they need to be successful in our schools.

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2021-22 Case Study: <u>The Impacts of Retrieval Practice Professional Learning on Instruction</u> Logic Model

Situation: Rural county teachers taking a 16 hour professional learning course on retrieval practice

Inputs	Outputs		Outcomes -- Impact		
	Activities	Participation	Short	Medium	Long
Retrieval practice focused professional learning on Saturdays November 2021 – December 2021 NWRPDP – Facilitator/Coach K-12 General education teachers from _ rural counties NWRPDP budget for supplies and books	Retrieval Practice PL Course • Gain knowledge of retrieval practice pedagogy • Apply knowledge of retrieval practice tasks to classroom practices, strategies, and methods • Evaluate retrieval practice tasks	_ teachers from _ rural districts participated in the 16 hour course	Teachers increase their knowledge of retrieval practice pedagogy and methods for teaching **Measures:** Teacher post reflective survey Teacher self-assessment Exit tickets	Increased use of retrieval practice tasks **Measures:** Teacher extended survey	Increased student achievement. Increased graduation rates. **Measures:** Existing district/school data

Assumptions: Change in teacher pedagogy leads to increased student learning and increased teacher efficacy.

External Factors: Individual teacher differences, competing initiatives, COVID 19 impacts

Figure 10: Case Study- The Impacts of Retrieval Practice Professional Learning on Instruction Logic Model

Empowering Educators to Advance their Teaching Practice Through the National Board Cohort

Introduction/Abstract

With over ten years of research and numerous studies in schools across the country, there is no doubt that participating in the National Board process is life changing for educators. "A national survey of effective teachers' views on PD found 96% of respondents shared that National Board Certification was among the top three most impactful PD experiences for advancing their practice (National Board for Professional Teaching Standards)." Undergoing certification, teachers reported that they made many shifts in their practice to better meet the needs of their students. To enhance their knowledge about students, they collected multiple sources from all educator stakeholders and interpreted data in new ways to show evidence of student learning to create purposeful learning goals for their students. Teachers also deepened their content knowledge and used what they know about effective and ineffective practices to develop strategies that capitalized on their students' varied backgrounds, using diversity to enrich the learning environment for every student" (What Teachers Should Know and Be Able to Do). National Board-Certified Teachers continue to make a positive impact with students, especially EL students and students of color. After two years in a pandemic, submission due date extensions pushed into late June and October or deferred until the next year, challenging circumstances (lack of public support, chronic absenteeism, exclusions, distance learning/hybrid situations, masks, social distance safety protocols, sub shortages, escalated student behaviors, and covering classes for teachers who are absent during prep), many teachers were forced to put their National Board's journey on hold. Now, almost two years later, teachers are still being impacted by the COVID-19 demands but participating in the National Boards process is providing them with a new sense of purpose and hope to rekindle their passion for teaching. Overcoming these many challenges to meet the needs of their students is now more rewarding than ever as they reflect on the past few years and their ability to grow as a professional and complete such a rigorous process.

Instructional Context

Participants include: 75 teachers from elementary, middle school and high schools located within districts around Northern Nevada (Douglas, Carson, Washoe County, and Lyon County). Within our cohort, teachers ranged in experience levels of at least 3 years of teaching to teachers who were close to retiring (25+ years), and bringing a wide range of skills, abilities and depth of knowledge. Fifty-five teachers were new to the cohort and just starting the process. Sixteen candidates were returning to continue their work and after 3 years. Four advanced (previously did not pass certification) candidates returned to the cohort in January after being notified that they had not certified yet. Furthermore, Teachers are drawn to the National Board process because Nevada offers a 5% pay-incentive and Washoe County School District (WCSD) offers an additional 3% pay-incentive once teachers have certified.

Initial Data and Planning

“Growing evidence suggests that pandemic-related burnout may be the driving force behind the midyear teacher resignations and resignation during the 2021-22 school year—not just from their current teaching jobs, but from the profession altogether (Education Week, 2022)." According to a national survey released from the National Education Association, many teachers who are expressing interest in leaving the profession have between two and 15 years of teaching experience. Our cohort continues to meet the challenge of how do we continue to increase the amount of Nationally Board-Certified Teachers within our Northwest region, in a time when many teachers are struggling to meet the day to

day demands of the current educational conditions? After years of extending due dates and accommodating candidates through the pandemic, National Boards continues to strive for a sense of normalcy and set this year's final submission date on May 18th.

National Board Certification in Nevada:

As of December 2021, there are 130,717 teachers who are Nationally Board Certified across our country, making up 3% of our nation's teachers. North Carolina, Florida, Washington, and South Carolina continue to lead our nation with the most Board-Certified teachers. Nevada ranks 22nd in the country with 1,235 National Board-Certified teachers. This year (2021), 49 teachers attained National Board Certification in Nevada. Washoe County had 17 teachers who certified in 2021, with a total of 369 teachers that are board certified. Carson City added 1 more National Board-Certified teachers to their total of 19. Douglas County has a total of 18 National Board teachers. Lyon County had another teacher certify and has a total of 20 board certified Teachers, Churchill has a total of 9 certified teachers and Storey County has 1 National Board-Certified teacher. "The process of certifying has also been shown to aid in teacher retention, develop teacher leaders, and build communities of learners pursuing excellence in their teaching practice (Stanford National Board Resource Center)," so it continues to be a priority to retain and lesson the attrition rate of accomplished teachers, especially in rural areas around our state.

Participating in the Northern Nevada Cohort doesn't guarantee that candidates will certify, but it has greatly increased candidate's chances of becoming National Board Certified. In 2020-2021, we had an 81% pass rate, which attributed to participants actively attending cohort sessions and submitting their work for feedback.

Delivery of Service

During the 2021-2022 school year, the cohort met monthly at Sparks High School starting in August and ended in early May. Candidates were separated into their certificate areas (1. English Language Arts, Library Media 2. Early Childhood Generalists, Middle Childhood Generalists, Literacy, and Exceptional Needs 3. Math and Science 4. Music, Social Studies, and English as a New Language), so they could participate in purposeful collaboration with other educators who were familiar with their teaching roles. Each group was supported by two candidate support providers (CSP's), with the goal of building teacher's capacity around the National Board Core Propositions (1. Teachers are committed to students and their learning, 2. Teachers know the subjects they teach and how to teach those subjects to students, 3. Teachers are responsible for managing and monitoring student learning, 4. Teachers think systematically about their practice and learn from experience 5. Teachers are members of learning communities), so they could ultimately improve instruction to better meet the strengths and needs of their students. Every Wednesday, two CSP's also hosted a virtual support session to guide and answer candidate's questions. Candidates were also given a participant agreement, which provided them details about their responsibilities as a candidate and what the role of a Candidate Support Provider (CSP) entailed. Candidates were encouraged to submit their work frequently to the google form to receive feedback on their written work. The eight CSP's were also available to meet with candidates individually for extra support as needed. A calendar with due dates was also given to candidates, with the goal to help candidates break up their work into manageable pieces throughout the year and to avoid procrastination.

Results and Reflection

The findings for this year-long study revealed significant professional growth for teachers. Many teachers commented that participating in the National Board Cohort was the best Professional Development that they have taken in their teaching career, and even more impactful than earning their master's degree. At the end of the Cohort sessions, candidates completed a survey about their overall reflections.

Responses to survey questions:

Do you think differently about any of your previous teaching practices or have a shift in mindset about anything now that you have participated in this cohort? How will this experience impact you as an educator?

- Many candidates commented that using multiple sources to get to know their students provided more insight to learn about their students at a deeper level than they had in years past. Due to their collaboration with multiple stakeholders, they were able to confidently talk about their students in their PLC teams, with parents and administrators.

- Participants frequently pointed out that they are more purposeful about what they do with their students. Instead of using Teacher Pay Teacher or 'Fluff' worksheets, they are using data to identify strengths and areas of need for their students to drive their instruction.

- Participants noticed more student agency within their classrooms, due to the implementation cycle of the Architecture of Accomplished teaching (what I know about students, students setting high worthwhile goals, implementing instruction, assessing, reflecting and starting over again). Students are involved in the self-assessment process and teachers are offering more choice in products or processes of their work.

- Teachers commented that the National Board process helped them make shifts in their teaching practices, including adjustments to their lesson plans to meet the needs of individual students, using data in new ways to assess student progress and learning goals, and deepening their content knowledge.
  .

- Most teachers articulated that they think differently about their teaching practices. They are always thinking about how they could do better, reflecting on lesson planning and how lessons went so that they could make adjustments to their teaching or reteach in small groups.

Please tell us something that worked well for you during your National Board Cohort experience.

- Most candidates acknowledged that the calendar with due dates helped them stay on track for each component and prevented them from procrastinating.

- Participants noted that being able to upload their written commentary, student evidence, forms and videos to the Google form for feedback helped guide them. Feedback with sentence stems was especially helpful for candidates (I chose ____ because_____, I differentiated for ____ when I_____ etc.).

- Participants also commented that they felt supported by the CSP's during cohort sessions, virtual support sessions, and in 1-on-1 coaching meetings.

- Participants mentioned that weekly emails with reminders, tips and positive encouragement helped motivate them to continue the process, especially when they became busy and wanted to give up.

- Participants agreed that meeting and collaborating regularly with other teachers around the region, helped them examine their practice more closely and identify more effective teaching practices.

Please provide us with feedback on how we can improve the cohort experience.

- Several candidates commented that they would have liked a deeper dive with data analysis and more examples of how they could show data as evidence on the component 4 forms.
- Candidates mentioned that we should make a summer to-do list which highlights books to read, annotate the certificate area standards, navigate the National Board web site and read the instructions for each of the 4 components, so candidates have a better understanding of the whole process.
- Many candidates talked about including a day within the cohort that was specifically dedicated to a hands-on session to go over technology skills (making files, best ways to film students, how to get videos off phones, and compressing videos to MP4).

Candidates within the Northern Nevada region rated the overall 2021-2022 cohort sessions 4.58-5 out of a 5-point scale, indicating they were very satisfied with the overall cohort services.

Table 28: National Board Candidates Survey Results

(Scale 1 = not at all, 3 = to some extent, 5 = to a great extent	Averages of regions (WCSD, Douglas, Lyon, Carson City):
1. The activity matched my needs.	4.94
2. The activity provided opportunities for interactions and reflections.	5
3. The presenter/facilitator's experience and expertise enhanced the quality of the activity.	5
4. The presenter/facilitator's efficiently managed time and pacing of activities.	4.97
5. The presenter/facilitator modeled effective teaching strategies.	4.92
6. The activity added to my knowledge of standards and subject matter content.	4.97
7. The activity will improve my teaching skills.	5
8. I will use the knowledge and skills from this activity in my classroom or professional duties.	5
9. The activity will help me meet the needs of diverse student populations (e.g., gifted and talented, ELL, special ed., at-risk students).	5
10. If Yes, has your past participation changed your Teaching Instruction or Administrator Responsibility?	4.58

Next Steps:

Survey results indicated that 12 candidates will be returning to the cohort next year to finish 1-3 components. In addition to this, over 50 teachers from the Northwest Region have also expressed interest at two of our informational meetings to join the cohort in the Fall. Surveys also indicated that candidates needed more in-person workday sessions to work on parts of their components with the support of the CSP's if they had questions. Therefore, for the 2022-2023 school year, 2 CSP's will host 2-hour blocks of time on the first Wednesday of each month to support candidates as needed. These meetings will be optional, but highly encouraged for participants to work towards meeting their calendar deadlines. In addition, to help build candidate's efficacy about the overall process, we included a summer to-do list for upcoming candidates. Candidates are encouraged to read and annotate their certificate area standards, familiarize themselves with each of the component's instructions, read and annotate the General Portfolio (this houses many of the rules about the process) and navigate the National Board website, so they can efficiently find resources as they start their journey. In the Fall, we will continue our 2 all-day jumpstart days to help candidates clearly see the big picture. During those sessions, candidates will create large visuals of all the pieces for each component and also create checklists, so they know what is expected of them throughout the year.

Table 29: National Boards Candidate Plans for Submission

Component	**I submitted this year on May 18th:**	**I plan on submitting Next Year:**
Component 1	60%	1%
Component 2	51%	23%
Component 3	71%	23%
Component 4	69%	11%

Conclusion

Overall, survey results indicated that the cohort sessions and the amount of support that the CSP's provided to candidates throughout the year was extremely helpful and increased teacher's efficacy and confidence, so they felt more empowered as they went through the process. Teachers expressed that they grew more in one year, than the combination of multiple years in the past. For the most part, teachers felt 'illuminated' and commented that even though working on their National Boards was one of the most challenging things they have done in their career, going through the process proved to re-energize and ignite their passion for teaching again. As a result of participating in the cohort, teachers are more intentional in what they do with students, use data to set high worthy goals, encourage student agency and reflect on their teaching practice more than in year's past.

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2021-22 Case Study: National Board Cohort Logic Model

Situation: The National Board process was developed to recognize and retain accomplished teachers. The process requires teachers to exhibit a deep understanding of their students, content knowledge, and use of data and assessments to guide their instruction. In addition, teachers must show participation in learning communities and provide evidence of ongoing reflection and continuous learning. The challenge is how do we continue to increase the amount of Nationally Board-Certified Teachers within our Northwest region, in a time when many teachers are struggling to meet the day to day demands of the current educational conditions?

Inputs	Outputs		Outcomes -- Impact		
	Activities	*Participation*	*Short*	*Medium*	*Long*
Funding (supplies, stipends) RPDP Director RPDP Facilitator Candidate Support Providers National Board Candidates	Year-long professional learning centered around each of the 4 National Board Components Year 1 = 45 hours of professional learning Year 2 and 3 = Up to 45 hours of professional learning Optional weekly virtual support sessions Individual focus on National Board portfolio components (1,2,3,4) Calendar with tentative due dates to keep candidates on track for May submission date. Reflective practice, and Goal Setting using the Architecture of Accomplished Teaching, 5 Core Propositions, Certificate Area Standards and the Level 3 & 4 Rubrics.	7 Candidate Support Providers/Facilitators 75 Year 1-3 Participants 30 MOC-Maintenance of Certificate (Renewal) Participants	National Board Candidates report increased confidence with their teaching pedagogy. National Board Candidates indicate professional growth and increased reflective practice during participation in the cohort. National Board candidates increase referral of colleagues to the Northern Nevada National Board Cohort. **Measures:** Candidate Attendance Rates at Cohort, Post-Reflective Survey Results, Qualitative Session Feedback Surveys, Quality of Candidate Videos Pre & Post-Feedback	Accomplished teachers who participate in this cohort increase leadership roles at their sites, in their districts, and within the profession. National Board candidates who complete the 1-3 year process increase their teaching alignment to National Board Standards. **Measures:** Case Study, Candidate Retention Rates, Candidate Attendance Rates at Cohort, On-Time Submission of Components.	Accomplished National Board Teachers recruit other teachers to participate in the Northern Nevada National Board Cohort. National Board Candidates are implementing strategies from the National Board process and using them in their own practice. Increased teacher leadership roles in state agencies, union leadership, or professional associations. **Measures**: NBPTS Candidate Pass Rates, District Participation, Candidate Retention Rates, Future Cohort Recruitment Rates, Training Ratings, Case Study.

Assumptions: National Board Candidates are committed to becoming a National Board-Certified Teacher. With multiple supports and sessions that are catered to their diverse needs, teachers will increase their self-efficacy, reflective practice and work in PLC's to meet the needs of their students.

External Factors: COVID-19 Pandemic disruptions (student/exclusions), Staff/Substitute shortages, teacher fatigue, financial limitations

Figure 11: Case Study- National Board Cohort Logic Model

Social Studies Vanguard: A Focus on the Indigenous Cultures of the Americas, Then and Now

Introduction/Abstract

Social studies has become a major focal point within the political discourse of our nation over the past few years. A major struggle for social studies teachers has been push-back from parents, community members, and in some cases lawmakers about teaching Critical Race Theory. While CRT has become an inflammatory hashtag, in reality social studies teachers are merely presenting material in a way that speaks to all of their students by expanding the perspectives and topics they cover in their classrooms. This is not Critical Race Theory but in actuality, the other CRT, Culturally Responsive Teaching. With this focus in mind, the Social Studies Vanguard in Washoe County has been specifically focused on enriching the teaching of indigenous history and current issues in an attempt to better represent a group that has been previously marginalized in our classroom materials. For the 2021-2022 school year, the group decided to focus on indigenous history and issues from a local, national, and global perspective.

Instructional Context

Washoe County School District (WCSD) is the second largest district in Nevada encompassing mostly urban but some rural areas in addition to a wide variety of socioeconomic statuses. Many in the Social Studies Vanguard have participated in this cohort, or a variation of it, for over ten years while there are also newer teachers in the group who joined one to two years ago. Many have received training in standards-based strategies and content at the Northern Nevada Council for the Social Studies annual conference, WCSD's Social Studies Content Day, and various book studies and topic specific professional development.

The teachers involved in the cohort are a collection of middle school and high school teachers who teach a mixture of US History, World History, Geography, American Government, and Economics. They come from 16 different schools across the district.

The Nevada Academic Content Standards for Social Studies were adopted in 2018. They marked a major shift in teaching practices for most social studies teachers. Previously, the social studies standards were largely focused on content whereas the 2018 standards combine content with disciplinary skills such as argumentative writing, evaluation of sources, inquiry and critical thinking, and discussion. Furthermore, the content standards include a focus on multicultural history and the inclusion of diverse perspectives and narratives. The WCSD social studies community is continuing to develop resources that align to these standards, hence the purpose and mission of the Social Studies Vanguard.

Initial Data and Planning

The Multicultural theme within the 2018 standards includes topics of social justice and the historical and cultural contributions made by various racial and ethnic groups. Over the past few years this has been one of the biggest areas of focus as there are not many resources that speak to this content theme and textbooks and other adopted resources are severely outdated. The website, Project Tahoe, has served as a digital warehouse for teacher created resources available to all social studies teachers. The resources were by and large developed by teachers who participated in professional learning in both content and pedagogy and then developed resources out of those trainings. The Social Studies Vanguard (in its various iterations throughout the years) has been responsible for the bulk of this work. However, at the end of last year, the participants and facilitators of this group audited the content on Project Tahoe and discovered that there was a lack of resources representative of Native American history and culture. In fact, there were only a handful of lessons available and of those only at the middle school level.

Additionally, the topics of these resources were very narrow in scope only dealing with content spanning from European arrival to the Americas up through Indian Removal. We found that teachers were only covering surface level content when it came to Indigenous history and contributions to the world. Furthermore, we were presenting these cultures as those whose history ended after Indian Removal without giving credence to their many notable experiences and achievements that have continued past removal up through today. As Daniel Cobb of the University of North Carolina explains, "The history of tribal nations is one of durability, integrity, perseverance and grit through more than 500 years of colonialism. The survival of the Native Americans is one of the extraordinary stories of survival in human history. The American Indians should be considered as peoples with a past and not people of the past."

Our goal then, was to develop more resources to be available to teachers on Project Tahoe and the WCSD Social Studies Microsoft Team to help expand the depth and breadth of lessons on indigenous history and culture. To do this, the Social Studies Vanguard met four times throughout the year for eight hour sessions to learn about various topics around Indigenous history and new strategies in which to deliver this content to students. At the conclusion of our training and work for the year, participants took a pre/post survey on their prior knowledge of the content we covered and their usage or planned usage of the resources that the group developed.

Delivery of Services

The Social Studies Vanguard met four times for eight hour sessions during contract time. Initially, our plan was to meet five times this year but we had to cancel our February meeting due to COVID concerns and substitute shortages. Two of these sessions took place at locations relevant to the topic of study, one day at the Stewart Indian School Cultural Center and Museum and one day at Pyramid Lake High School and at the Pyramid Lake Museum and Visitors Center. Sessions consisted of background learning on indigenous topics and engaging in strategies that aligned with the disciplinary standards. For each session, expert lecturers were brought in to give more background and to speak to current indigenous issues. Each session covered a different topic area. Topics included: Indian Boarding Schools and their ongoing impacts within communities, tribal membership and structure, rights of indigenous groups and current crises, and indigenous students and the ways communities work to pass on their culture. The goal of each session was for teachers to walk away with deeper knowledge of these issues in addition to a new strategy they could use to deliver this content. The strategies were specifically aligned to the disciplinary skill standards and ranged from primary and secondary source analysis, claim development, discussion, and inquiry.

Results and Reflection

Teachers in the Social Studies Vanguard were asked to reflect on their learning after our last training in May 2022. They were given a post-reflective survey to measure their increase in knowledge about indigenous history and issues. The areas of knowledge focused on intergenerational trauma of indigenous cultures and impacts, Indian boarding schools and their purposes and practices, Indian boarding schools and examples of student resistance and resilience, structure of tribal governments and processes of enrollment and interactions with outside government entities, and current issues facing indigenous cultures. Teachers rated themselves on a scale of one to five with one being no knowledge and five being extensive knowledge. The results are shown in the table below and in the narrative following.

Table 30: Post Reflective Survey Data

	Before	**After**	**Increase**	***t*-test**	***p*-value**
Intergenerational trauma of indigenous cultures and its impacts	2.64	4.27	1.63	-8.05	<.001
Indian Boarding Schools: their purpose and practices	3.18	4.45	1.27	-4.81	<.001
Indian Boarding Schools: student experiences, student resistance and resilience	2.95	4.41	1.46	-4.74	<.001
Structure of Tribal Governments: Establishment, enrollment, interactions with federal and state governments	2.59	4.09	1.50	-5.94	<.001
Current Issues Facing Indigenous Cultures:	2.82	4.32	1.50	-6.95	<.001

The self-rating for "intergenerational trauma of indigenous cultures and impacts" changed from a mean of 2.64 before the class to 4.27 after the class which was an increase of 1.63. This has a t-score of -8.05 with a corresponding p-value of <.001. The self-rating for "Indian boarding schools and their purposes and practices" changed from a mean score of 3.18 before the class to 4.45 after the class which was an increase of 1.27. This has a t-score of -4.81 and a corresponding p-value of <.001. The self-rating for "Indian boarding schools and examples of student resistance and resilience" changed from a mean score of 2.95 before the class to 4.41 after the class which was an increase of 1.46. This has a t-score of -4.74 and a corresponding p-value of <.001. The self-rating for "structure of tribal governments and processes of enrollment and interactions with outside government entities" changed from a mean score of 2.59 before the class to 4.09 after the class which was an increase of 1.50. This has a t-score of -5.94 with a corresponding p-value of <.001. The self-rating for "current issues facing indigenous cultures" changed from a mean score of 2.82 before the class to 4.32 after the class which was an increase of 1.50. This had a t-score of -6.95 with a corresponding p-value of <.001. This indicates statistically significant improvement in all areas.

Teachers were also asked to reflect on their own efficacy in teaching indigenous history before and after their participation in Vanguard this year. Bulleted below are some of the comments gathered in response to the following question: In two to three sentences, explain how your participation in Vanguard this year has changed your practice when it comes to teaching indigenous history?

- Loved getting an authentic perspective on the challenges Native Americans have faced past and present. Visiting my neighbors at Pyramid Lake allowed me the opportunity to ask important questions and get answers I can relay back to my students.
- In addition to making me more aware of indigenous issues, I feel empowered to explore the histories and cultures of native tribes.

- It has shifted the lens regarding how we approach the topic in my classroom. It has become less of a victim story and instead a more nuanced version of events.
- I have many students who live in Hungry Valley. Participating in Vanguard this year has extended my knowledge on so many important topics in the indigenous community. I have created a DBQ on Indian Boarding Schools that not only addresses victimization and assimilation but resistance and resilience. I have also been able to talk to a group of students about MMIW [Missing and Murdered Indigenous Women] who are connecting their informed action project to this. I feel more connected to my Native students and the ability to reach them and make them feel more included.
- This year helped me better understand the issues that Native Americans faced during their time in boarding schools. I also have better learned how Government policies have impacted Native rights and culture in America. This will help me better teach my students in the future.
- My experience in Vanguard this year has been incredibly instrumental in changing the way I not only teach about indigenous history, but the frequency and depth of which I teach it. I know about so many more resources for teaching it with fidelity and more accuracy than before.

Many of the teachers did not yet have an opportunity to implement these resources when they took the survey in May. Because many of the resources deal with current events, teachers were either using them in later May/June or were intending on using them next year. However, those who did utilize the resources this year focused on Indian Boarding Schools, Indian adoptions and challenges to the Indian Child Welfare Act, and the Water Wars in Los Angeles and the impact of scarce resources on tribal communities.

Teachers were also asked to reflect in writing on the impact they saw in their own classrooms. Bulleted below are some of the comments gathered in response to the following question: If you did implement any of the resources this year, please provide a statement on the learning outcomes for your students?

- Students were able to identify how American Indians have shown resistance and resilience throughout history by analyzing multiple sources.
- I invited Brian Melendez [one of our guest lecturers] to my AP classes to talk to kids about native affairs.
- Students have a greater understanding of indigenous history over time in US History and are aware of the issues that many still face.
- My students were surprised by most of what we discussed. They were very interested and engaged as we worked toward explaining the concept of tribal sovereignty and how it is both restricted and acknowledged by the federal trust relationship and by relationships with the states. My students have a much better understanding of historical experiences and contemporary issues in North America from the perspective of Native American peoples.
- The Podcast Precis was a great strategy for my AP Human Geography class. Case studies are huge in this class, and this was a perfect way to use case studies.
- The kids learned a lot and were very engaged. Even now, at the end of the year, they're still talking about it. It was a memorable learning experience for them because it connected to their emotions.

The next steps for this group will be to implement the lessons that were created this year in their own classrooms and to continue to develop additional resources based on their learning this past year.

Facilitators of this group have already begun to engage in classroom observations to obtain data on the effectiveness of these lessons in classrooms and will continue to do so into next year.

Conclusion

Having to cancel and reschedule some of our sessions due to COVID concerns and sub shortages meant that teachers received these resources and instruction later in the year than initially anticipated and therefore had less time to utilize these resources as the year came to a close. However, because of the teacher's increased efficacy when tackling this difficult content, they will be better prepared to implement these lessons next year and more encouraged to develop their own material that aligns with this learning. Based on conversations the facilitators had with these teachers at the beginning of the year, it was clear that many were uncomfortable delivering instruction focused on indigenous history and issues because of their lack of knowledge on the topic. It was important to these teachers to tell these stories in a way that was respectful and thorough. It is therefore important to continue these types of trainings focusing on historically marginalized groups so that we can continue to make our social studies curriculum and classroom hubs of inclusivity.

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2021-22 Case Study: Social Studies Vanguard: A Focus on the Indigenous Cultures of the Americas, Then and Now Logic Model

Situation: In-service Class (5 meeting times and asynchronous work)
Since the adoption of the NVACS Social Studies Standards in 2018, Washoe County social studies teachers have been hard at work developing resources that align with these standards. The Social Studies Vanguard was created in part for this very purpose and includes 30 (20 high school and 10 middle school) secondary teachers. After taking inventory of the focuses and types of lessons the group has created thus far, we realized that there was a lack of lessons aligned to the Multicultural strand of standards within the secondary grade levels. Therefore, the group has decided to narrow its focus in order to develop resources that emphasize the history and reality of cultures who have not been given due attention in the curriculum. This year, our focus is on the indigenous cultures of the Americas. Teachers will participate in 5 professional learning sessions aimed at increasing their knowledge of these cultures and their history in addition to asynchronous time spent developing resources.

Inputs	Outputs		Outcomes -- Impact		
	Activities	*Participation*	*Short*	*Medium*	*Long*
NVACS-Social Studies WCSD K-12 Social Studies Curriculum Guide Articles and instructional resources to support professional learning of participants Guest speakers from: *Stewart Indian School Cultural Center and Museum*, *The Reno-Sparks Indian Colony*, and the *University of Nevada, Reno* RPDP and WSCD C & I facilitators Substitutes- 5 sub days (Nov. 4th, 2021, Nov. 30th, 2021, Feb. 10th, 2022, April 19th, 2022, and May 12th, 2022) Sites for training	5 full days of professional learning for teachers Teachers will engage in activities that will increase their own knowledge of the history and modern realities of various indigenous cultures. Teachers will be creating resources based on what they learn in the professional learning sessions for grades 6-12. Posting instructional resources to *Project Tahoe*. Presentation of resources at the *Northern Nevada Council for the Social Studies Annual Conference*.	2 facilitators (RPDP and C&I) 30 6-12 Social Studies Teachers	Increased knowledge of the history and modern issues of a variety of indigenous cultures across the Americas. Measures: Teachers will complete a pre-post survey that asks about their knowledge of indigenous cultures prior to the training and following the training.	Increased instructional efficacy in designing instruction focused on the history and modern issues of indigenous cultures. Increased number of NVACS-Social Studies instructional resources aligned to the Multicultural strand of the standards that are available to teachers across Nevada. Measures: The pre-post survey will also contain reflective questions about how comfortable teachers are implementing lessons on indigenous cultures and how it has changed their practice.	Increase in the number of teachers utilizing the NVACS-Social Studies instructional resources aligned to the Multicultural strand. Increase student's exposure to the history and experiences of indigenous cultures across the Americas. The pre-post survey will list topics covered in the training as well as resources created to measure which ones teachers have included in their instruction.

Assumptions: Training will increase teacher efficacy. By participating in professional learning, teachers will be more prepared and able to create effective resources.

External Factors: Availability of substitutes. Available time teachers have to create resources asynchronously.

Figure 12: Case Study- Social Studies Vanguard: A Focus on the Indigenous Cultures of the Americas, then and Now Logic Model

Parent Involvement and Family Engagement Graduate Course through Southern Utah University

Introduction/Abstract

"At the end of the day, the most overwhelming key to a child's success is the positive involvement of parents."

– Jane D. Hull, Former Arizona Governor

The Office of Parental Involvement and Family Engagement was created in 2011 to actively promote and support the participation and engagement of families and communities in a child's education. Pursuant to NRS 391.019 and NAC 391.030 effective July 2015, initial licensees require at least 3 semester hours regarding parental involvement and family engagement that: is consistent with the elements and goals for effective involvement and engagement set forth in NRS 392.457; and includes an emphasis on building relationships, outreach to families, and developing an appreciation and understanding of families from diverse backgrounds.

Nevada defines family engagement as a shared responsibility between schools, families, and communities where all receive equitable access to tools and support needed to successfully work together toward the development of children and youth for college, career, and lifelong learning. Many studies have found that family engagement in a child's education, regardless of income or background, leads to higher grades and test scores, enrollment in advanced programs, improvement in school attendance, better social-emotional skills, increased graduation rates, and higher college persistence rates.

The goal of the course is for participants to understand the latest research on family engagement and its impact on the school community, explore what systemic, integrated family engagement looks like as well as the infrastructure, roles, and skills required to sustain effective family engagement. "Family engagement demands a major shift in mindset from one of devaluing families to one of valuing families. Valuing family engagement means building on family strengths and co-creating with families. It means rejecting old scripts about families and the negative assumptions that certain families are less engaged and invested in their child's learning and development. Research has proven these negative assumptions to be a myth and that the different and innovative ways families engage in their child's learning often goes unrecognized. All families want what is best for their children and the most effective family engagement initiatives build upon families' strengths and funds of knowledge (Global Family Research Project, 2018)."

The objective of this case study is to continue offering a rigorous and relevant three credit graduate course that fulfills the family engagement requirement for initial teacher licenses. Nevada has included family engagement in its state education plan under *Every Student Succeeds Act* and its five-year state improvement plan because of the positive impact it has on student outcomes.

Instructional Context

There are large numbers of teachers, counselors, social workers, school nurses and other educators across the Nevada region who needed the course to remove the provision on their teaching license. The course quickly fills up so Northwest Regional Professional Development offers the course four times

during the school year. The focus of this case study was on the Spring section that started April 2nd, 2022 over Zoom on Saturdays from 9:00PM-11:00PM. The course also requires weekly assignments and a final project completed online.

Initial Data and Planning

In 2020, a NWRPDP trainer collaborated with the professional development coordinator in Carson City School District to develop a learning model and process for teachers and administrators that would fulfill the NRS requirements. The resulting course resources provided research-based best practices, tools, and supports needed to create partnerships between school and families. The course was designed around strategies to build relationships, communication skills, and knowledge in the area of family engagement and parent involvement. The textbook used for the course was *Home, school, and community collaboration: Culturally responsive family engagement 4th edition* by Kathy B. Grant. Harvard's "Dual Capacity-Building Framework for Family-School Partnerships" model was employed as a guide to lay out the goals and conditions necessary to chart a path toward effective family engagement efforts that are linked to student achievement and school improvement. The National Standards for Family-School Partnerships also were used to structure the content of the course.

The Parent Involvement and Family Engagement course has been offered ten times since the pilot course. Throughout the courses, feedback was requested from educators about the effectiveness, usefulness, and strategies employed throughout the professional development sessions. Per this feedback, sessions have been streamlined and an application piece has been added that requires teachers to implement changes into their practice. Guests speakers have been added that elaborate on the content in the textbook and allow educators to explore community resources.

Delivery of Services

There were 22 participants comprising elementary and secondary teachers, speech pathologists, counselors, an administrator, and other educators from Washoe, Lyon, Carson, and Clark Counties as well as charter schools throughout Nevada. Because of the impact of COVID 19, classes were modified to Zoom sessions. Educators participated in eight sessions of Zoom meetings and on-line Canvas assignments totaling 45 hours. Areas of foci included: defining family engagement, overcoming challenges, improving communication skills, welcoming families, home visits, cultural responsiveness, district and community resources, and creating partnerships with families. Connections were made to the Nevada Educator Performance Framework and the Charlotte Danielson Evaluation Protocol. Dates of service were 4/2, 4/9, 4/16, 4/23, 4/30, 5/7, 5/14, and 5/21. To conclude each session of training, the instructor asked participants for feedback to guide and modify subsequent trainings. Guest speakers presented on The Mckinney-Vento Act and Children and Families in transition, Culturally Responsive Family Engagement, Parent Family Home Visits, and a Parent's Perspective on Advocating for Special Education services for her child.

Results and Reflection

Data were collected in the form of survey ratings and question responses. The teacher survey results in the table below reflect the effectiveness of the training. pre- and post-assessment feedback about specific information about the usefulness of the course.

Pre- and Post- Assessment Feedback Table

Please rate your knowledge of the following topics BEFORE attending the course and AFTER attending the course using a 1-5 scale (1= Poor, 5= Excellent)

Table 31: Post Reflective Survey Data

	Knowledge Before	Knowledge After	Change	*P Value
Knowledge of the Nevada Law NRS	2.89	4.33	+1.44	< .001
Dual-Capacity Framework and National PTA Standards	2.38	4.05	+1.67	< .001
Ideas to Support Family Engagement at Your School Site	2.94	4.22	+1.28	< .001
Effective Communication with Families- Ex. Positive Phone Scripts	3.22	4.38	+1.16	< .001
Implications of Diverse Family Structures	2.94	4.33	+1.39	< .001
Culturally Responsive Family Engagement Practices	2.88	4.11	+1.23	< .001
McKinney-Vento Act and Helping Families in Transition	2.5	4.33	+1.83	< .001

*P Values show significant growth in all areas.

Next Steps

The teachers were also surveyed about the usefulness of the training and the likelihood of idea and strategy implementation using the NWRPDP training evaluation. The teachers were asked to rate each of the statements on a Likert scale of 1= Very unlikely to 5= Very likely on the following statements and questions.

Table 32: Post Reflective Survey Data

Questions	Mean
How likely are you to use ideas and strategies from this course?	4.56
This course offered useful and important information about Parent Involvement and Family Engagement.	4.67

Narrative

The final project was to review all of the chapters in the textbook and choose a topic of interest and create an annotated bibliography/toolkit of resources (articles, books, videos, websites, local agencies, etc.) that provide more information, materials and ideas to address their self-selected topics. Topics ranged from Welcome Back to School resources for families, communication strategies, resources for specific populations such as ELL, students with disabilities, toolkits for Families in Transition, and

resources for DACA/Undocumented families to support their students with access to college/higher ed. Participants were very passionate about their topics and intent on using the project that they created. When asked about how they planned on using and implementing new knowledge and ideas, they responded:

> *As a resource guide for those in need and to help my families when they ask for resources.*
>
> *I will use my family project as a tool to help my ELL parents better support their*
>
> *When I have a question I will go back to my project to look for info., as well as provide it for parents and other colleagues.*
>
> *I will provide it to the families of my DHH students, so they have resources for while their student is in special education and post-graduate.*
>
> *I will compile all the research and create a roadmap which could be useful for students each year of high school*
>
> *My project is a packet home that involves family engagement by educating families and students on what they need in order to be successful in high school.*
>
> *By applying the information in my teacher newsletters and using the strategies in class with students who need to learn how to communicate and express themselves. For example, using the strategies as social team building activities*

Participants were asked to comment about the most beneficial part of the course and it was apparent that breakout room collaboration and information from guest speakers was valued and led to changes in perspective and mindset about families.

> *Honestly, the most beneficial aspect of the course was the breakout rooms, and being able to really discuss PIFE with teachers from other districts as well as the same districts.*
>
> *I really enjoyed learning about the McKinney Vento Act. A lot of my students are in low-income situations, and we have had some that are in transition between housing, so now I know who to refer to and how to provide them support. Prior to this class, I did not know about the act or what resources it could provide our families.*
>
> *I think the McKinney-Vento speaker, and communicating with diverse types of families, recognizing the diversity of family structures was an eye opener for me.*
>
> *Learning from other educators about their effective strategies on reaching out to their parents and community. I learned that we all struggle sometimes but with the right amount of empathy and respect we can create meaningful relationships with the families at our school, no matter the background, race, or upbringing.*
>
> *Becoming more aware of diversity in the community and how to increase collaboration among everyone involved to the best of my ability.*
>
> *Honestly, I really loved the breakout sessions where we could talk among our peers and learn from one another while sharing shared experiences.*

The breakout rooms. I loved being able to talk with a variety of different people.

Empathy....understanding that we all have different factors that affect our lives.

Really liked the structure and the activities and listening to others ideas, suggestions and strategies.

Responses on the survey provide evidence that the quality of the course was excellent and that teachers found the instructional and material valuable. Teachers wrote the following comments about the quality of the class:

I am grateful for this course. It not only reinforced some knowledge I previously had about the subjects discussed, but also brought up new things I have yet to experience as well as suggestions on how to approach them.

I learnt a lot from the course and hope to take that knowledge to help families in my new school.

I thoroughly enjoyed the class and all the resources it has to offer.

Excellent course and would recommend it to others.

I liked the hyperdocs and the teacher.

Class was far more valuable than I anticipated. Thank you!

Desiree is awesome. She's really flexible and provides good feedback.

Thanks so much for this course Desiree! I look forward to taking other ones from you!

Desiree, thank you so much for being such an amazing, understanding and effective educator! I learned so much from you!! Thank you!! :)

Conclusion

It is evident from the data collected that the Parent Involvement and Family Engagement course had a significant impact on teacher implementation, educator mindset and confidence in working with families. Teachers felt that the course requirements had a positive effect on their instruction and relationships with families. Participants appreciated the style and delivery of the course and reflecting on material with their peers. Written responses indicated that educators intended to use the information from the trainings within their classrooms and that students gained quality conceptual understanding from the strategies implemented to engage families in the school community.

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2021-22 Case Study: Parent Involvement and Family Engagement Graduate Course Logic Model

Situation: Regional Parent Engagement Course
Course will explore the expectations of teachers in regard to state and district requirements and expectations for parent engagement and family involvement; working with parents and families to promote and strengthen communication and collaboration; to develop equal partnerships; and to empower parents and families to advocate for both their children's learning and school decision making in school policies, practices and programs.

Inputs	Outputs		Outcomes -- Impact		
	Activities	*Participation*	*Short*	*Medium*	*Long*
NEPF rubrics Use of Canvas on-line forum for assignments and discussion Home, School, and Community Collaboration: Culturally Responsive Family Engagement by Kathy B. Grant and Julie A. Ray 45 hours of instructional time Three graduate credits from SUU	Teachers discuss assigned text Teachers practice positive phone scripts, meetings, strategies/ideas during the collaboration Teachers brainstorm and have dialogue about implementation Teachers actively listen to guest speakers and reflect on message Teachers Assessment of Teacher Growth and Understanding	Secondary teachers from Carson School District Churchill School District Washoe County School District Carson School District Social Workers Speech and Language Pathologists Counselors Librarians Substitute Teachers	Learning (instantly) Increased Teacher Confidence and Efficacy in two-way communication with parents Increased knowledge of resources for teachers, families, and communities **Measures:** Case Study Workshop Ratings	Action (over time) Increased Pedagogical Knowledge Emphasizing the importance of family engagement Increased scores on Nevada Evaluation Performance Framework (professional standards) 3 graduate credits that remove provision from teacher license **Measures:** Coaching Case Studies	Increased Family Partnerships Increased use of culturally relevant communication practices Increased Teacher Collaboration/ Development of Family Engagement ideas **Measures:** Teacher reported Parent and Student Climate Data

Assumptions: Training will increase student achievement and be evident to the administration during the evaluation process. Continued Funding

External Factors: Time and student ability. Administrator Expectations. State, District, and Social Site Contexts

Figure 13: Case Study- Parent Involvement and Family Engagement Graduate Course Logic Model

Appendices

Appendix A: Overview of regional services

Professional development services are reported in two formats: unduplicated counts which show how many teachers, administrators, paraprofessionals, and other educators were served in each county; and duplicated counts which reflect how many educators participated in trainings, many more than once. Tables 1 and 2 show these data in an overview format for the entire northwest region, broken down by elementary, middle, and high school for teachers. Administrator counts also are displayed along with a category of Others.

Table 1: Unduplicated Number of Educators Trained by the NWRPDP

District	ES Teachers	MS Teachers	HS Teachers	Administrators	Others*	Total by District
Carson	142	53	23	21	10	258
Churchill	105	47	51	13	54	272
Douglas	117	49	57	15	6	247
Lyon	97	31	39	28	6	211
Storey	2	6	1	2	2	13
Washoe	778	217	219	199	8	1,488
Totals	1,241	403	390	278	86	2,489

Table 2: Duplicated Number of Educators Trained by the NWRPDP

District	ES Teachers	MS Teachers	HS Teachers	Administrators	Others*	Total by District
Carson	241	102	29	44	13	447
Churchill	161	118	96	24	57	458
Douglas	267	103	111	21	7	513
Lyon	199	42	58	42	6	362
Storey	5	11	2	2	3	23
Washoe	1,550	278	332	284	9	2,583
Totals	2,423	654	628	417	95	4,386

*Others in Tables 1 and 2 include certified personnel who did not specify a grade level, substitutes, school counselors, district-level certified positions, and other participants such as paraprofessionals, and community members

A total of 2,489 educators, or 40% of the approximate 6,100 educators employed in the region (as reported by each district), participated in programs provided by the NWRPDP during 2021-22 (unduplicated count). In terms of how NWRPDP participants are broken down by district, in 2021-22, 10% of participating teachers and administrators were from Carson City, 11% were from Churchill County, 10% were from Douglas County, 8% were from Lyon County, 1% from Storey County, and 60% from Washoe County. Many educators attended programs on more than one occasion, resulting in a total of 4,386 contacts between the NWRPDP and educators during the year (duplicated count).

Type and Focus of Services - Regional Overview

The NWRPDP provides a variety of services for the six counties in the region. Figure 1 shows the breakdown in a visual format of the three broad types of services provided by regional trainers throughout the districts with a significant majority of services being in the form of instructional training and in-service classes for the 2021–2022 school year.

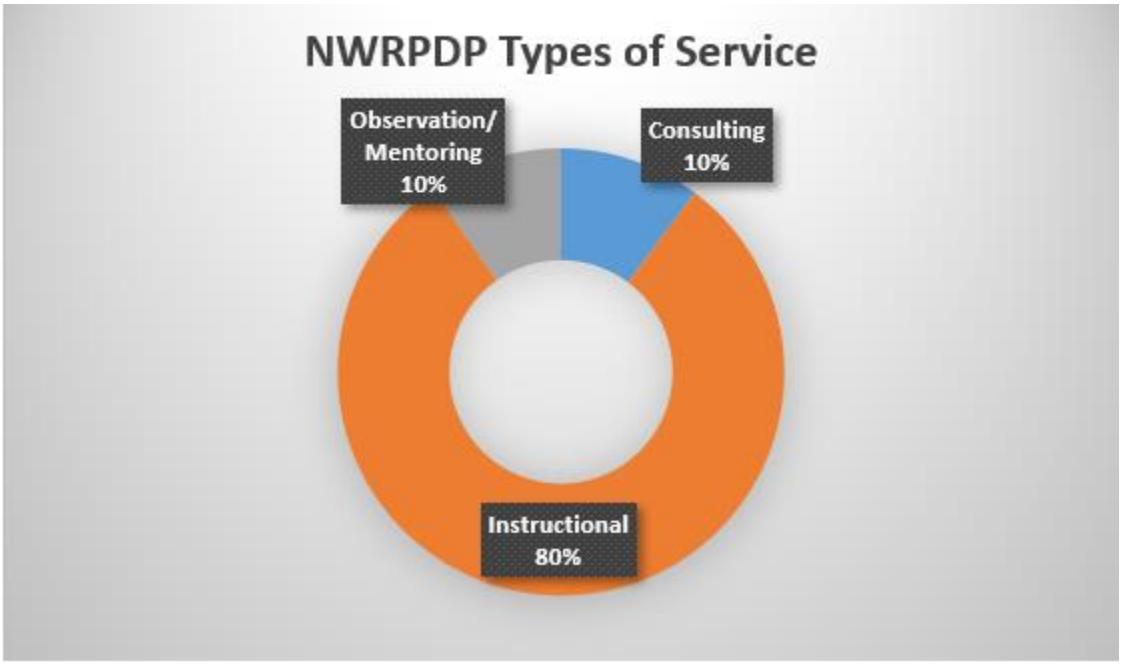

Figure 14: Types of Services Provided by the NWRPDP

Another measure of services is the focus of the services provided. This measure looks at the content of the services offered in the region (See Figure 2). The major areas of services provided in the region for the 2021–2022 school year were NVACS trainings in areas of NVACS Computer Education and Technology, Math, Science, and Literacy/English. The remaining areas of focus were diverse, and included professional learning opportunities in Family Engagement, Teacher Leadership, Social Studies, STEM, Computer Science, and Mindset/SEL.

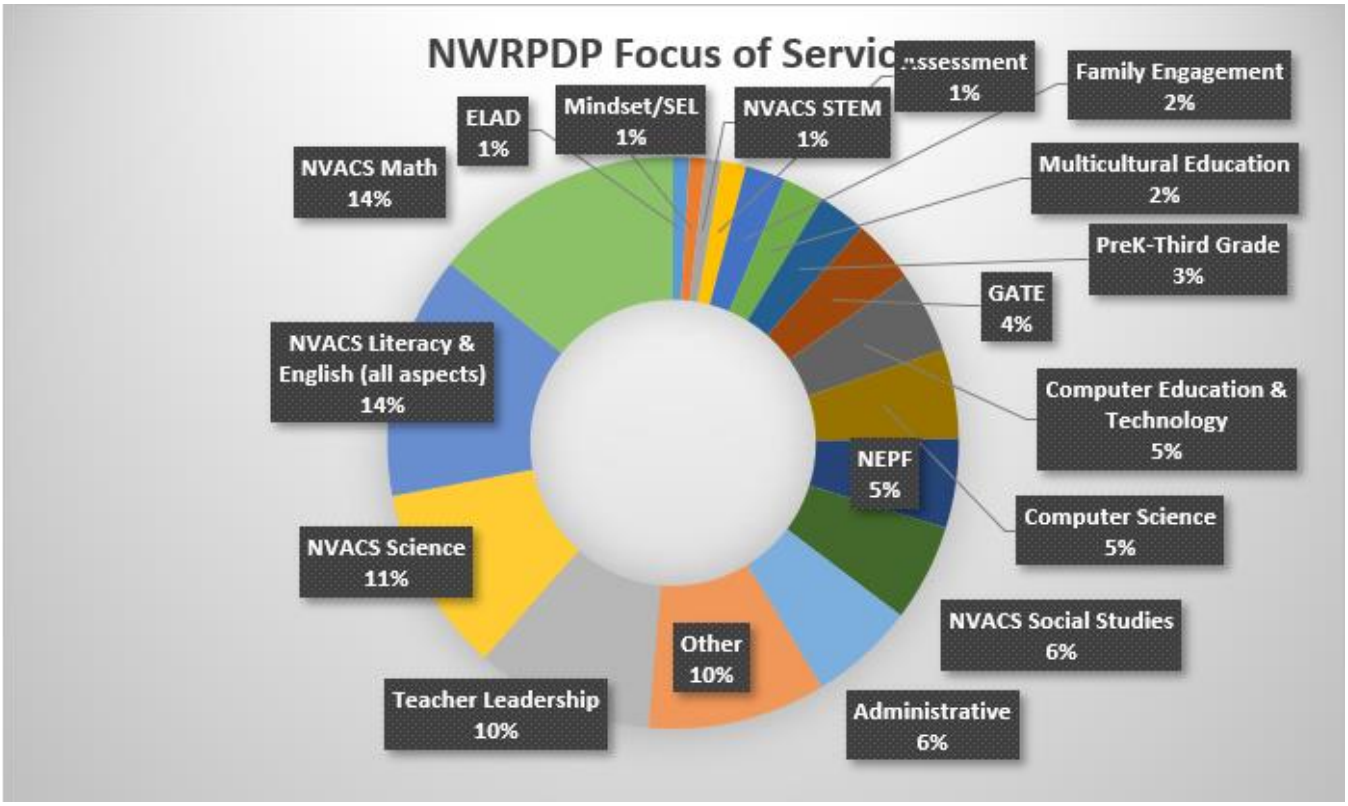

Figure 15: Focus of Services of the NWRPDP

Appendix B: Carson City School District Services Summary 2021-22

Carson City School District has 11 schools: six elementary schools, two middle schools, one comprehensive high school, one alternative high school, and one charter school. Carson has 7% of the schools in the NWRPDP Region, which includes 159 schools. Two full-time learning facilitators are housed in Carson.

Training focused mainly on the Nevada Academic Content Standards in Literacy/English, Math, and Computer Education & Technology. Other professional learning included Teacher Leadership, Computer Science, and Science.

Participant Mean Ratings on Quality of RPDP Trainings

(Scale: 1 = not at all, 3 = to some extent, 5 = to a great extent)	CCSD	Region
The activity matched my needs	4.56	4.58
The activity provided opportunities for interactions and reflections	4.73	4.79
The presenter/facilitator's experience and expertise enhanced the quality of the activity.	4.71	4.72
The presenter/facilitator efficiently managed time and pacing of activities.	4.68	4.70
The presenter/facilitator modeled effective teaching strategies.	4.62	4.67
This activity added to my knowledge of standards and/or subject matter content.	4.63	4.63
The activity will improve my teaching skills.	4.56	4.63
I will use the knowledge and skills from this activity in my classroom or professional duties.	4.64	4.69
This activity will help me meet the needs of diverse student populations (e.g., gifted and talented, ELL, special education, at-risk students).	4.51	4.61

Number of Educators Trained by NWRPDP

	Unduplicated	Duplicated
ES Teachers	142	241
MS Teachers	53	102
HS Teachers	23	29
Administrators	21	44
Others	10	13
Totals	258	447

Carson educators were 10% of the educators served in the region (Using the unduplicated regional count of 2,489 educators).

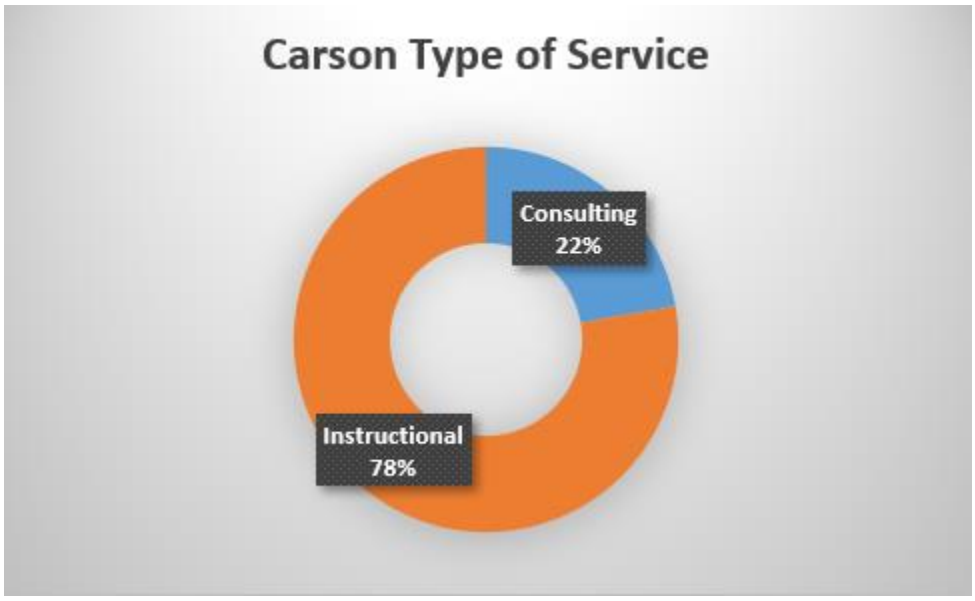

Figure 16: Types of Services Provided

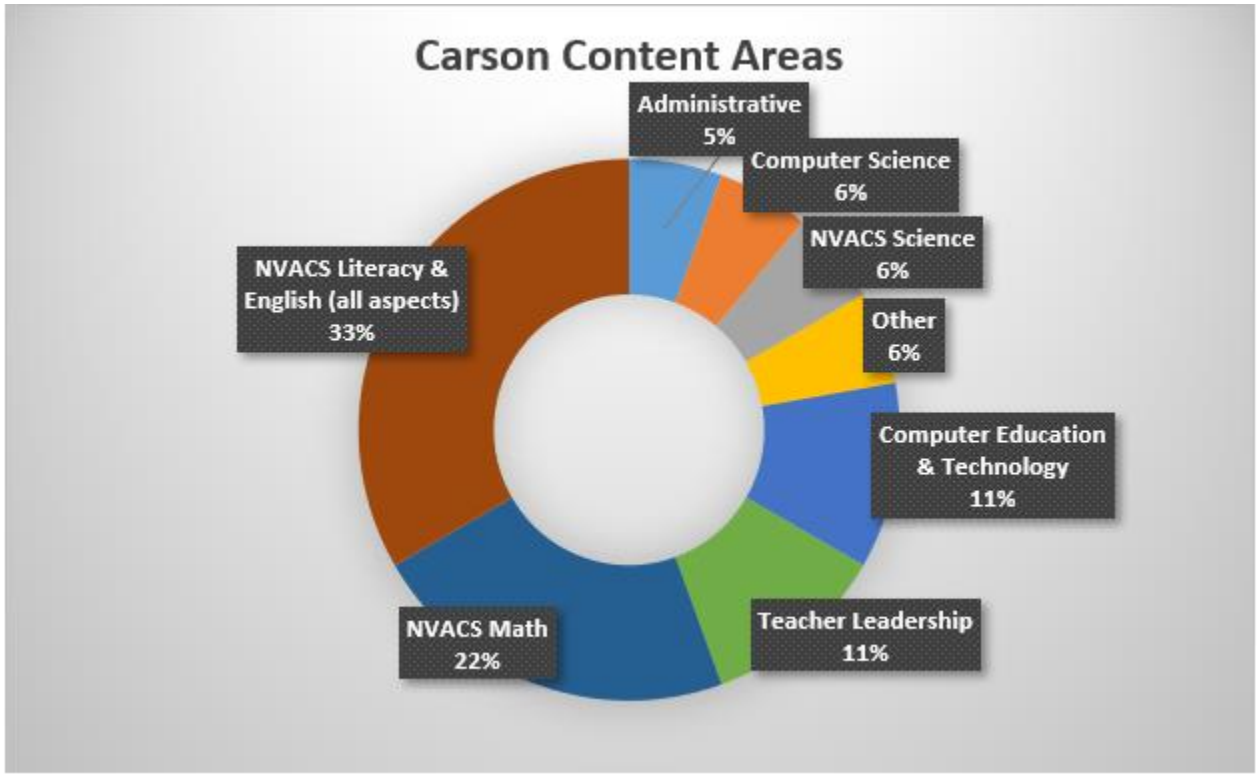

Figure 17: Focus of Services

Appendix C: Churchill County School District Services Summary 2021–22

Churchill County School District has six schools: one PreK school, one Kindergarten-First grade school, one school for grades two-three, once school for grades four-five, one middle school, and one comprehensive high school. Churchill has 4% of the schools in the NWRPDP Region, which includes 159 schools. There is one full-time learning facilitator housed in Churchill County.

Primary areas supported by regional learning facilitators this year were the Nevada Academic Content Standards in Computer Science, Computer Education & Technology, Math, and the Nevada Educator Performance Framework. Other professional learning included Mindset/SEL, ELAD, and Teacher Leadership.

Participant Mean Ratings on Quality of RPDP Trainings

(Scale: 1 = not at all, 3 = to some extent, 5 = to a great extent)	ChCSD	Region
The activity matched my needs	4.51	4.58
The activity provided opportunities for interactions and reflections	4.87	4.79
The presenter/facilitator's experience and expertise enhanced the quality of the activity.	4.77	4.72
The presenter/facilitator efficiently managed time and pacing of activities.	4.72	4.70
The presenter/facilitator modeled effective teaching strategies.	4.72	4.67
This activity added to my knowledge of standards and/or subject matter content.	4.51	4.63
The activity will improve my teaching skills.	4.62	4.63
I will use the knowledge and skills from this activity in my classroom or professional duties.	4.62	4.69
This activity will help me meet the needs of diverse student populations (e.g., gifted and talented, ELL, special education, at-risk students).	4.51	4.61

Number of Educators Trained by NWRPDP

	Unduplicated	Duplicated
ES Teachers	105	161
MS Teachers	47	118
HS Teachers	51	96
Administrators	13	24
Others	54	57
Totals	272	458

Churchill educators were 11% of the educators trained in the region (Using the Unduplicated regional count of 2,489 educators).

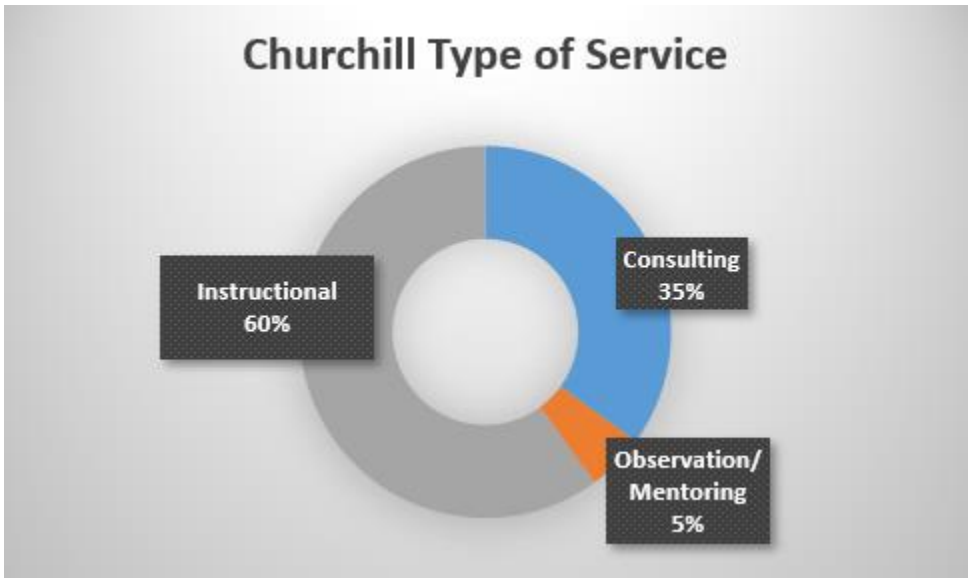

Figure 18: Types of Services Provided

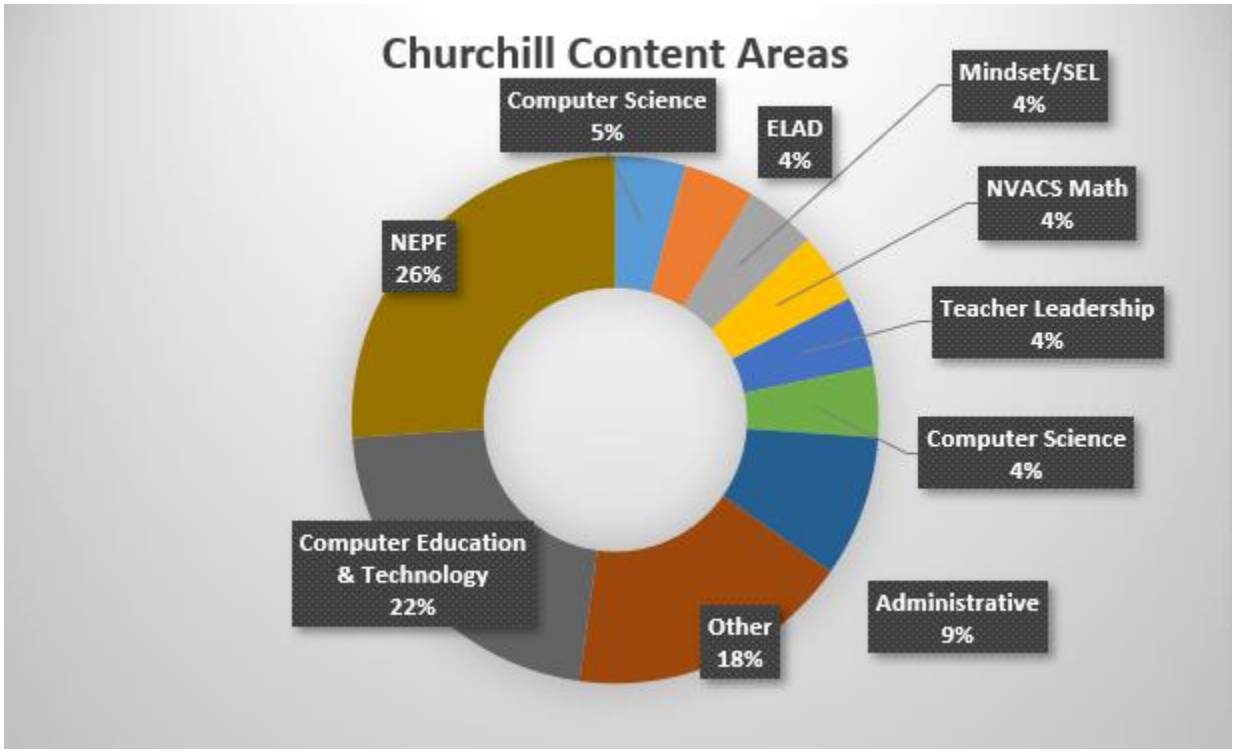

Figure 19: Focus of Services

Appendix D: Douglas County School District Services Summary 2021–22

Douglas County School District has 14 schools: seven elementary schools, three middle schools, and four high schools. Douglas has 9% of the schools in the NWRPDP Region, which includes 159 schools. A full-time learning facilitator coordinated services for DCSD.

The majority of services provided this year were in support of the Nevada Academic Content Standards in Math and support new teachers to the district. Other professional learning included Nevada Educator Performance Framework, Assessment, Science, Multicultural Education, and Computer Education & Technology.

Participant Mean Ratings on Quality of RPDP Trainings

(Scale: 1 = not at all, 3 = to some extent, 5 = to a great extent)	DCSD	Region
The activity matched my needs	4.68	4.58
The activity provided opportunities for interactions and reflections	4.85	4.79
The presenter/facilitator's experience and expertise enhanced the quality of the activity.	4.78	4.72
The presenter/facilitator efficiently managed time and pacing of activities.	4.81	4.70
The presenter/facilitator modeled effective teaching strategies.	4.74	4.67
This activity added to my knowledge of standards and/or subject matter content.	4.66	4.63
The activity will improve my teaching skills.	4.74	4.63
I will use the knowledge and skills from this activity in my classroom or professional duties.	4.79	4.69
This activity will help me meet the needs of diverse student populations (e.g., gifted and talented, ELL, special education, at-risk students).	4.72	4.61

Number of Educators Trained by NWRPDP

	Unduplicated	Duplicated
ES Teachers	117	267
MS Teachers	49	103
HS Teachers	57	111
Administrators	15	21
Others	6	7
Totals	247	513

Douglas educators were 10% of the educators trained in the region (Using the Unduplicated regional count of 2,489 educators).

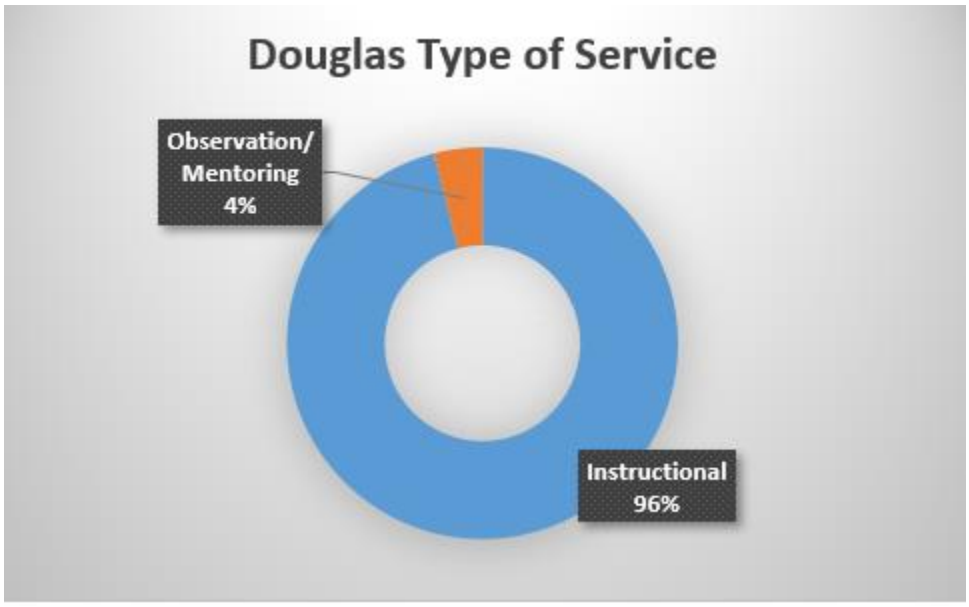

Figure 20: Types of Services Provided

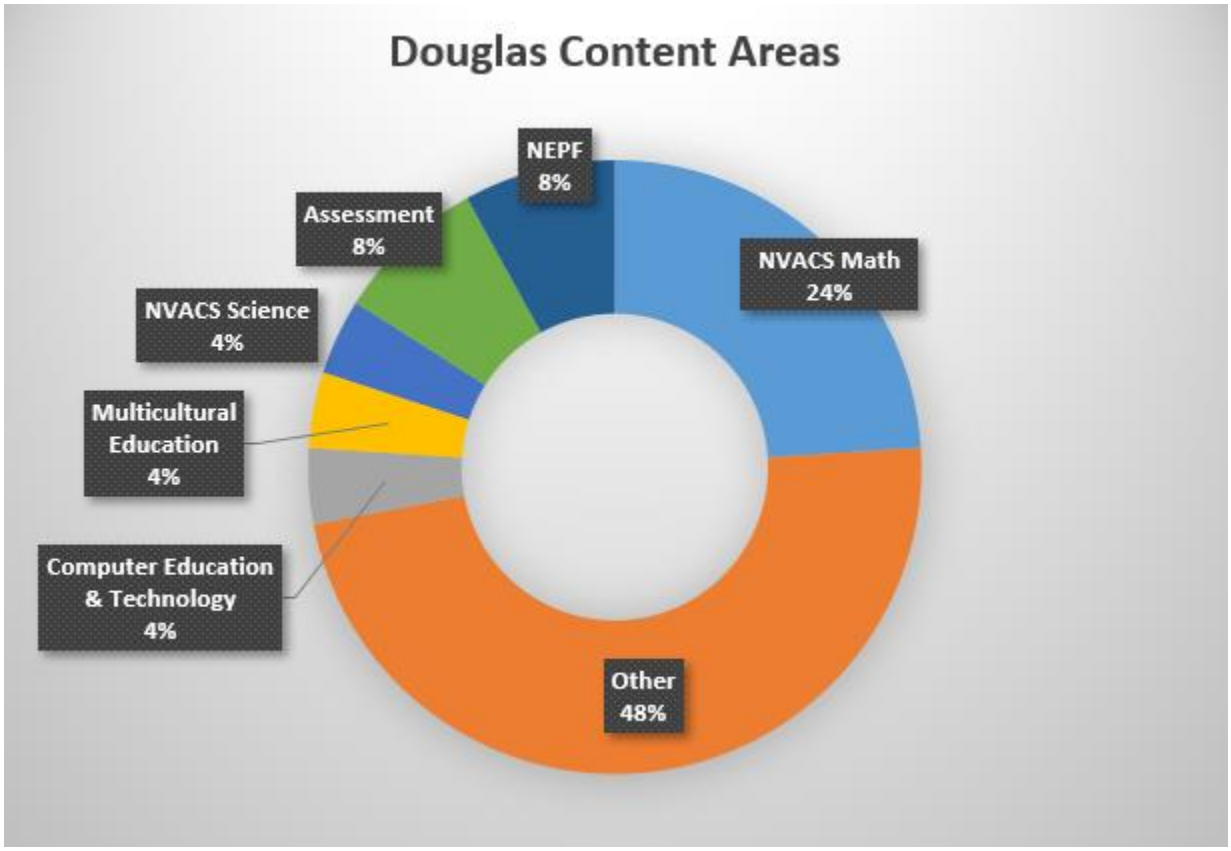

Figure 21: Focus of Services

Appendix E: Lyon County School District Services Summary 2021–22

Lyon County School District has 17 schools in five communities (Yerington, Dayton, Fernley, Smith Valley, and Silver Springs): eight elementary schools, four intermediate schools, four high schools, one K-8 school, and one K-12 school. Lyon has 11% of the schools in the NWRPDP Region, which includes 159 schools.

The majority of services provided this year were in support of the Nevada Academic Content Standards in Computer Science, STEM, Literacy & English, and Social Studies.

Participant Mean Ratings on Quality of RPDP Trainings

(Scale: 1 = not at all, 3 = to some extent, 5 = to a great extent)	LCSD	Region
The activity matched my needs	4.53	4.58
The activity provided opportunities for interactions and reflections	4.85	4.79
The presenter/facilitator's experience and expertise enhanced the quality of the activity.	4.72	4.72
The presenter/facilitator efficiently managed time and pacing of activities.	4.74	4.70
The presenter/facilitator modeled effective teaching strategies.	4.66	4.67
This activity added to my knowledge of standards and/or subject matter content.	4.67	4.63
The activity will improve my teaching skills.	4.62	4.63
I will use the knowledge and skills from this activity in my classroom or professional duties.	4.70	4.69
This activity will help me meet the needs of diverse student populations (e.g., gifted and talented, ELL, special education, at-risk students).	4.67	4.61

Number of Educators Trained by NWRPDP

	Unduplicated	Duplicated
ES Teachers	97	199
MS Teachers	31	42
HS Teachers	39	58
Administrators	28	42
Others	6	6
Totals	211	362

Lyon educators were 8% of the educators trained in the region (Using the Unduplicated regional count of 2,489 educators).

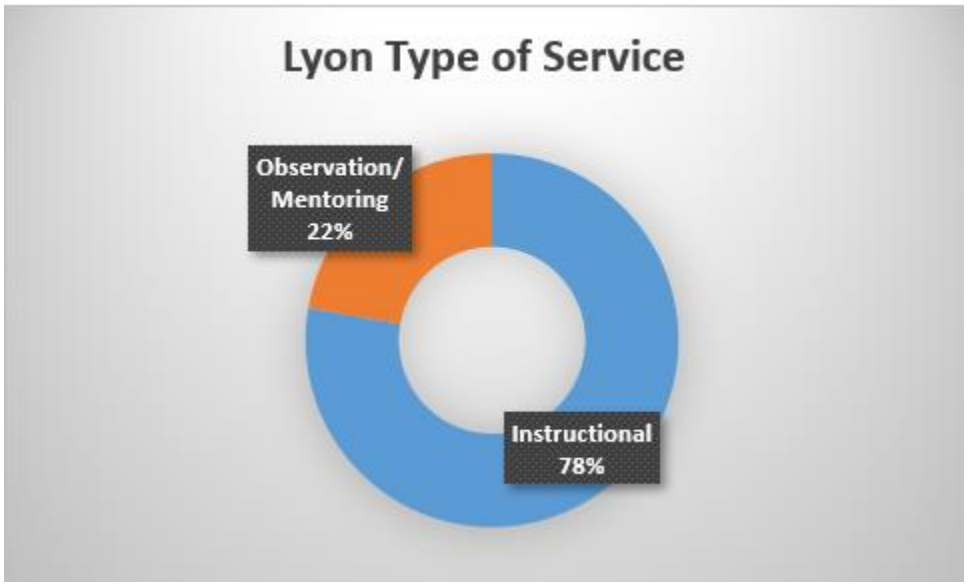

Figure 22: Types of Services Provided

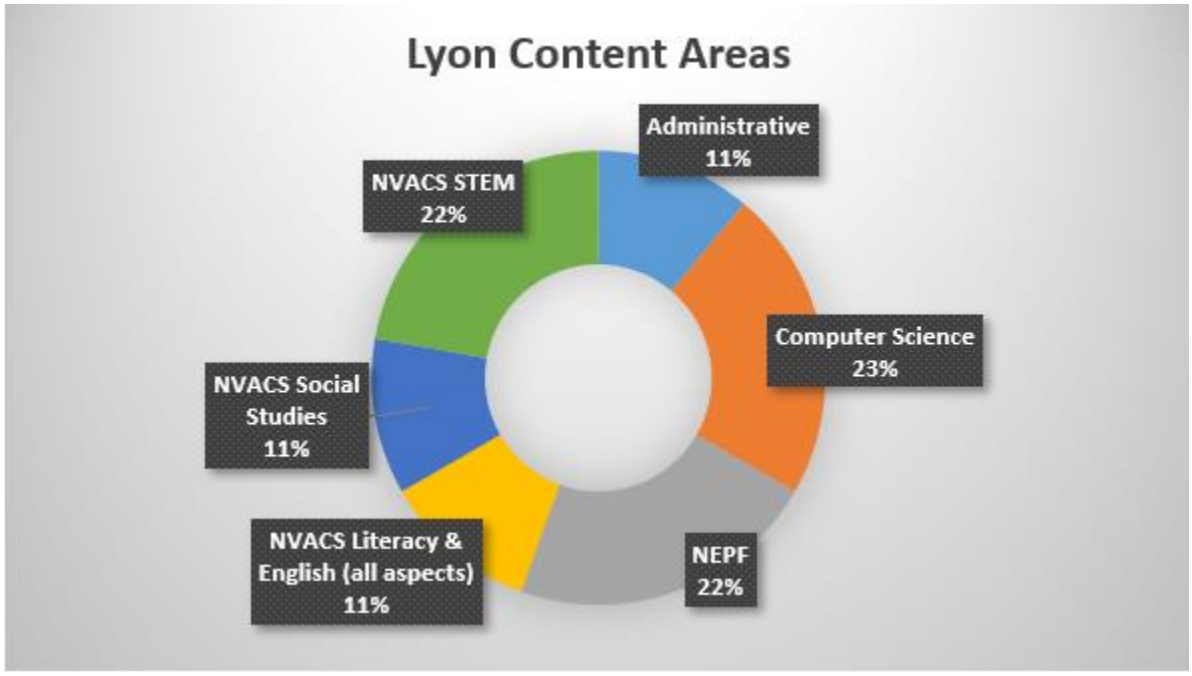

Figure 23: Focus of Services

Appendix F: Storey County School District Services Summary 2021–22

Storey County School District has four schools: two elementary schools, one middle school, and one high school. The NWRPDP funded one classroom teacher as a part-time learning facilitator. Outside of her teaching responsibilities, she organized professional learning in the district. Storey has less than 3% of the schools in the NWRPDP Region, which includes 159 schools.

SCSD received services in support of the Nevada Academic Content Standards in Computer Education & Technology and Literacy/English.

Participant Mean Ratings on Quality of RPDP Trainings

(Scale: 1 = not at all, 3 = to some extent, 5 = to a great extent)	SCSD	Region
The activity matched my needs	5.0	4.58
The activity provided opportunities for interactions and reflections	5.0	4.79
The presenter/facilitator's experience and expertise enhanced the quality of the activity.	5.0	4.72
The presenter/facilitator efficiently managed time and pacing of activities.	5.0	4.70
The presenter/facilitator modeled effective teaching strategies.	5.0	4.67
This activity added to my knowledge of standards and/or subject matter content.	5.0	4.63
The activity will improve my teaching skills.	5.0	4.63
I will use the knowledge and skills from this activity in my classroom or professional duties.	5.0	4.69
This activity will help me meet the needs of diverse student populations (e.g., gifted and talented, ELL, special education, at-risk students).	5.0	4.61

Number of Educators Trained by NWRPDP

	Unduplicated	Duplicated
ES Teachers	2	5
MS Teachers	6	11
HS Teachers	1	2
Administrators	2	2
Others	2	3
Totals	13	23

Storey educators were <1% of the educators trained in the region (Using the Unduplicated regional count of 2,489 educators).

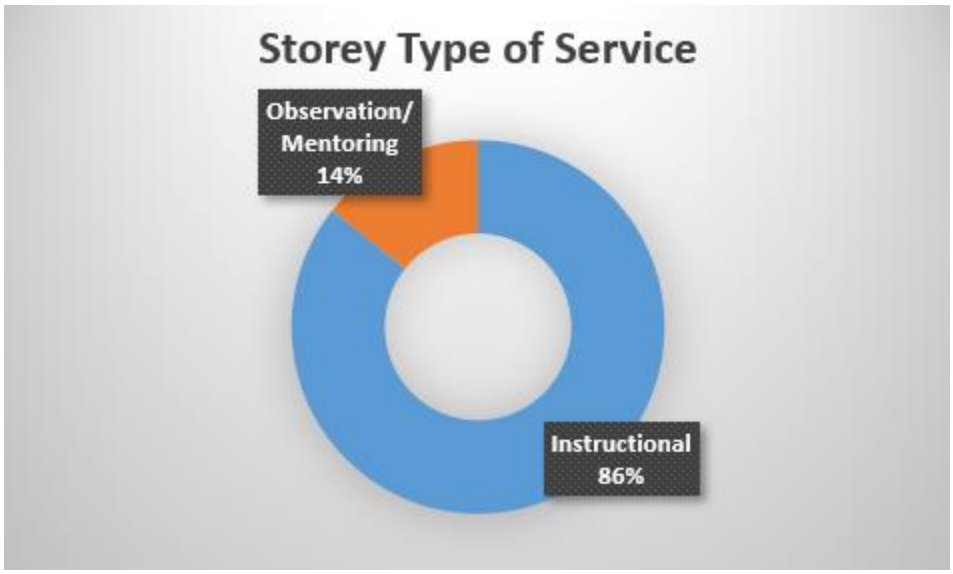

Figure 24: Types of Services Provided

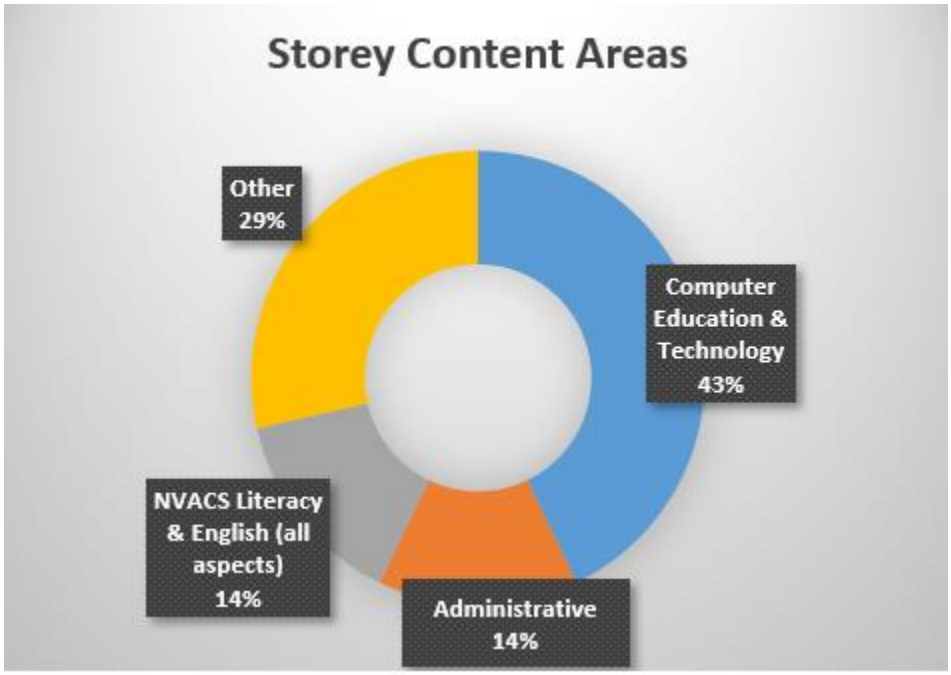

Figure 25: Focus of Services

Appendix G: Washoe County School District Services Summary 2021–22

Washoe County School District is the largest school district in the region with 107 schools: 65 elementary schools, 18 middle schools, 15 high schools, two schools for special populations, and seven charter schools. Washoe has 67% of the schools in the NWRPDP Region, which is 159 schools.

The majority of services provided this year were in support of the Nevada Academic Content Standards on Literacy/English, Math, Science, and Social Studies. Additional professional learning opportunities were provided in Teacher Leadership, Computer Science, and Multicultural Education.

Participant Mean Ratings on Quality of RPDP Trainings

(Scale: 1 = not at all, 3 = to some extent, 5 = to a great extent)	WCSD	Region
The activity matched my needs	4.56	4.58
The activity provided opportunities for interactions and reflections	4.78	4.79
The presenter/facilitator's experience and expertise enhanced the quality of the activity.	4.70	4.72
The presenter/facilitator efficiently managed time and pacing of activities.	4.67	4.70
The presenter/facilitator modeled effective teaching strategies.	4.65	4.67
This activity added to my knowledge of standards and/or subject matter content.	4.62	4.63
The activity will improve my teaching skills.	4.60	4.63
I will use the knowledge and skills from this activity in my classroom or professional duties.	4.67	4.69
This activity will help me meet the needs of diverse student populations (e.g., gifted and talented, ELL, special education, at-risk students).	4.59	4.61

Number of Educators Trained by NWRPDP

	Unduplicated	Duplicated
ES Teachers	778	1550
MS Teachers	217	278
HS Teachers	219	332
Administrators	199	284
Others	8	9
Totals	1,488	2,583

Washoe educators were 60% of the educators trained in the region (Using the Unduplicated regional count of 2,489 educators).

Figure 26: Types of Services Provided

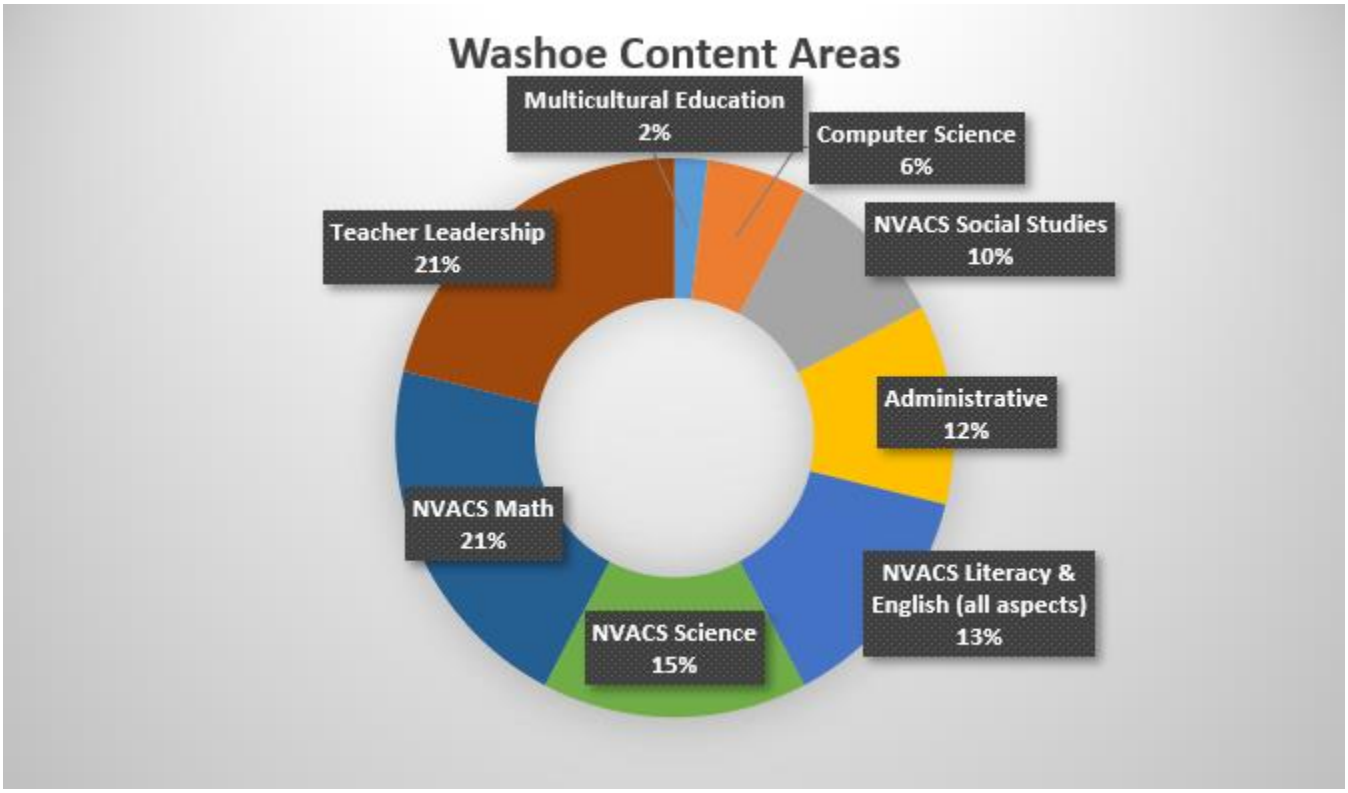

Figure 27: Focus of Services