

A Report on the Findings of the Biennial State Educational Technology Needs Assessment – SETNA 2024

Prepared for the Nevada Commission on Educational Technology & the
Nevada Department of Education

Diana L. Moss, Ph.D.
Project Director and Lead Investigator
University of Nevada, Reno
June 2024

Table of Contents

SETNA 2024 Recommendations	5
Executive Summary	6
Section 1: Overview	7
Purpose	7
Research Questions	7
Organization of Report	7
Introduction	7
Section 2: Needs Assessment Design and Methods	9
Survey Development	9
Technology Coordinator Survey	9
Teacher Survey	9
Parent Survey	9
District Superintendent Feedback	10
Nevada Principal Feedback	10
Additional Sources of Data	10
Survey Distribution	10
Distribution of Superintendent and Principal Surveys	11
Data Analysis	11
Limitations and Constraints	11
Section 3: Participation	12
District Categories	12
Teacher Survey	12
Demographic Data	14
Technology Coordinator Survey	16
Parent Survey	17
Superintendent Survey	19
Principal Survey	20
Section 4: Results	21
Research Question One: What is the current capacity of schools in Nevada to positively impact the achievement of students through the use of educational technologies?	21
District Technology Plans	21
Technology Coordinator Views on Technology Planning	21
Device Capacity	22
Student Device Use at Home	25

Changes to Educational Technology Due to Covid-19	26
Device Repair	26
Internet Capacity	27
School Access Points and Internal Speed	28
Home Connectivity and Speed	29
Research Question Two: How prepared are Nevada teachers to integrate technology into the classroom?	29
Artificial Intelligence	31
Professional Development	33
Research Question Three: How do parents feel about the technology their children use?	36
Research Question Four: In what ways can educational technologies improve instructional development, delivery, and assessment in Nevada?	41
Instructional Development and Delivery	41
Digital Learning Materials	42
Computer-Based Assessment	42
NWEA MAP Growth Reading Assessment	43
Smarter Balanced and WIDA Assessments	44
Section 5: Summary of Findings and Recommendations	45
Summary of 2024 SETNA Recommendations	45
References	47
Appendices	48
Appendix A – Technology Coordinator Survey 2024	49
Appendix B– Teacher Survey 2024	57
Appendix C– Parent Survey (English) 2024	73
Appendix D– Parent Survey (Spanish) 2024	78
Appendix E– Superintendent Survey 2024	83
Appendix F– Principal Survey 2024	84
Appendix G– Notice of Required School District Participation in 2024 SETNA	85
Appendix H– Device Requirements for MAP Growth Reading Assessment	86
Appendix I– Device Requirements for Smarter Balanced and WIDA Assessments	87

List of Tables

Table 1. District Size Classifications	12
Table 2. Teacher Survey Responses by District	14
Table 3. Technology Coordinator Responses by District Size	17
Table 4. Parent Survey Responses by District	18
Table 5. Superintendent Responses by District Size	20
Table 6. Principal Responses by District Size	20
Table 7. Device capacity observed by technology coordinators in Nevada classrooms	23

List of Figures

Figure 1. Total Teacher Survey Respondents in 2018, 2020, 2022, 2024	13
Figure 2. Number of teaching years	15
Figure 3. School level placement	15
Figure 4. Middle and high school subjects taught	16
Figure 5. Student grade level(s)	19
Figure 6. Ratio of students to devices during a typical class	23
Figure 7. Student grade level(s)	25
Figure 8. Percent of teachers that find their classroom wireless connection to be dependable	28
Figure 9. Teachers' experience with technology	29
Figure 10. Teachers' preparedness for instructional purposes	30
Figure 11. Professional development opportunities for educational technology	33
Figure 12. Types of professional development opportunities for educational technology	34
Figure 13. Quality of technology-related professional development	35
Figure 14. Regular use of technology to complete homework in 2024	37
Figure 15. Expectations regarding educational technology in the classroom in 2024	37
Figure 16. Expectations regarding educational technology in the home	39

SETNA 2024 Recommendations

2024 State Educational Technology Needs Assessment Ten Recommendations

1 Ensure a steady, predictable, and dedicated stream of funding for educational technology.

2 Guarantee adequate Wi-Fi access in both school and home environments.

3 Support device procurement and replacement and repair procedures to ensure universal student access to fully functional devices.

4 Establish state-supported infrastructure to facilitate content delivery and professional development.

5 Foster the development and execution of long-term educational technology plans.

6 Provide educators with continuous professional development to facilitate the integration of educational technology, including AI, across all grade levels and classroom settings.

7 Offer training to technology coordinators on how to apply for state and federal grants to enhance educational technology in Nevada.

8 Expand and leverage partnerships to drive progress.

9 Utilize educational technology exclusively for educational purposes in both school and home settings.

10 Monitor students' technology usage while prioritizing security and safety concerns.

Executive Summary

The State Educational Technology Needs Assessment (SETNA) 2024 presents findings based on survey data distributed to various stakeholders including technology coordinators, teachers, parents, district superintendents, and principals (introduced in the 2024 SETNA) across Nevada's school districts and the State Public Charter School Authority (SPCSA). The report is structured into five sections: Overview, Needs Assessment Design and Methods, Participation, Results, and Summary of Findings and Recommendations. These findings are derived from multiple sources such as teacher, technology coordinator, parent, principal (new in 2024), and superintendent surveys.

The report delves into four key areas: (1) the positive impact of educational technology on student achievement in Nevada schools, (2) the readiness of Nevada teachers to incorporate technology in their teaching practices, (3) parental perspectives on technology use by their school-aged children, and (4) the potential enhancements that educational technologies can offer in instructional development, delivery, and assessment within the state.

Key findings underscore a significant need for consistent, reliable, and dedicated funding for educational technologies, alongside ensuring adequate Wi-Fi access in all educational settings and homes, as well as provision for new devices or sustainable methods for device updates. Additionally, stakeholders advocate for universal access to digital learning materials and up-to-date devices for every student, while emphasizing access to student content and professional development across districts. There is a need for state-supported infrastructure to facilitate content delivery and professional learning, as well as a call for comprehensive professional development to support technology integration across various classroom settings.

Partnerships are identified as crucial for effective planning and procurement efforts, with emphasis on alignment across K-12 schooling, higher education, and career pathways. Furthermore, parents stress the importance of restricting technology use to educational purposes only and underscore the need for monitoring of technology usage for security and safety.

In summary, stakeholders agree on the strengths of educational technology in Nevada. In response to the Technology Coordinator Survey, Teacher Survey, Parent Survey, Principal Survey and State Superintendent Survey, the 2024 SETNA offers ten detailed recommendations. These recommendations advocate for sustainable and dedicated funding, professional development for teachers, long-term educational technology planning, and fostering partnerships across various educational sectors.

Section 1: Overview

Purpose

The purpose of this report is to present the findings of the 2024 State Educational Technology Needs Assessment (SETNA) of Nevada's school districts. The needs assessment was guided by the requirements set forth in NRS 388.795. The first needs assessment was conducted in 2008.

Subsequent needs assessments have continued the use of the same/similar survey questions and data collection to allow for the opportunity to make longitudinal comparisons. The research questions were developed in the 2008 project and used for subsequent studies (2010, 2012, 2014, 2016). Due to the extensive changes in state-wide educational technology brought about by Nevada Ready 21 (NR21), the research questions were changed in 2022 to better reflect the issues that need to be assessed. The 2022 SETNA research questions were used again in the 2024 SETNA for the purpose of comparison to address:

1. The current capacity of schools in Nevada to positively impact the achievement of students with educational technologies.
2. The preparedness of Nevada teachers to integrate technology into the classroom.
3. The feelings of parents about the technologies that their children use.
4. The ways in which educational technologies improve instructional development, delivery, and assessment in Nevada.

Research Questions

The following research questions guide this study:

1. What is the current capacity of schools in Nevada to positively impact the achievement of students through the use of educational technologies?
2. How prepared are Nevada teachers to integrate technology into the classroom?
3. How do parents feel about the technology their children use?
4. In what ways can educational technologies improve instructional development, delivery, and assessment in Nevada?

Organization of Report

This report presents data by research question. Many research questions are informed by multiple sources (e.g., teacher survey, parent survey, technology coordinator survey, superintendent survey, and principal). When possible, commonalities and differences in perspectives will be highlighted across these stakeholder groups as they address that research question. Recommendations and key outcomes will then be presented in response to the data.

Introduction

As technology becomes more prevalent in day-to-day life and as educational settings focus on meaningful integration of technology, transforming instructional practice and raising student achievement is key. Successful technology integration must focus beyond device procurement.

Successful technology integration programs require a comprehensive plan including:

- devices,
- technological support,
- pedagogical support,
- leadership support,
- student engagement,
- opportunities to engage in personalized, self-directed, project-based, and blended learning
- technologically proficient teachers whose instructional practices reflect a belief that technology can enhance student learning (McKnight et al., 2016).

With the increase of the technology in the hands of students comes the increase in the need for staff training and professional development for teachers (Inan & Lowther, 2010). Research, such as this needs assessment, is key given that there is limited systemic technology integration structure for proven and effective one-to-one mobile technology professional development programs for K–12 teachers (Morris, 2018).

Section 2: Needs Assessment Design and Methods

Survey Development

To allow for the opportunity to make longitudinal comparisons and compare data with previous iterations of the SETNA, it was determined that the 2024 SETNA survey questions would closely resemble the 2020 and 2022 versions of the survey. The 2020, 2022, and 2024 surveys are based on the 2014 teacher survey revision guided by a focus group conducted with technology leaders and coaches from Clark County School District (CCSD). In 2020 and 2022, the surveys were revised to include questions that relate specifically to the Covid-19 pandemic. The 2024 surveys include questions about the integration of Artificial Intelligence (AI) in teaching and learning and a new survey was created to gain feedback from Nevada principals.

Technology Coordinator Survey

The 2024 Technology Coordinator Survey (Appendix A) closely resembled the 2022 version. The number of questions increased from 27 to 28 open-ended questions that focused on technology-planning, classroom capacity, school resources, teacher preparation, professional development, and integration of AI. Further, questions specific to the 2022 version were maintained to better address questions from the legislative session pertaining to device repair protocols. The 2024 version provided space for respondents to give details regarding how the responses provided were affected by Covid-19. Additionally, space was provided for technology coordinators to describe how teachers in their districts are using AI in their teaching and the potential benefits or challenges they foresee in integrating AI tools and technologies into education.

Teacher Survey

The 2024 Teacher Survey (Appendix B) was identical to the 2022 Teacher Survey, except a question was added to understand more about the role of AI in Education. The question included space for teachers to explain the potential benefits or challenges that they foresee in integrating AI tools and technologies into their teaching practices. The 2024 Teacher Survey was 49 questions, whereas the 2022 Teacher Survey was 48 questions. The demographic section considered length of teaching career, grade level, content area, district, job classification, and a self-evaluation of educational technology experience. The 2024 survey included sections titled: (1) Existing Technology in the Classroom, (2) Designated Instructional Devices for Teacher Use, (3) Existing Instructional Devices for Student Use, Total Devices Available in the Classroom, (4) Internet Availability, (5) Internet Connection, (6) Technology Availability Comments, (7) Teacher Preparation and Technology Readiness, (8) Professional Development Availability, (9) Professional Development Information, (10) Classroom Technology Use, and (11) School-Wide Technology Use. In addition, space was provided for respondents to provide detail regarding how the responses provided were affected by Covid-19.

Parent Survey

The 2024 Parent Survey (Appendix C) was identical to the 2022 Parent Survey, except one question was added regarding parents' views on the integration of AI in their student's education and how they perceive the potential benefits and drawbacks of AI-driven tools and resources in

enhancing their student's learning experience and academic performance. By adding this question, the total number of questions increased from 11 to 12. As with 2016, 2018, 2020, and 2022 SETNAs, the surveys were available in both English and Spanish. The 2024 Spanish version (Appendix D) was translated, back translated, and reviewed by two native Spanish speaking individuals that regularly translate documents between English to Spanish. Both translators have an extensive vocabulary in both languages and use excellent English and Spanish grammar to provide precise, sensible translations.

District Superintendent Feedback

Similar to the 2022 SETNA, the 2024 SETNA introduced new sources of information to the assessment process. All school district and SPCSA superintendents were contacted by the research team and provided with an opportunity to provide feedback to the research team regarding any areas of concern or suggestions regarding educational technology or the SETNA surveys. District superintendents were provided the opportunity to share their thoughts via a Zoom interview or through a Google form with prompts in a survey-like format (Appendix E).

Nevada Principal Feedback

The 2024 SETNA included a new survey, identical to the survey for district superintendents, for all school district and SPCSA principals in Nevada. Principals were contacted by the research team and provided with an opportunity to provide feedback to the research team regarding any areas of concern or suggestions regarding educational technology or the SETNA surveys. Principals were provided the opportunity to share their thoughts through a Google form with prompts in a survey-like format (Appendix F).

Additional Sources of Data

The Nevada Department of Education (NDE) provided the research team with additional sources of data discussed in this assessment report including the current educational technology initiatives in progress.

Survey Distribution

On April 17, 2024, all members of the Nevada Curriculum Directors committee received a memo, via email, from NDE notifying them of the SETNA process, staff, information being collected, timelines, and the links to the parent and teacher surveys. A list of the Technology Coordinators and Principals of each district was provided by NDE. All state superintendents were provided links to the Teacher Survey, Parent Survey (English), Parent Survey (Spanish), and Superintendent Survey on April 18, 2024. Additionally, all state principals were provided links to the Teacher Survey, Parent Survey (English), Parent Survey (Spanish), and Principal Survey on April 18, 2024. A copy of the memo provided by NDE in Appendix E. The email to the superintendents can be viewed in Appendix F. The email to the principals can be viewed in Appendix G. NDE additionally supported the disbursement of survey links through various professional email lists.

On April 18, 2024, the Nevada PTA was emailed the parent survey links. The email to the Nevada PTA can be viewed in Appendix H. The Nevada PTA was asked to disseminate the information through their email lists and social media outlets.

Distribution of Superintendent and Principal Surveys

Based on feedback from NDE and the Nevada Association of School Superintendents, the contact opportunities (Zoom interview or survey) for superintendents and principals were included in the research protocol for this assessment. An email containing the survey (Appendix F) and request for Zoom communication was sent on April 18, 2024, to the 17 Nevada district superintendents and SPCSA Executive Director. A reminder email was sent to the district superintendents on May 2, 2024. Ten superintendents responded to the survey, but no Zoom interviews were requested. An email was sent to principals on April 18, 2024, with the link to the Principal Survey. Forty-nine principals responded to the survey.

Data Analysis

Survey responses were downloaded separately from respondents' identifiable information (e.g., IP addresses). Survey information was compiled, and quantitative and qualitative data were separated for analysis. Qualitative interview data from school superintendents was compiled with data collected from school superintendents and principals by Google Form. Qualitative data for both surveys and interviews were analyzed first. Line-by-line open coding was used to analyze written responses to the open-response questions and the interviews. The research team used a Constant Comparative Method (Corbin & Strauss, 2008). Qualitative data was analyzed independently by two individuals who then came to consensus to generate the themes presented in this report. Using quantitative data from the survey such as demographics and multiple select items, descriptive statistics were calculated to include frequency counts, percentages, and measures of central tendency.

Limitations and Constraints

NDE finalized the contract with Dr. Moss on May 8, 2024, with a retroactive memo that allowed the surveys to be distributed in April, for a final report delivery date of June 1, 2024. The survey window was eighteen days, doubling the survey window time from the 2022 SETNA of nine days.

Given the desire to collect data that could be analyzed longitudinally, the surveys used for this assessment were like those used in 2022, with the addition of one question per survey that collected information about AI used in educational settings. The Principal Survey was a new addition to SETNA 2024 and contained the same questions as the Superintendent Survey. The 2024 surveys did not have any technical problems.

There are no teacher respondents from one district and no technology coordinator responses from six districts. Two reminder emails were sent to superintendents to send out the survey to their teachers and technology coordinators. The team recommends that NDE remind districts with low response rates to be sure that they disseminate the surveys at least two times.

Section 3: Participation

District Categories

Assessing educational technology needs in Nevada poses distinctive challenges due to its geographical diversity and the significant variations among its schools. The specific requirements of each district, school, and classroom stem from these diversities. While the research team recognizes the variations even within districts, this report follows the precedent set by previous SETNA reports, categorizing districts as large, medium, and small based on the criteria outlined in the table below.

Size	Student Enrollment	Districts
Small	< 2,000	Esmerelda, Eureka, Lander, Lincoln, Mineral, Pershing, Storey, White Pine
Medium	2,000-20,000	Carson City, Churchill, Douglas, Elko, Humboldt, Lyon, Nye
Large	> 20,000	Clark, SPCSA, Washoe

Table 1. District Size Classifications

Teacher Survey

Links to the Teacher Survey were sent to State Superintendents, Curriculum Directors, Technology Coordinators, and Principals in 17 districts and the SPCSA. In total the survey had 5,582 submissions with teacher submissions from 17 districts, an increase in 5 districts since the 2022 SETNA, and the SPCSA. The district with no teacher responses was Lander County. The completion rate for the 2024 Teacher Survey was 75% and the average time spent on this survey was 15 minutes. The completion rate on the 2022 Teacher Survey was 74% with an average time spent of 9 minutes and 36 seconds. It was decided to use the results from any completed questions, maintaining the respondent sample size of 5,582 for the Teacher Survey. The table below details the participation by district. The overall number of respondents decreased by 257 respondents when compared to the Teacher Survey in 2022.

Teacher Survey Respondents since 2018

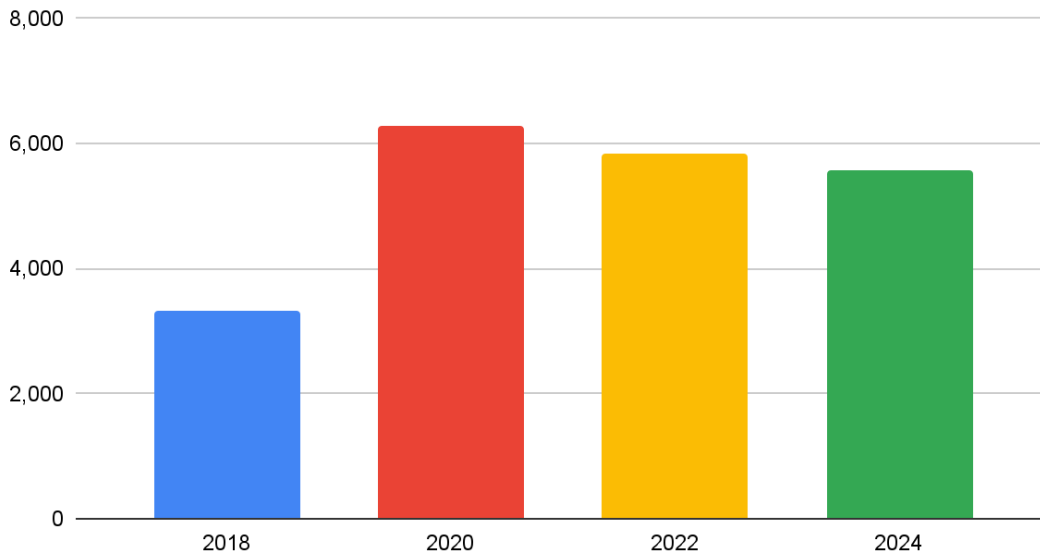


Figure 1. Total Teacher Survey Respondents in 2018, 2020, 2022, 2024

District Size	District	Teacher Survey Responses 2018	Teacher Survey Responses 2020	Teacher Survey Responses 2022	Teacher Survey Responses 2024
Small	Lincoln	43	60	28	18
Small	Eureka	12	8	0	10
Small	Churchill	79	171	111	41
Small	Storey	13	4	0	1
Small	White Pine	0	79	71	9
Small	Mineral	20	1	0	41
Small	Esmerelda	5	3	7	5
Small	Lander	34	20	30	0
Small	Pershing	39	1	32	23
Medium	Elko	165	1,048	242	346
Medium	Nye	111	225	106	115
Medium	Carson City	Not Calculated	277	98	98

District Size	District	Teacher Survey Responses 2018	Teacher Survey Responses 2020	Teacher Survey Responses 2022	Teacher Survey Responses 2024
Medium	Douglas	Not Calculated	209	136	2
Medium	Lyon	150	137	0	3
Medium	Humboldt	92	98	0	33
Large	Clark	Not Calculated	3,433	4,265	4,416
Large	Washoe	170	344	666	170
Large	SPCSA/ Other	654	162	47	251
Total		1,587	6,280	5,839	5,365

Table 2. Teacher Survey Responses by District

Demographic Data

The demographic data from the Teacher Survey indicated that most teacher survey respondents were certified general education classroom teachers (73.5%) and certified special education teachers (11.5%). The remainder of survey participants (15.1%) comprised a variety of roles including: long-term substitutes, teachers on special assignment, counselors, teachers seeking certification through alternative route to licensure, literacy specialists, media specialists, assistive technology instructors, early childhood, CTE teachers, and other less common teacher roles. Most teacher respondents had been teaching more than ten years.

How long have you been teaching?

Answered: 5,073 Skipped: 509

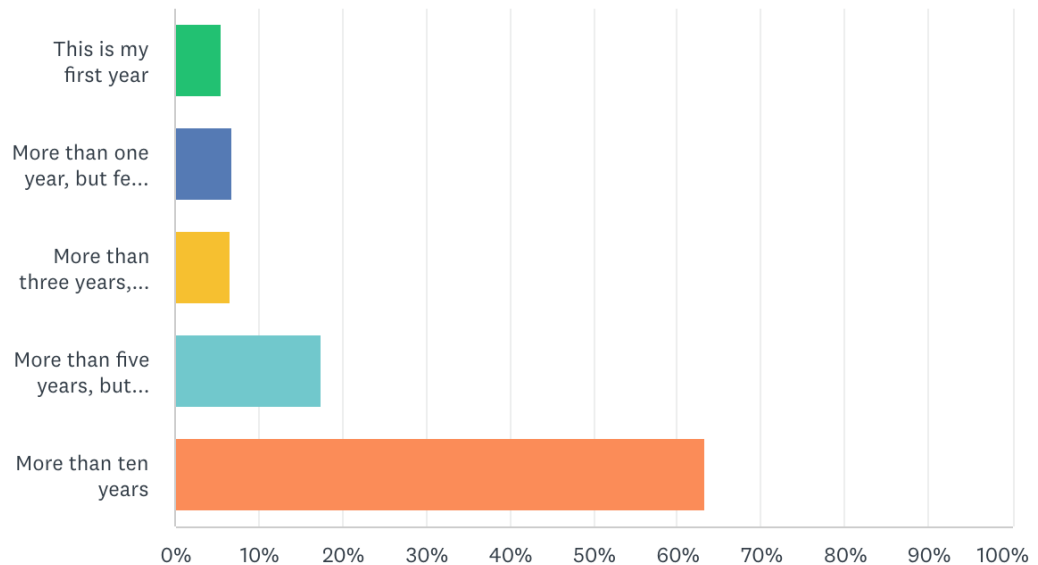


Figure 2. Number of teaching years

Teacher respondents represented all grade levels and school organizational structures. Schools in the “other” categories included responses from special education departments, correctional facilities, and other grade level combinations (5-6, 7-12, K-12, early childhood, etc.).

What type of school accurately describes your current assignment/placement?

Answered: 5,073 Skipped: 509

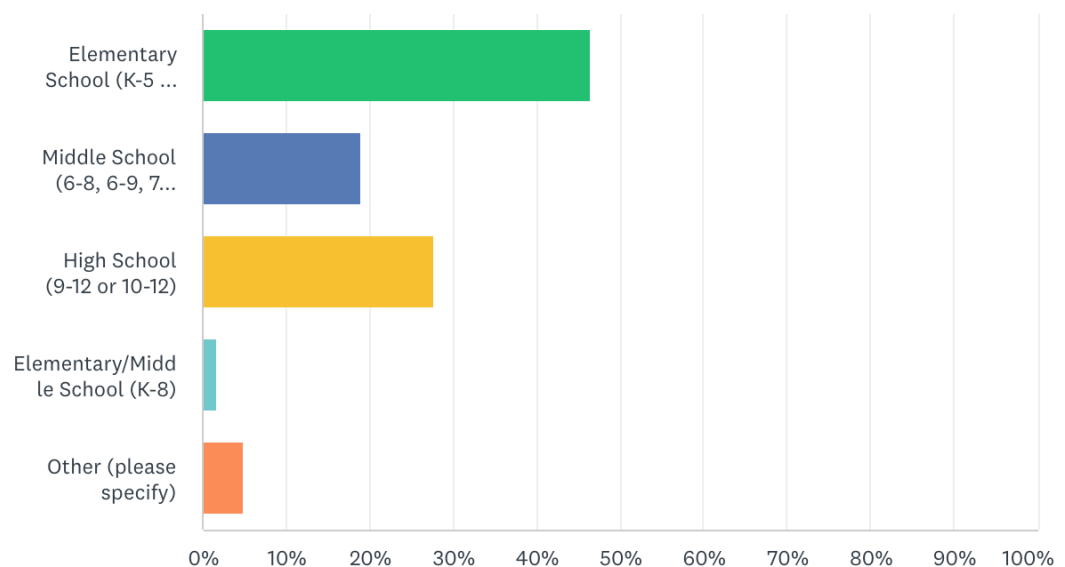


Figure 3. School level placement

Approximately 46% of Teacher Survey respondents were elementary school teachers. Of middle and high school teachers, a variety of disciplines were represented. Other categories included positions such as fine arts, life skills, music, computer science, STEM, and combinations of subjects (including single teachers teaching all subjects in rural schools).

If you teach at a middle school or high school level, which subject(s) do you teach? (Select all that apply)

Answered: 5,073 Skipped: 509

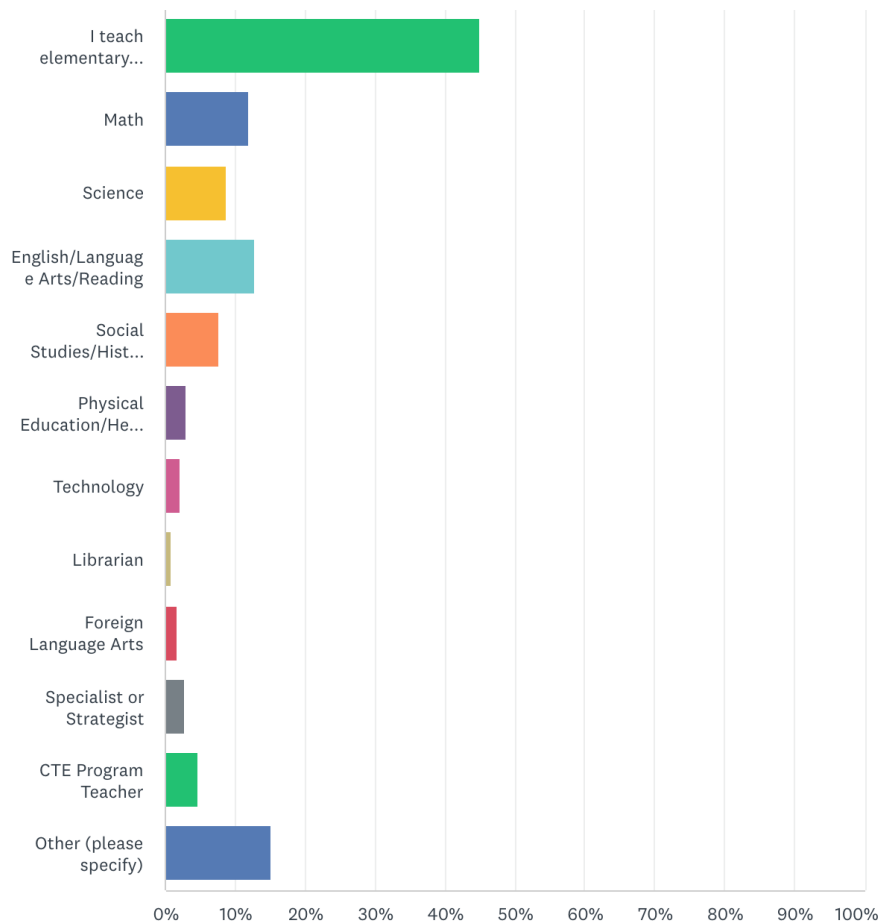


Figure 4. Middle and high school subjects taught

Technology Coordinator Survey

The 2024 Technology Coordinator Survey was distributed directly to the designated Technology Coordinator in every school district, as well as to the SPCSA, with all contacts verified through NDE. Reminder emails were sent to districts that had not participated, and the completion deadline was extended upon request for additional time. Ultimately, the survey gathered completed responses from 12 school districts, including the SPCSA. The following districts did not provide responses: Churchill, Douglas, Humboldt, Lander, Lyon, and White Pine. The following table delineates the responses according to district size.

Size	Student Enrollment	Districts	Number of Technology Coordinator Responses
Small	< 2,000	Esmerelda, Eureka, Lander, Lincoln, Mineral, Pershing, Storey, White Pine	7
Medium	2,000-20,000	Carson City, Churchill, Douglas, Elko, Humboldt, Lyon, Nye	3
Large	> 20,000	Clark, SPCSA, Washoe	57

Table 3. Technology Coordinator Responses by District Size

Parent Survey

The 2024 Parent Survey was used to gather parents' feedback on students' technology use both in the classroom and at home. Table 4 represents the submission totals for the English and Spanish versions of the Parent Survey. The total number of respondents was 3,809, representing all 17 counties and the SPCSA. The total number of responses was 3,871, representing all 17 counties and the SPCSA. This was a decrease of 18,955 parent respondents compared to the 2022 needs assessment. In 2022, every school district had at least two parent survey responses. In 2024, Lander County was the only county with no parent responses.

District Size	District	Parent Responses (English)	Parent Responses (Spanish)	Total Responses
Small	Lincoln	21	1	22
Small	Eureka	27	0	27
Small	Churchill	53	2	55
Small	Storey	1	0	1
Small	White Pine	1	0	1
Small	Mineral	25	0	25
Small	Esmerelda	11	0	11
Small	Lander	0	0	0
Small	Pershing	3	0	3
Medium	Elko	389	8	397
Medium	Nye	56	0	56
Medium	Carson City	12	2	14

District Size	District	Parent Responses (English)	Parent Responses (Spanish)	Total Responses
Medium	Douglas	2	0	2
Medium	Lyon	2	1	3
Medium	Humboldt	44	0	44
Large	Clark	2,305	133	2,438
Large	Washoe	379	26	405
Large	SPCSA	230	2	232
	Other	118	17	135
	Total	3,679	192	3,871

Table 4. Parent Survey Responses by District

Approximately 2% of parent respondents noted that their child attended a district categorized as "other." This option catered to parents whose children attended tribal, private, or other non-public schools. However, the write-in responses reveal that many parents lack awareness of their local school district affiliation. For instance, numerous responses consisted of individual school names or ambiguous comments like "Charter School" or "Not sure."

Parent responses were evenly spread across different grade levels. The survey permitted parents to select multiple grades through a "click all that apply" option, considering that a single parent might have children in various grade levels. Consequently, the percentages depicted in the figure below will surpass 100%.

In which grade is your child currently enrolled? If you have multiple children in school, please select all applicable levels.

Answered: 3,600 Skipped: 20

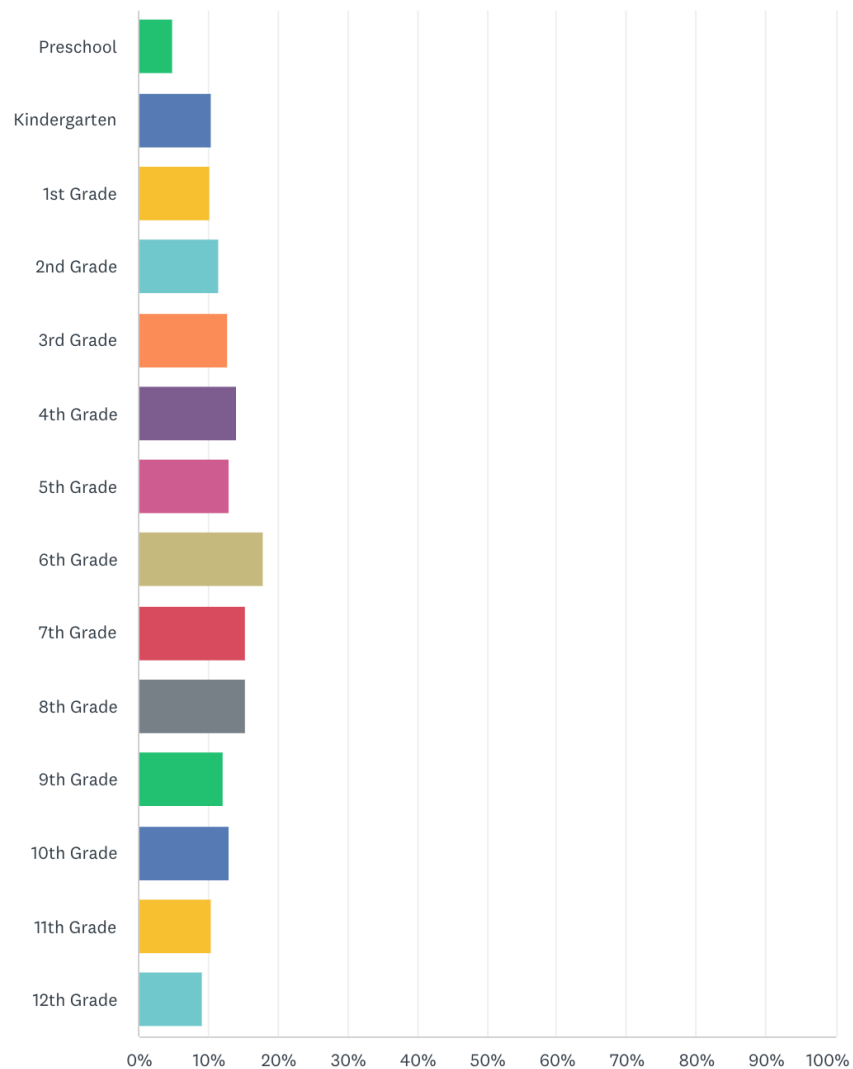


Figure 5. Student grade level(s)

Superintendent Survey

Feedback regarding technology needs in their respective districts was provided by 10 out of 17 superintendents and the SPCSA Executive Director through the survey. None of them requested a brief Zoom interview.

Size	Student Enrollment	Districts	Number of Superintendent Responses
Small	< 2,000	Esmerelda, Eureka, Lander, Lincoln, Mineral, Pershing, Storey, White Pine	1
Medium	2,000-20,000	Carson City, Churchill, Douglas, Elko, Humboldt, Lyon, Nye	1
Large	> 20,000	Clark, SPCSA, Washoe	8

Table 5. Superintendent Responses by District Size

Principal Survey

The principal survey is a new addition to the 2024 SETNA. Feedback regarding technology needs in their respective districts was provided by 49 principals through the survey.

Size	Student Enrollment	Districts	Number of Principal Responses
Small	< 2,000	Esmerelda, Eureka, Lander, Lincoln, Mineral, Pershing, Storey, White Pine	2
Medium	2,000-20,000	Carson City, Churchill, Douglas, Elko, Humboldt, Lyon, Nye	8
Large	> 20,000	Clark, SPCSA, Washoe	39

Table 6. Principal Responses by District Size

Section 4: Results

Research Question One: What is the current capacity of schools in Nevada to positively impact the achievement of students through the use of educational technologies?

District Technology Plans

About 57% of responses from technology coordinators indicated that their district does not have a technology plan that is publicly available. Sixteen technology coordinators provided links to their district's technology plans. About 50% of technology coordinators reported that their districts or schools engage in ongoing technology planning (weekly, monthly, and yearly bases). School-level planning is less frequent than district-level planning. Some schools choose to include technology plans in their school improvement planning.

“Schools engage in some technology planning. Because our technology coordinators are also teachers, it is hard to take them from the classroom too much. Therefore, we have a technology committee meeting once a year to go over any planning. Schools do not have technology plans because these teachers that are the coordinators are only given a small stipend for the time they put in throughout the year.” - Technology Coordinator

Technology Coordinator Views on Technology Planning

As with the 2018, 2020, and 2022 SETNA reports, the greatest challenge reported was lack of funding. When asked to describe the status of planning for technology in their district and to identify major challenges most respondents identified consistent funding, curriculum, security changes, and repairs/replacements of technology as the greatest challenges. In the 2024 survey, technology coordinators identified concerns with the lack of dedicated and sustainable technology funding through the district and emphasized that they must rely on grants.

“Our school uses funding from district grants as well as Title I funding for our technology purchases. The title I funding is consistent and predictable. The district grants are not.” - Technology Coordinator

Identified sources of funding for technology include general fund, Title 1, E-rate, and state grant funding. In 2022, technology coordinators indicated that general funding was unpredictable, citing changes to the funding formula and the removal of dedicated state grant technology funding through NR21. However, in 2024, technology coordinators overwhelmingly indicated that general funding is consistent and predictable. Many technology coordinators reported not knowing about E-rate funding or their schools not qualifying for E-rate funding. Only a few technology coordinators from rural districts reported using E-rate funding Category 1 and Category 2.

“My district uses E-rate funding Category 1 and Category 2. We use this for our main internet service, various network devices and most recently our firewalls security suite service.” - Technology Coordinator

“Yes. We use it to maintain our internal and external network equipment and connections. This funding is extremely critical to maintaining adequate bandwidth, among other things, for our students and staff.”

When prompted to elaborate on technology planning within their districts, numerous technology coordinators stressed that this planning is an ongoing process due to the constant evolution of technology. Superintendents echoed this sentiment, emphasizing the necessity for continued funding allocation towards specific technology-related initiatives such as the ongoing replacement of educational technology, financial support for long-term internet access, and teacher training in educational technology.

Device Capacity

Technology Coordinators were asked a series of questions regarding the hardware, software, and technical support within their districts. This question was revised in the 2020 SETNA to better reflect the status of 1:1 student computing in the state. The results from the 2022 SETNA and the 2024 SETNA were identical: student devices were predominately laptops/Chromebooks (about 80%), with lesser access to desktops (15%) and tablets (5%). Table 7 shows a checklist of the type of device capacity observed by technology coordinators in Nevada classrooms.

District Size	District	Teacher Computer (Desktop/Laptop/Tablet) Only	Teacher and Access to a Shared Lab or Computer Cart	Teacher Computer + Student Device (approx. one student device to 4 students)	Teacher Computer + Student Device (approx. one student device to 3 students)	Teacher Computer + Student Device (approx. one student device to 2 students)	Teacher Computer + Student Device (one student device to 1 student)
Small	Lincoln	x		x	x	x	x
Small	Eureka	x	x	x	x	x	x
Small	Churchill			No response			
Small	Storey	x	x				x
Small	White Pine			No response			
Small	Mineral						x
Small	Esmerelda						x
Small	Lander			No response			
Small	Pershing			No response			
Medium	Elko	x	x				x
Medium	Nye			No response			

Medium	Carson City	x	x				x
Medium	Douglas						No response
Medium	Lyon						No response
Medium	Humboldt						No response
Large	Clark	x					x
Large	Washoe	x	x				x
Large	SPCSA	x	x	x	x	x	x

Table 7. Device capacity observed by technology coordinators in Nevada classrooms

Most teachers reported the ratio of students to devices during a typical class is 1 student to 1 device. However, about 4% of the responses indicated that the ratio of students to devices during a typical class is more than 5 students to 1 device.

What is the ratio of students to devices during a typical class?

Answered: 4,693 Skipped: 889

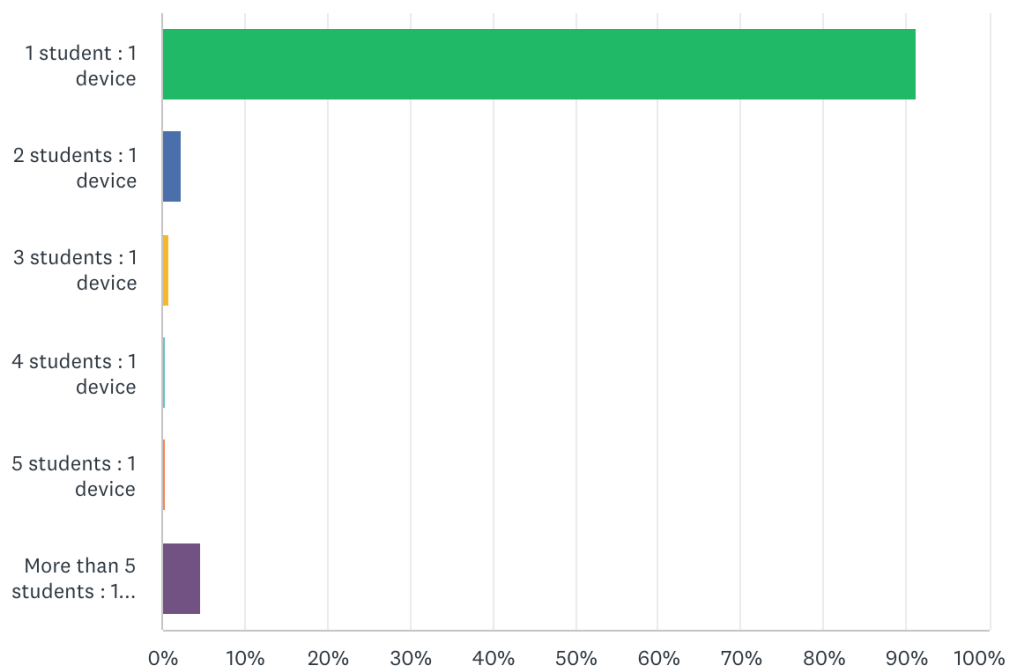


Figure 6. Ratio of students to devices during a typical class

Responses from teachers in surveys illustrate the diverse range of access to classroom devices. Both teachers and technology coordinators have voiced concerns regarding the aging devices and the need for faster and more dependable Internet connections. Chromebooks, desktop computers, Smart/Promethean Boards/Interactive Flat Panels, and iPads require updates, especially those that were implemented during the pandemic in 2020.

“COVID shutdown was 4 years ago. The Chromebooks that students are using are at least that old, if not older. These devices were not built for the heavy long term use they are enduring and many need to be replaced at this point.” - Teacher

“It is amazing when it works; it is a nightmare when it does not.... which seems to be every time my district has grades due or final exams, they do not have the broadband width to support all of the users.” - Teacher

“For the amount of online curriculum and material students are expected to access daily and for teachers to use, the internet needs to be faster. It is hard to teach a lesson or administer an assessment when you have to wait a long time for it to load.” - Teacher

“Overall, I think our district does well in regards to technology. The hard part is how fast technology changes, and trying to continuously maintain devices that can keep up with the change.” - Teacher

“Implemented during COVID. Most devices are circa 2020 or older.” - Teacher

“The district has done a great job providing great technology for the teachers and students.” - Teacher

“Technology is old and out of date.” - Teacher

“The Chromebooks are getting old and they have a hard time connecting to the internet.” - Teacher

“I have found that our chromebooks tend to only last for 1-2 years. By the third year, they are far to beat up and the technology advancements have already surpassed what the students need. By the third year, we already need new chromebooks.” - Teacher

Teachers voiced that providing one device per student in the classroom yields significant benefits for both teaching and student learning. Some teachers mentioned 11 devices to 1 student and others are one to one. Several have conveyed their admiration for the quality and abundance of the technology they utilize, noting that its integration enhances their teaching practices. But, when students bring their device home and do not bring it back to school, then this poses problems with planned instruction.

“I am very happy with all the technology I have and use! I’m so glad we are 1:1 Chromebooks...that is key to so many things I like to do in my classroom! I also love the Newline screen I use to teach with. It’s friendly and I am able to do everything I need to do fairly easily!” - Teacher

“I appreciate having 1:1 chromebooks for my classroom, it gives students the opportunity to integrate their tech skills into all domains of their learning.” - Teacher

“Students are one to one. Often, students do not bring their chromebook or it is not charged. This creates a difficult situation for teachers. It would be helpful to have

additional devices that stay in the classroom for students to use when necessary as well as extra chargers/charging stations. Without these, teachers are left scrambling to print or create different plans on the fly for when students come unprepared to learn during class time.”

“I’m happy that we have 11 to 1 technology in our school, this allows students to have individualized practice that can reveal strengths and weaknesses in math and science.” - Teacher

“The technology available in our classroom is 11:1 and for that I’m very grateful to have. I also use technology and very much depend on it for much of my instruction and classroom routines.” - Teacher

Student Device Use at Home

According to the 2022 SETNA, about 70% of students are allowed to take school devices home. The results from the 2024 SETNA show that the percentage of students allowed to take school devices home decreased to about 60%.

Students in my classroom are allowed to take school devices home during evenings and school breaks.

Answered: 4,563 Skipped: 1,019

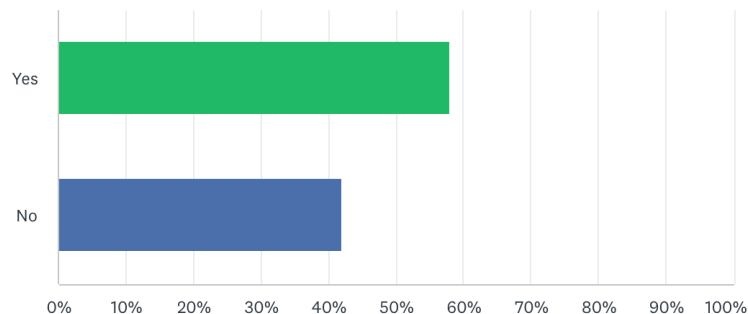


Figure 7. Student grade level(s)

However, internet connections vary between homes and some schools provide internet hotspots for students that do not have internet at home. For instance, teachers reported,

“Not every student has access to the Internet at home. This makes their Chromebook useless because they require an Internet connection.” - Teacher

“About half can access technology at home, particularly wifi.” - Teacher

“Some of our students live in very small towns across the state so our school provides hotspots that students can check out for the school year to help with low internet areas.” - Teacher

“I wish we still promoted the hot spots. I know not every student has wifi at home...” - Teacher

Changes to Educational Technology Due to Covid-19

Teachers commented that since the pandemic, there are more devices available to students and teachers, teachers have learned to use technology in their teaching practices, and students have become accustomed to learning with technology.

“Covid 19 started the 1:1 devices advantage for students and forced us as teachers to learn how to utilize technology productively and remotely when needed.” - Teacher

“Covid-19 took educational technology to a higher level.” - Teacher

“Technology has become a much larger part of education.” -Teacher

“Covid-19 accelerated educational technology adoption, shifting to online learning, virtual classrooms, and digital tools. It highlighted the importance of accessible, adaptive technology for remote education, emphasizing flexibility and student engagement.” - Teacher

However, some teachers acknowledge that there is a dependence on technology in education and this dependence can be both good and bad.

“Students have been provided 1 to 1 chromebooks, which can be both a blessing and a curse. I feel our school has done a good job of balancing the use of the tech with live instruction. I don't see that as the case at all schools. I feel both MS and especially HS are putting too much on the computer and expecting students to just figure it out from there and the direct instruction has decreased. It is a lot of extra work for teachers to maintain both an online and live teaching experience for students.” - Teacher

“It has conditioned students to think that assignments done on chromebooks/computers are not important because they were conditioned during Covid-19 to believe that all of the distance learning work was optional/unnecessary. For this reason, students' quality of work while using technology has severely decreased.” - Teacher

“Students have grown to expect to get things technologically that I believe better to be taught in person.” - Teacher

Device Repair

District technology coordinators, superintendents, and principals identified configuration, repair, and replacement of devices as challenges with the expanded use of educational technology.

“Funding. Replacement of 1:1 Chromebooks is critical. Also funding to access FERPA compliant Artificial Intelligence (AI) platforms along with training for staff. It is hard to overstate how AI will change education and we need our people to be in it yesterday. If we are talking about truly individualized instructional support for kids, this is the tool. I want Nevada to be the national leader on this.” - District Superintendent

“Funding to receive more technology (Chromebooks, CB Carts, Wireless Access Points) for the increased enrollments at our school.” - Principal

“Updated technology, more computer technicians for maintenance, more access to tech training, more security controls for students.” - Principal

The majority of Nevada school districts report using a help desk or IT ticket system to provide technical assistance to classrooms. The 2022 SETNA found that these systems rely on district technicians that travel to school locations in response to generated tickets, but the 2024 SETNA indicated that an assigned technician virtually engages with a staff member to guide them on how to fix a device. If it can not be fixed, then the device is sent to the IT person.

“For warranty repairs, a ticket is submitted to the IT company, Intellatek, and the broken device is dropped off at their main office for shipping to the manufacturer. For non warranty repairs, our on-site techs have the banker place a fee on the student's account for the damages, they repair the device and notate the student's account, and give the student back the repaired Chromebook once the fee is paid for.” - Technology Coordinator

“If under warranty, sent in for repair and returned to the school. If not under warranty, parts replaced or repaired or parted out and retired if it cannot be fixed.” - Technology Coordinator

Districts follow comparable repair protocols, utilizing warranty services when accessible and resorting to in-district repairs when warranty options are not available. These decisions hinge on factors such as repair costs and the necessary components. Roughly half of the districts provide temporary devices (hot swaps) to ensure uninterrupted access to technology for both teachers and students during repairs. Typically, this process is managed at the site level, with each school handling it according to its technology inventory and policies. In schools where there's a one-to-one device policy, maintaining a spare pool of devices is more common. Schools lacking replacement devices report that students continue their participation by sharing devices.

Internet Capacity

Most technology coordinators who participated in the survey emphasized the importance of securing sustainable funding for devices intended for both teachers and students, as well as for high-speed internet and home Wi-Fi access, along with implementing one-to-one computing initiatives. Below are excerpts from some of the comments provided by technology coordinators:

“The ability to provide sufficient bandwidth for our teachers has been a struggle. With so many classrooms equipped with more technology, providing fast internet speeds has been a struggle.” - Technology Coordinator

“Bandwidth is always an issue. So many new programs and technology changes so quickly that just when teachers learn one program, a new one is coming out or put in place.” - Technology Coordinator

School Access Points and Internal Speed

Most teachers (94%) indicated that devices in their classroom had wireless internet access. The figure below shows that about 53% of teacher respondents find their wireless connections to be dependable.

In general, I find this wireless connection to be dependable.

Answered: 4,582 Skipped: 1,000

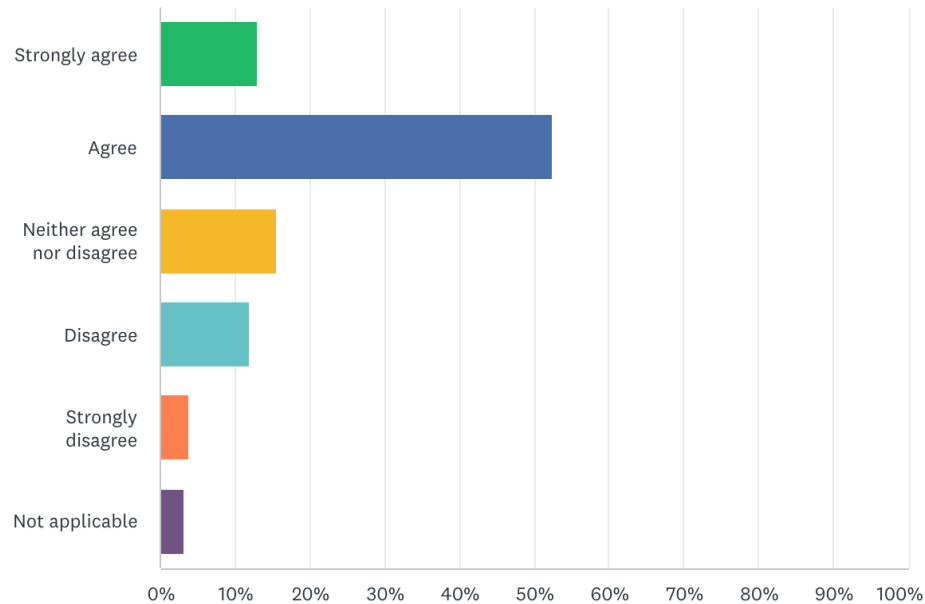


Figure 8. Percent of teachers that find their classroom wireless connection to be dependable

Additionally, in response to the survey prompt “The connection speed for classroom devices is such that typical online videos will begin playing:” 15% of teachers responded slowly or very slowly and 53% responded quickly or very quickly.

Comments from teachers and technology coordinators also highlight concerns with wireless internet access in school buildings, particularly in rural school districts.

“For the amount of online curriculum and material students are expected to access daily and for teachers to use, the internet needs to be faster. It is hard to teach a lesson or administer an assessment when you have to wait a long time for it to load.” - Teacher

“Our internet is very slow and unreliable.” - Teacher

“It does not operate smoothly all the time. Generally, we have to disconnect and reconnect to the internet. Students who come from the lower portion of our school have spotty connection and often have to go down the stairs and reconnect so that the internet will work for them. When more than one class is using the internet due to having an online curriculum, the speed of the internet goes way down.” - Teacher

Home Connectivity and Speed

The shift to remote learning in 2020 underscored the importance of enhancing home internet access to enable student engagement in digital education. Insights from the 2022 SETNA reiterated that numerous students, particularly those in rural regions, lacked sufficient internet access outside of school for educational needs, with some still devoid of home internet altogether. Subsequent comments from the 2024 SETNA suggested that while many students now have internet access at home, a segment still remains without this crucial resource.

Research Question Two: How prepared are Nevada teachers to integrate technology into the classroom?

When questioned about their proficiency with technology, the majority of teachers categorize themselves as either "about average" or "experienced" (36% and 45% respectively). Being "about average" implies having adequate skills to handle management and communication tasks as required, occasionally opting for technology to fulfill duties. On the other hand, experienced teachers identify with the notion that their skills are highly proficient, utilizing a diverse array of technological tools efficiently across all facets of their roles.

Please rate your experience with technology:

Answered: 5,073 Skipped: 509

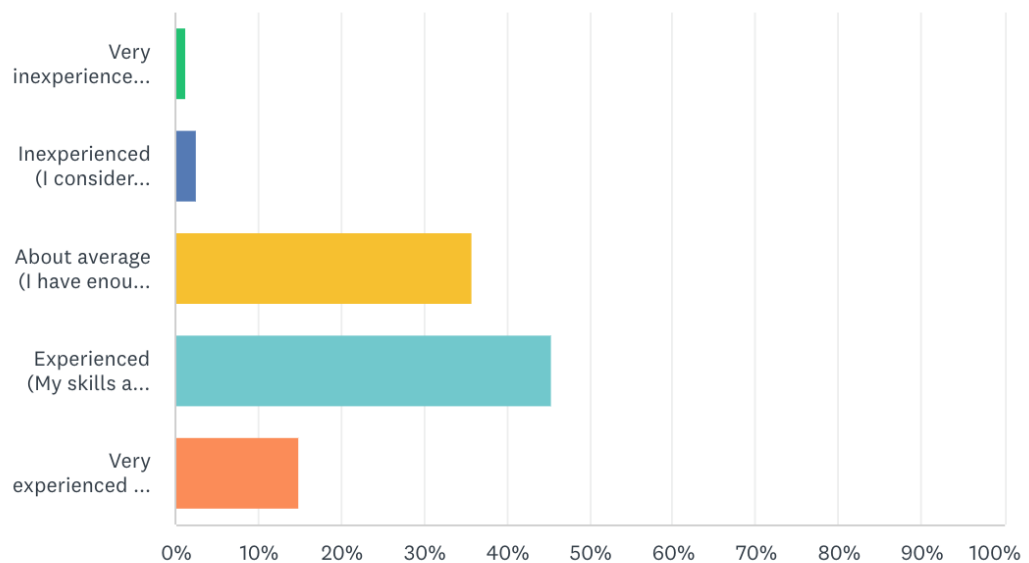


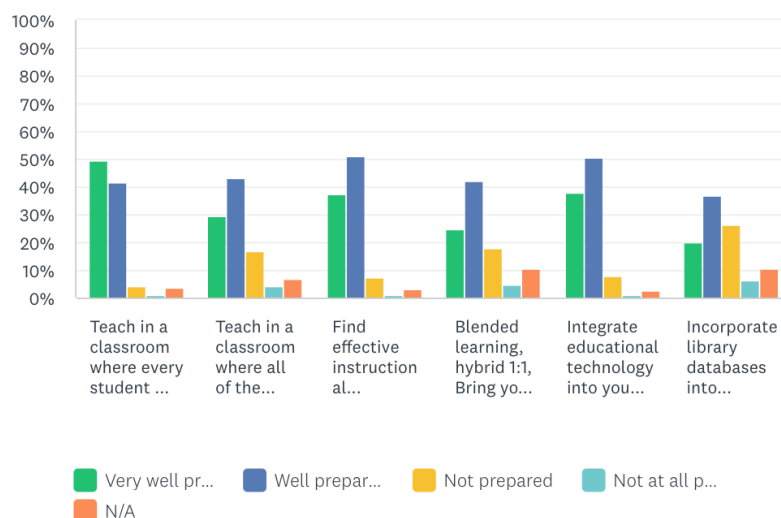
Figure 9. Teachers' experience with technology

When questioned about their readiness to teach using different instructional formats involving technology, teachers predominantly expressed being either very well prepared or well prepared. A smaller proportion mentioned feeling unprepared or not at all prepared for such teaching scenarios. Specifically, teachers conveyed confidence in instructing in classrooms where each student possesses their own device, with nearly 92% of respondents affirming they were well prepared or

very well prepared. This percentage marked an increase from the 2022 SETNA, where 86% of respondents reported similar levels of readiness.

Please indicate the degree to which you are currently prepared for the following instructional purposes:

Answered: 4,233 Skipped: 1,349



	VERY WELL PREPARED	WELL PREPARED	NOT PREPARED	NOT AT ALL PREPARED	N/A	TOTAL
▼ Teach in a classroom where every student has their own device (1:1).	49.63% 2,101	41.63% 1,762	4.28% 181	1.04% 44	3.43% 145	4,233
▼ Teach in a classroom where all of the instructional materials are delivered via the device.	29.29% 1,237	43.04% 1,818	16.83% 711	4.24% 179	6.61% 279	4,224
▼ Find effective instructional materials on the Internet.	37.58% 1,576	51.05% 2,141	7.34% 308	1.00% 42	3.03% 127	4,194
▼ Blended learning, hybrid 1:1, Bring your own device (BYOD), Project Based Learning (PBL).	24.77% 1,046	41.95% 1,771	18.05% 762	4.95% 209	10.28% 434	4,222
▼ Integrate educational technology into your classroom.	37.82% 1,593	50.36% 2,121	8.05% 339	1.04% 44	2.73% 115	4,212
▼ Incorporate library databases into student research projects.	19.80% 834	36.70% 1,546	26.57% 1,119	6.17% 260	10.75% 453	4,212

Figure 10. Teachers' preparedness for instructional purposes

Teachers were asked for comments regarding their preparation to use technology in the classroom. Many commented that that technology should be used as a support, but not as the primary method of delivering instruction.

"I am able to do everything I want to do and am open and eager to learning more. However, because of the age of the students I teach (1st grade) there are many things that are better taught with hands-on materials. Technology is a great support, but cannot replace hands-on materials at this age." - Teacher

“Too many teachers can not teach and depend on devices to deliver instruction. That's not going to produce good outcomes. No one should be in front of a screen all day.” - Teacher

“I do not believe we should ever be completely paperless anytime in the next 5 years. There are classes like science and math that cannot be paperless. Technology has not caught up to students being able to access the information and show their work like they can in a notebook. Students still need to be able to put their hands on the materials to understand. Middle school students are transitioning from concrete thinking to abstract. At some point in the future, a paperless classroom will be great. Until technology catches up and students have a transition to learning online, there always needs to be a mixed medium classroom of technology and paper. I need more training on teaching through a device before we could ever go paperless. I would not feel comfortable if I walked into next school year and they said we could not use paper materials.” - Teacher

“I strongly oppose the idea of all instructional materials being delivered via device. As an elementary teacher especially, students need practice and time to develop skills such as holding a pencil to write, working out problems by hand, and reading and holding real books. Devices are a great tool but students should not spend their entire school day working from a screen.” - Teacher

“Some technology is good, but for younger students, they still need hands-on projects, paper-pencil activities, and other ways of learning besides sitting in front of a device all day so they can develop their fine motor skills.” - Teacher

Consistent with findings from SETNAs in 2016, 2018, 2020, and 2022, it's evident that teachers tend to feel more confident in utilizing tools that have been long-established in the classroom, while they generally express less readiness in adopting newer emerging technologies, despite their availability in schools statewide. While these biennial reports suggest some improvement over time, the ongoing challenges regarding teacher preparedness underscore the pressing requirement for continued professional development initiatives.

“Much of my preparation has come from my own interest in making things more simplified for both my students and myself when it comes to technology. Searching for videos on other media platforms or having time to talk and share with other teachers. Many of the district required trainings don't adequately prepare a teacher to use some of the systems in a streamlined way. Plus the training is time consuming.” - Teacher

“Many teachers still fight using technology because they don't have the proper training.” - Teacher

Artificial Intelligence

Educators were surveyed about their perspectives on the role of AI in education and the anticipated benefits or challenges associated with integrating AI tools into teaching. Responses from teachers and technology coordinators varied, with some expressing optimism about AI's potential as a valuable tool when utilized appropriately, while others emphasized the importance of caution when incorporating AI into their instructional approaches.

“AI is a great tool if students use it correctly. Often students are using it as a mean of cheating and not learning material.” - Teacher

“I see it as inevitable. With this inevitability, I think it's critical that we teach computer science and critical thinking, so that we teach students who are independent thinkers that are equipped to harness technology rather than being harnessed and oppressed by technology itself.” - Teacher

“I think AI is a great thing but there must be limits on how we use it.” - Teacher

“It can assist with lesson planning, creativity etc. AI may also make it harder to teach critical thinking skills as students have easy access to answers.” - Teacher

“AI is amazing! It is a wonderful tool that helps make my life easier as it can create starter content for me so I don't have to waste time trying to come up with stuff on my own.” - Teacher

“I am strongly against the use of AI tools in my teaching practices. I can see some time-saving benefits of using AI to assist with lesson planning, but it is not research-based. I see many challenges with academic integrity if AI were to be used.” - Teacher

“I see AI as a tool to help spark ideas and creativity. It can help my students to brainstorm and generate a visual reference for words that they are thinking of. If used correctly, it can be a springboard to start the creative process and help students generate ideas.” - Teacher

“AI can help students who are older emergent bilingual students or students with disabilities who need support with English language/grammar. These students understand the content, but have difficulty expressing their ideas. AI would allow these students to present their knowledge.” - Teacher

“While I see the benefits of technology & AI in education, it needs to be limited. With the overuse I see already & I'm sure more to come, I feel that we are dumbing down our students & setting them up for more failures both in knowledge, social interactions & skills. The end result scares me for future generations. If the desired end result is where everyone needs to rely on tech & AI for anything & everything because they know nothing & can't communicate, then Mission Accomplished!” - Teacher

“AI has helped in the creation and usage of new and improved rubrics for my students.” - Teacher

“I think it is a wonderful tool to use in my classroom, I use it to help differentiate what I am doing.” - Teacher

“Useful for lesson planning, developing units and activities. The challenge will be moderating student use of AI to complete assignments.” - Teacher

“Teachers use AI to assist with writing lesson plans. I see the challenges being too reliant on technology to teach a lesson they haven’t fully understood themselves.” - Technology Coordinator

“AI has been a newly utilized resource for our district, with a need to emphasize the appropriate use for our students. The challenges we foresee involve writing assignments and plagiarism concerns. We foresee a need to teach proper citation of work and how to utilize AI.” - Technology Coordinator

“Our teachers use it to generate rubrics, assignments, quizzes and assessments. AI is still very new to all and we are learning the negative and positive impacts.” - Technology Coordinator

“Use of AI is currently patchy across our district. There are a substantial number of benefits, benefits include personalized learning, content grade leveling, continuous assessment and real-time feedback, and the automation of administrative tasks and other professional responsibilities to allow for more time to develop high quality lessons and provide high quality instructional intervention. I also see an opportunity to possibly ingest student data from various different learning platforms and information systems to gain visibility into the student as a whole, which can be used to inform decisions around the best way to move the student forward. Challenges include concerns around privacy and security as well as mitigating cheating to maintain academic integrity. Additional concerns revolve around technology dependency and depersonalization. AI also tends to include bias and/or errors in its responses.” - Technology Coordinator

Professional Development

Professional development initiatives are a critical component to the sustainability and functionality of the state-wide digital learning plan. Results from the 2024 SETNA show that 64% of teacher respondents have received professional training for educational technology.

In your current school have you received any professional development opportunities/training for educational technology?

Answered: 4,250 Skipped: 1,332

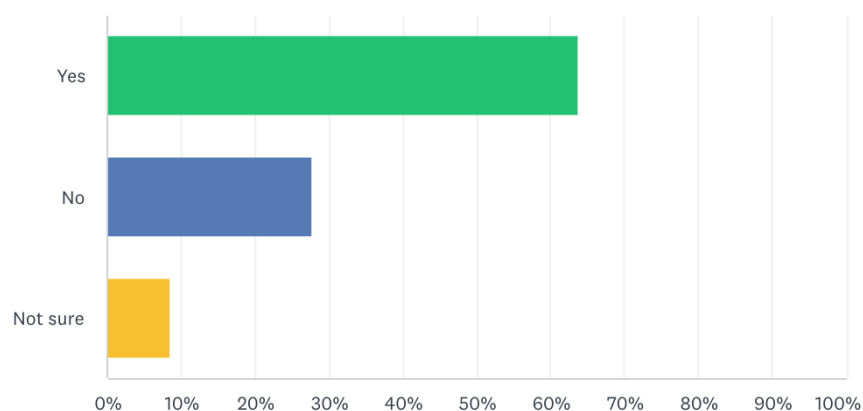
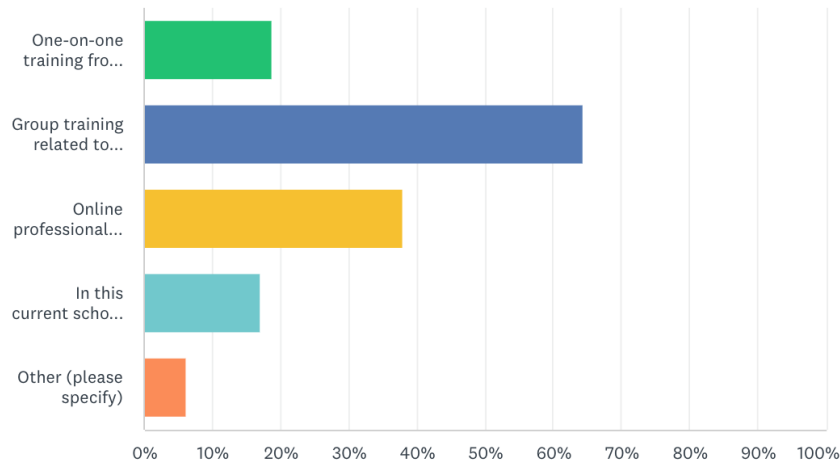


Figure 11. Professional development opportunities for educational technology

Most of these training opportunities are group training related to technology or online professional development courses.

Which of the following professional development opportunities have been available to you during the current school year?

Answered: 4,091 Skipped: 1,491



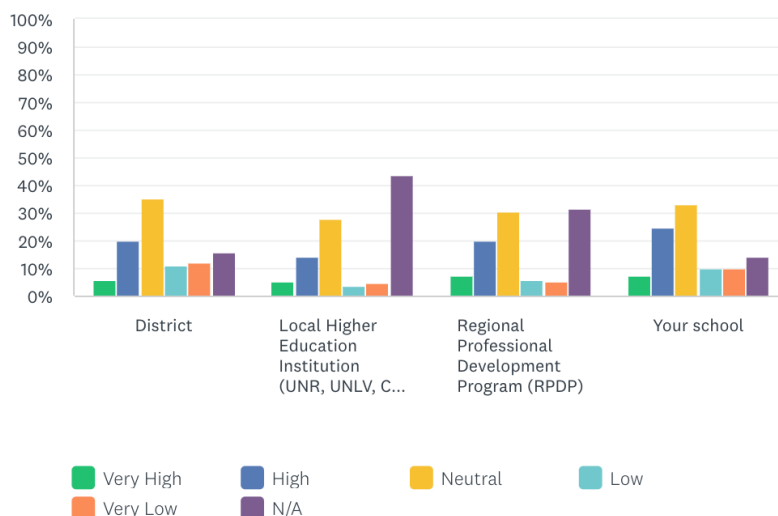
ANSWER CHOICES	RESPONSES	
▼ One-on-one training from a technology specialist or coach	18.72%	766
▼ Group training related to technology (e.g. staff development days)	64.43%	2,636
▼ Online professional development courses	37.86%	1,549
▼ In this current school year I have not had any professional development opportunities	17.06%	698
▼ Other (please specify)	6.21%	254
Total Respondents: 4,091		

Figure 12. Types of professional development opportunities for educational technology

Their ratings of the quality of different types of professional development vary with the neutral and N/A categories having the highest percentages of responses.

How would you rate the quality of the technology-related professional development opportunities sponsored by the following entities?

Answered: 4,100 Skipped: 1,482



	VERY HIGH	HIGH	NEUTRAL	LOW	VERY LOW	N/A	TOTAL
▼ District	5.81% 214	19.77% 728	35.43% 1,305	10.97% 404	12.06% 444	15.97% 588	3,683
▼ Local Higher Education Institution (UNR, UNLV, CSN, GBC, etc.)	5.27% 210	14.39% 573	28.04% 1,117	3.82% 152	4.62% 184	43.86% 1,747	3,983
▼ Regional Professional Development Program (RPDP)	7.17% 289	19.81% 799	30.67% 1,237	5.55% 224	5.45% 220	31.34% 1,264	4,033
▼ Your school	7.51% 296	24.47% 965	33.38% 1,316	9.94% 392	10.25% 404	14.46% 570	3,943

Figure 13. Quality of technology-related professional development

The continued need for professional development is summarized in these comments from teachers and technology coordinators on the 2024 SETNA.

“I haven't been offered training. I paid and took google classes through ELMS and those classes were great!” - Teacher

“We figured out most of the things they showed us by the time we had the training.” - Teacher

“Most of my training has come from experienced staff members willing to help me out.” - Teacher

“There is a list of required training videos the district mandates are watched yearly, but my understanding is few people truly pay attention.” - Technology Coordinator

However, technology coordinators from some districts and schools indicated that there are required and optional professional development opportunities available through the modes of mentoring, online courses, one-on-one training, workshops, and webinars.

“Required training is provided during our employee onboarding process and it includes items that are critical to the individual’s success. Additional PD is provided by an assigned mentor throughout the teacher’s first year of employment with our district. PD types include mentoring, online courses, one-on-one, in-person group and webinar.” - Technology Coordinator

“At the beginning of the school year, before students are on campus, our teachers and staff go through PD (professional development). The type of PD varies, but some type of technology is usually embedded in it, be it new curriculum, etc.” - Technology Coordinator

“District tech department provides optional teacher specific technology trainings throughout the school year.” - Technology Coordinator

The areas identified in the teacher survey, technology coordinator survey, superintendent survey, and principal survey requiring significant professional development include:

- Utilization of classroom devices such as smart boards, Elmos, both old and new computers, iPads, and similar technologies.
- Selection and integration of core curriculum resources.
- Mastery of Learning Management Systems like Canvas, Google Classroom, and others.
- Instruction in digital citizenship to foster student online safety.
- Familiarization with educational apps compatible with existing devices.
- Targeted training tailored to specific grade levels and subject areas.

Superintendents also emphasized that when funds are allocated to districts, they should be designated for specific technology-related purposes or for educational technology professional development.

Research Question Three: How do parents feel about the technology their children use?

According to the 2020 SETNA findings, approximately 74% of parents reported that their child regularly utilized technology for homework completion. Conversely, around 23% stated that their child did not regularly use technology for this purpose, while approximately 2% were unsure. According to the 2022 SETNA, parents reported that their children frequently employed technology for various homework tasks including research projects, assignments, submission, quizzes, and educational games. Roughly 78% of parents confirmed regular technology use for homework, with approximately 18% indicating otherwise, and around 3% remaining unsure, aligning closely with early 2020 pandemic figures. In the 2024 SETNA, the percentage of parents indicating regular technology use for homework increased slightly to 80% compared to the 2022 SETNA. Conversely, about 17% reported their child did not regularly use technology for homework, with approximately 3% remaining uncertain.

Does your student regularly use technology to complete homework? If so, what types of activities did they complete? (Research, projects, educational games, studying, etc...)

Answered: 3,604 Skipped: 16

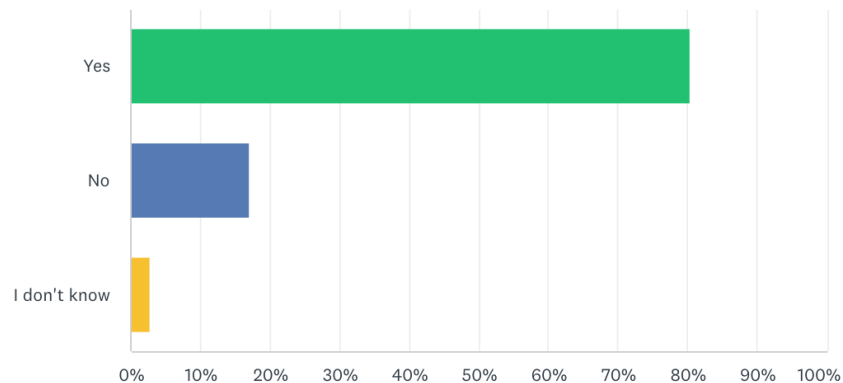


Figure 14. Regular use of technology to complete homework in 2024

In 2024, most parent respondents indicated that students regularly use educational technology in the classroom.

Does your student regularly use educational technology IN THE CLASSROOM? If so, what types of activities do they complete in school? (Research, projects, studying, etc...)

Answered: 3,598 Skipped: 22

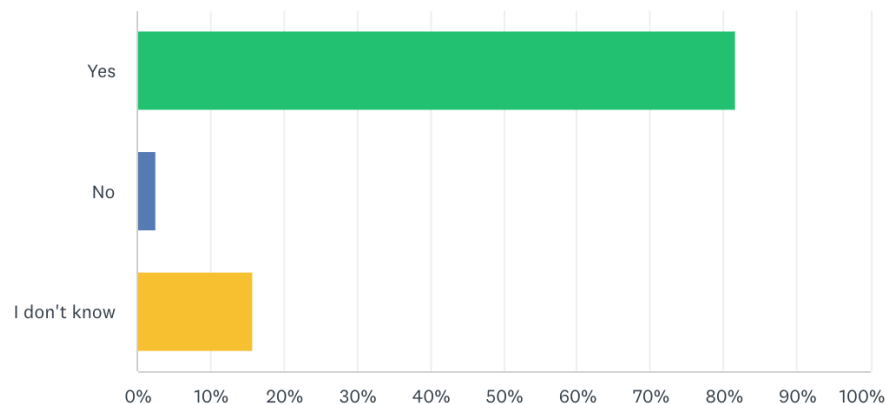


Figure 15. Expectations regarding educational technology in the classroom in 2024

Approximately 24% of parents expressed apprehensions regarding the integration of educational technology in the classroom. These concerns encompassed the belief that technology should not supplant teachers, worries about online safety and distractions, reservations regarding computer-based activities being perceived as mere "busy work," concerns about potential negative effects of screen time on children's eyes, and doubts about technology effectively enhancing learning. Below are some quotes from parents illustrating these concerns:

“Prior research indicates a strong relationship between the hand and the brain. Heavy laptop usage in classrooms can have a negative impact on comprehension and overall learning. As a parent of an elementary student, I disagree with the presence of laptops in the classroom. Kids will spend their entire adult lives immersing themselves in technology. We should let them be kids while we can.” - Parent

“Relying on technology as a primary tool for assessments doesn’t provide an accurate portrayal of what a student can do.” - Parent

“Technology should be used in conjunction with in person teaching and not as a substitute. Some teachers use it and it limits student engagement.” - Parent

“It is important for kids these days to learn all aspects of technology; however they still need paper pencil instruction and cannot rely solely on technology. Simple handwriting, for example, is still an important life skill. Same with writing out and solving math problems. Etc.” - Parent

“I don't like that teachers are using it to teach kids vs them doing the teaching/instruction. I don't mind it for students to do assignments and projects but teachers still need to be instructing and not relying on videos and students reading on their own. I want teachers teaching!” - Parent

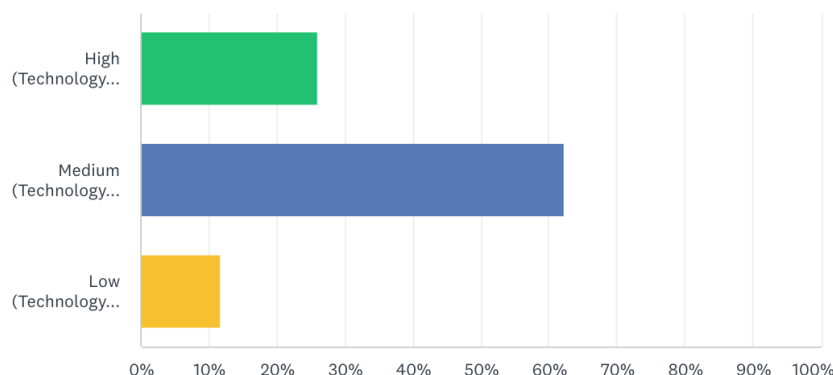
“My concern with daily use is that excessive exposure to technology can lead to eye impairment, dexterity impairment of limb, stress to name a few in the long term. Reduces in kids being active leading to health issues.” - Parent

“Over use of the screen can be harmful to their eyes. I believe it should be 50/50 split from computer education and alternative learning.” - Parent

Most parents indicated that they have medium (about 62%) expectations regarding educational technology use at home.

What are your expectations regarding educational technology IN THE HOME?

Answered: 3,578 Skipped: 42



ANSWER CHOICES	RESPONSES	
High (Technology should be used on a daily basis)	26.08%	933
Medium (Technology should be used regularly but not on a daily basis)	62.19%	2,225
Low (Technology does not need to be used in the home)	11.74%	420
TOTAL		3,578

Figure 16. Expectations regarding educational technology in the home

Parents commented that technology should be used when needed and that technology should be for learning purposes and not for gaming or watching videos. There were also many comments related to access and equity to educational technology for all students. Some comments are below.

“Technology will be a part of my child's everyday life forever, so I prefer they use it daily. It's part of all careers in some form or another as well as college life.” -Parent

“Computers and other technology should not be the primary source of educational information. These kids need to understand how to use books and learn without the computer reading to them and auto correcting everything.” - Parent

“The kids do need outside play time away from screens, but they should be using technology in some way shape or form (e.g., Alexa, Google assistant) as technology will be integrated in their life as adults and they should be comfortable with it.” -Parent

“My opinion is like in the classroom. We need a balance. It is too easy to place kids in front of screens and forget to interact with them.” -Parent

“We do not have access to reliable and affordable internet. It is actually something that will be cut from our budget this summer. Next year there will be no access to the internet at home. We fall outside of all the current programs to make the internet affordable.” -Parent

“Not all families have equal access.” -Parent

“Students should be technically savvy to function in today's world. But excessive screen time can inhibit their emotional, social, and mental development.” -Parent

When questioned about their views on the utilization of educational technology in their child's school, numerous parents stressed the importance of their children learning commonly used computer systems and software that would be beneficial in college and the workplace. Below are additional comments from parents regarding educational technology in the school:

“Technology is where the world is headed and children can't be left with no skills in using it but it shouldn't replace all other forms of education either.” -Parent

“I think it's wonderful as a tool and should never replace active teaching from a licensed teacher” -Parent

“I like that my kids are learning to use computers and develop skills that will help them in college and the workforce. But I want to make sure there is a balance between screens and hands on..” -Parent

Parents were asked to share their opinions on the integration of AI technologies in their student's education. Many respondents were unsure of the potential benefits or drawbacks of AI-driven tools. Opinions were mixed in terms of not wanting their children to use AI technology and wanting their children to be exposed to AI and learn how to use it responsibly to enhance their learning experiences. Some comments from parents are below:

“My kids need to be aware of it and its abilities, but I don't want them to rely on it. They should still be developing their academic and personal skills.” - Parent

“We DO NOT support AI technologies. This limits students and teachers ability to do the work needed to be successful.” - Parent

“I believe AI will make our students more dependent on resources than their own minds and actually learning and knowing the information. If AI can answer their questions, what will be the point of them paying attention in class and doing the classwork assigned to them. AI will create a society of people that can't think for themselves and won't have the critical thinking and problem-solving skills that are gained in classes and are taught by teachers or experiences.” - Parent

“I think as long as the AI is vetted properly it could be really helpful.” - Parent

“AI is acceptable in the classrooms. It assists the kids greatly.” - Parent

“I believe that the attitudes of my school district's teachers believing it will only be used for plagiarism shows a lack of understanding of the massive benefits to students. It should be integrated and students should be shown how they can use AI as a learning partner and things of that nature.” - Parent

“Students need to be taught when AI is appropriate and when it is not, and clear policies and expectations need to be in place.” - Parent

“Students should learn about AI software and robotics as it is the future.” - Parent

“Can be a useful tool and likely the wave of the future. Teaching the children the benefits and the temptations of inappropriately using AI should be taught early.” - Parent

“I don’t feel comfortable with AI at the moment. I feel like it should be real teachers, not just a computer teaching kids.” - Parent

In summary, parents believe that their students are generally well-equipped to utilize educational technology both in the classroom and at home. However, they emphasize the necessity for all students to have access to devices and reliable internet. Additionally, parents agree on the importance of providing teachers with more training on how to effectively utilize online platforms such as Google Classroom and Canvas, while also expressing the need for their own training to support their children. Overall, parents recognize the benefits of educational technology in enhancing student learning when used appropriately. Nevertheless, they also acknowledge that in-person learning is preferable to remote learning, and advocate for the moderate and complementary use of educational technology alongside traditional teaching methods such as problem-based learning, hands-on activities, and interactive discussions.

Research Question Four: In what ways can educational technologies improve instructional development, delivery, and assessment in Nevada?

Instructional Development and Delivery

The core principle of the International Society for Technology in Education (ISTE) underscores the idea that "every student should participate in transformative learning encounters that ignite their creativity and equip them for success in both learning and life" (ISTE, 2024). This sentiment was echoed in the findings of the SETNA 2024 surveys.

According to the 2024 SETNA surveys, educational technologies offer various ways to enhance instructional development, delivery, and assessment in Nevada such as:

- **Personalized Learning:** Technology enables educators to tailor instruction to individual student needs, providing personalized learning experiences that cater to diverse learning styles and abilities.
- **Access to Resources:** Educational technologies provide access to vast online resources, digital libraries, and educational platforms, offering teachers and students a wealth of information and learning materials.
- **Interactive Learning:** Interactive digital tools, simulations, and multimedia resources can make learning more engaging and interactive, fostering student participation and comprehension.

- Distance Learning: Educational technologies facilitate remote learning opportunities, enabling students in remote or underserved areas to access quality education, participate in virtual classrooms, and collaborate with peers and educators.
- Data-Driven Instruction: Technology allows educators to collect, analyze, and utilize data on student performance to inform instructional decisions, identify areas for improvement, and track student progress more effectively.
- Assessment Tools: Online assessment platforms and digital tools provide efficient and timely assessment of student learning outcomes, offering insights into student mastery of concepts and informing instructional adjustments as needed.
- Professional Development: Educational technologies can support professional development for educators through online courses, webinars, virtual workshops, and collaborative learning communities, enhancing their teaching skills and knowledge of instructional strategies.

The impact of using educational technology is succinctly captured in a teacher's comment.

“Contemporary technological advancements have significantly transformed the classroom environment. In particular, technology has revolutionized the learning experiences of students, equipping them with essential skills that are critical for their future success. The benefits of using technology in the classroom have become increasingly apparent, with its ability to enhance learning efficiency through interactive and immersive experiences. In this context, technology has become a vital tool for facilitating student-centered learning and fostering a collaborative learning culture. As such, it is imperative for educators and institutions to leverage the power of technology to provide students with a competitive edge and to prepare them for the demands of the modern world.” - Teacher

By leveraging educational technologies effectively, Nevada educators can enrich the teaching and learning experience, promote student achievement, and foster continuous improvement in education across the state.

Digital Learning Materials

As with the 2022 report, due to a lack of available research, the 2024 SETNA can make no concrete assertions on the topic of digital textbooks and their potential cost savings for K-12 schools. Comments from technology coordinators indicate concern that the annual costs of digital textbook subscriptions might be more costly. However, the need to access high-quality digital content was identified as one of the greatest challenges by technology coordinators.

Computer-Based Assessment

Multiple state educational assessments are delivered electronically, and their corresponding technology requirements are provided. In addition to the technology specifications detailed by the testing vendors, the number and availability of these devices impacts both assessment and instruction. The NR21 Year 3 implementation report indicated that an affordance of a school having 1:1 device, and sufficient internet capacity for all devices to access the internet concurrently can streamline the testing window for state assessments. Principals cite this benefit of the updated networking and devices provided by NR21 to reduce their testing window from weeks to days.

Principals report that their ability to decrease their school's testing window provides the gift of increased instructional time.

NWEA MAP Growth Reading Assessment

The NWEA MAP Growth Reading Assessment was approved by the Nevada State Board of Education for the 2017-2018 school year and every subsequent school year thereafter per NAC 388.660 in response to SB 391 (2015), also known as the Read by Grade 3 Act. The most current version of the law is AB 289 (2019). In 2023 an omnibus bill, AB 400 (2023), was passed and included sections regarding Read by Grade 3. Some of the sections of AB 400 (2023) were enacted July 1, 2023 and some will be enacted July 1, 2028. The NWEA MAP Growth Reading Assessment is used to identify students who are reading below grade level and need intervention services and intensive instruction as outlined in NRS 392.750, NRS 392.755, NRS 392.760, NRS 392.765, NRS 392.770, and NRS 392.775. A principal of a school is required to designate a licensed teacher to serve as a literacy specialist (per NRS 388.159). The Read by Grade 3 literacy specialist has specific required duties and responsibilities to help with the implementation, professional learning, and instructional support (NAC 388.666).

The current 2023-2024 academic year marks the eighth year of statewide administration of the NWEA MAP Growth Reading Assessment in Nevada. This assessment is a computer-adaptive test. The NWEA MAP Growth tests include multiple choice, drag-and-drop, and other types of questions.

The NWEA MAP Growth Reading Assessment is optional for kindergarten during the fall benchmark because students are administered a kindergarten entry assessment (KEA) approved by the State Board of Education (NAC 388.660). The NWEA MAP Growth Reading Assessment is required to be administered to kindergarten students during a winter benchmark and at the end of the school year during a spring benchmark.

The NWEA Map Growth Reading Assessment is administered three times during the year to students in First, Second, and Third grades at the beginning, middle and end of the year (fall, winter, and spring benchmarks).

The NWEA MAP Growth Reading Assessment is used to assess the reading skills of all K-3 students in Nevada. The NWEA MAP Growth Reading Assessment is used to identify students who are reading below grade level and need intervention services and intensive instruction as outlined in NRS 392.750, NRS 392.755, NRS 392.760, NRS 392.765, NRS 392.770, and NRS 392.775. The data from the assessment are used to inform the state-level reporting requirements of the Read by Grade 3 Program per NRS 388.157 Sec.1 (b) and NAC 388.660 Sec. 2.

The NWEA MAP assessment has some minimum specifications when it comes to hardware, peripheral devices, and bandwidth requirements. NWEA recommends as a best practice to use the NWEA secure testing browsers and apps (also called "Lockdown Browser") for MAP testing. Students will need to have access to any of the following: Laptops or Tablets; Windows PC, Macintosh, iPad, or Chromebook. See Appendix G for details about specific supported models of these devices.

Computer hardware must meet the minimum requirements specified by the manufacturers of the operating system and browser in use. Any hardware that exceeds the minimum requirements is

recommended for an optimal experience for the test taker. For computer display, follow these specifications:

- Screen Resolution Minimum: 1024 X 768 for students
- Scaling or Zoom: Set to 100%
- Color Depth: 32-bit recommended (minimum 16-bit)

The following bandwidth recommendations are based on best-estimate calculations. Test sites that do not meet these recommendations will be able to deliver assessments, but they may experience delays. Grades 3+ testing requires 2 Mbps for every 30 computers concurrently testing. Grades K-2 testing requires 3 Mbps for every 30 computers concurrently testing. More bandwidth is required because of audio and interactive features. Additional bandwidth is needed at the beginning of each NWEA MAP Growth assessment. The initial load is approximately 2.2 MB, and the load time varies based on available bandwidth.

Smarter Balanced and WIDA Assessments

To meet the requirements of the Every Student Succeeds Act (ESSA) and Nevada Revised Statutes, all Nevada students in grades 3-8 participate in the Smarter Balanced state assessments. Additionally, all students (kindergarten through twelfth grade) who are learning English as a second language are required by ESSA to participate in the English language proficiency exam the WIDA until they demonstrate a prescribed level of proficiency. Both the WIDA and the Smarter Balanced assessments are computer-based assessments delivered via a proprietary software package installed on local devices and servers.

The vendors for the Smarter Balanced and WIDA assessments have published device requirements for both testing devices and server hardware (Appendix H). Testing software can be run on a Windows, macOS, Linux, Chrome OS and iPadOS device with an operating system vendor's supported version. Hardware requirements vary across platforms, but a minimum CPU benchmark rating of 600 is required. To offer all available supports for students a CPU benchmark rating of 3000* or higher recommended. Devices require a minimum of 2 GB of RAM; however, 4 GB is recommended to offer all the available student supports. Devices must have a minimum screen size of 9.5 inches and a resolution of 1024x768. Vendor recommendations state that tablets or other limited expansion devices should close all other software or apps and be used only to administer the assessments as the memory on these devices is finite. Devices must be compatible with both earphone and microphone use to fully access both assessments.

Vendor requirements for content hosting servers vary depending on the number of students who will be testing on the device. Servers must meet the CPU benchmark rating of 3000 or higher, a minimum available memory of 4 GB, and available disk space of no less than 10 GB to access up to 100 students. Districts attempting to assess up to 750 students must utilize a server with a CPU benchmark rating of 12,000 or higher. Available shared network bandwidth also increases with student numbers. Assessing 100 students requires a minimum of 100 Mbps of bandwidth and increases by 50 Mbps per each 100 additional students.

Section 5: Summary of Findings and Recommendations

The data gathered from the 2024 State Educational Technology Needs Assessment provided feedback from several sources including Nevada teachers, technology coordinators, parents, state superintendents, and principals. The following provides a summary of SETNA recommendations based on the data from the Technology Coordinator Survey, Teacher Survey, Parent Survey, State Superintendent Survey, and Principal Survey in the 2024 SETNA report.

Summary of 2024 SETNA Recommendations

Top Ten Recommendations

- 1. Ensure a steady, predictable, and dedicated stream of funding for educational technology.**
 - Funding needs to remain steady and predictable to support planning and implementation of educational technology initiatives. It should be exclusively allocated to educational technology purposes, as highlighted as the most frequently mentioned need in survey results.
- 2. Guarantee adequate Wi-Fi access in both school and home environments.**
 - Reliable Wi-Fi access, including hot spots, is indispensable for digital learning, especially in scenarios like those presented by the pandemic in 2020. Consistent, high-speed, and uninterrupted Wi-Fi connectivity is vital for effective digital learning, a requirement identified unanimously by all stakeholder groups.
- 3. Support device procurement and replacement and repair procedures to ensure universal student access to fully functional devices.**
 - Survey findings underscore the necessity of supporting districts with comprehensive replacement and repair mechanisms to guarantee that every student has access to functional devices for digital learning. Repair services and replacement devices are deemed essential to prevent any student from lacking a working device and to ensure universal access to digital learning materials.
- 4. Establish state-supported infrastructure to facilitate content delivery and professional development.**
 - A state-supported infrastructure ensures equitable access to content and professional development opportunities for all students and educators across the state, mitigating disparities arising from varying district resources. Survey results highlight significant variations in access to student content and professional development across districts.
- 5. Foster the development and execution of long-term educational technology plans.**
 - Nevada mandates educational technology plans at the district level. NDE should actively support districts in both crafting long-term plans and executing and evaluating these plans effectively.

- 6. Provide educators with continuous professional development to facilitate the integration of educational technology, including AI, across all grade levels and classroom settings.**
 - Access to and necessity of professional development in educational technology vary among schools and districts. All educators require ongoing professional learning to effectively deliver high-quality instruction in face-to-face, blended, and online learning formats. Professional development emerges as a unanimous need across all stakeholder groups. Offering ongoing professional development opportunities ensures that educators are equipped with the necessary skills to leverage AI effectively in their classrooms.
- 7. Offer training to technology coordinators on how to apply for state and federal grants to enhance educational technology in Nevada.**
 - Technology coordinators should receive information about available grants and funding opportunities, as well as assistance in preparing and submitting grant applications to procure educational technology resources for their schools and districts.
- 8. Expand and leverage partnerships to drive progress.**
 - Partnerships play a pivotal role in planning and procurement processes. Strong partnerships enable vertical alignment across K-12 schooling, higher education, and career pathways. Moreover, coordinated procurement efforts enhance purchasing power. Potential partnership avenues include collaboration among NDE, school districts, private sector, higher education institutions, Office of Science, Innovation, and Technology (OSIT), and professional organizations such as CUE-NV and ISTE.
- 9. Utilize educational technology exclusively for educational purposes in both school and home settings.**
 - Technology usage should be restricted to enhancing teaching and learning experiences and should not serve as a substitute for teachers or other beneficial instructional practices.
- 10. Monitor students' technology usage while prioritizing security and safety concerns.**
 - Students must refrain from engaging in non-educational activities such as social media or unrelated videos during class time. Devices should be equipped with the latest security software, and students' technology use should be monitored both at home and in school to address security and safety issues effectively. Reassess district policies regarding cell phone usage in schools, ensuring they align with the educational environment, and rigorously enforce these rules within school premises.

References

DRC Insight. (2024). *System requirements: Effective February 2024 – June 2024*. DRC Insight.

https://laslinks.com/PDFs/LAS_LinksOnline_System_Requirements_DRC_INSIGHT.pdf

Inan, F. A., & Lowther, D. L. (2010). Laptops in the K-12 classrooms: Exploring factors impacting instructional use. *Computers & Education*, 55(3), 937–

944. <https://doi.org/10.1016/j.compedu.2010.04.004>

International Society for Technology in Education (2024). Retrieved from <https://iste.org/>

MAP Help Center. (2024). *System requirements*. MAP.

<https://teach.mapnwea.org/impl/maphelp/Content/MAPSetup/Technology/SystemRequirements.htm>

McKnight, K., O'Malley, K., Ruzic, R., Horsley, M. K., Franey, J. J., & Bassett, K. (2016).

Teaching in a digital age: How educators use technology to improve student learning.

Journal of Research on Technology in Education, 48(3), 194-211.

Morris, L. M. (2018). Professional Development for One-to-One Mobile Technology Programs.

Retrieved from

<https://scholarworks.waldenu.edu/cgi/viewcontent.cgi?article=6510&context=dissertations>

Appendices

Appendix A – Technology Coordinator Survey 2024

2024 Nevada Educational Technology Survey - Technology Coordinator

1. Nevada Educational Technology Survey

Dear Technology Coordinator,

This is the 2024 State Education Needs Survey. This biennial survey collects information required for Federal and State reporting and will inform the biennial educational technology needs assessment required by NRS. Information obtained in this survey will influence state educational technology policies and funding. The survey is intended to assess your views and perceptions of technology throughout your district. The survey covers a variety of topics, from technology planning to teachers' use of technology in teaching and administrative tasks.

We ask that you please complete the Technology Coordinator Survey which will take approximately 30 minutes. Your responses are anonymous and extremely important, as the results will provide important feedback for the Nevada State Legislature.

Please answer the questions thoroughly.

Thank you for your support.

Respectfully,

Dr. Diana Moss (dmoss@unr.edu)

2024 Nevada Educational Technology Survey - Technology Coordinator

2. Nevada Educational Technology Survey

School Survey

Should this be on page with the following question with it?

* 1. Select your district

- ☐ Carson 13
- ☐ Churchill 01
- ☐ Clark 02
- ☐ Douglas 03
- ☐ Elko 04
- ☐ Esmeralda 05
- ☐ Eureka 06
- ☐ Humboldt 07
- ☐ Lander 08
- ☐ Lincoln 09
- ☐ Lyon 10
- ☐ Mineral 11
- ☐ Nye 12
- ☐ Pershing 14
- ☐ Storey 15
- ☐ Washoe 16
- ☐ White Pine 17
- ☐ State-Sponsored Charter 18
- ☐ Other Non-District Affiliated Public School 18

2024 Nevada Educational Technology Survey - Technology Coordinator

3.

Same as this one?

1. Next to each of the designations below provide a number that represents the approximate percentage of classrooms that most closely fit that description.

Teacher computer
(desktop/laptop/tablet)
only

Teacher computer +
access to a computer
lab and/or shared
computer cart

Teacher computer +
student device
(approx. one student
device to 4 students)

Teacher computer +
student device
(approx. one student
device to 3 students)

Teacher computer +
student device
(approx. one student
device to 2 students)

Teacher computer +
student device (one
student device to 1
student)

2. Next to each of the designations below provide a number that represents the approximate percentage of student device types that most closely fit that description.

Desktop

Laptop/Chromebook

Tablet

Other

3. What percent of students are allowed to take home a school device during evenings/school breaks?

4. Has this changed due to Covid19? If so, how?

5. What support is available to teachers when they need technical assistance in their classrooms?

6. When a teacher/student needs support, how is this communicated?

7. If a device requires repair, what is the process?

8. Is the teacher/student supplied with a temporary device until repair is completed?

9. If the teacher/student does not have a replacement device available, how do they instruct/participate?

10. Do teachers/students use devices not provided by the district?

☐ Yes

☐ No

If yes, how is PII protected with 'alternate devices' if not supplied via district?

Alignment?

11. Please share any other comments you have regarding the technology capacity in your district's classrooms.

2024 Nevada Educational Technology Survey - Technology Coordinator

4. Technology Planning

This section pertains to the planning for technology use at local, district, and state levels.

Same as this one?

1. Does your district have a technology plan that is publicly available?

☐ Yes

☐ No

If so, provide a link.

2. Do schools in your district typically engage in significant technology planning? If so, how often does this occur? Do they have school technology plans? Do they have technology committees?

3. Describe the status of planning for technology in your district. What are the major challenges?

4. Describe in general terms the funding for technology in your district. What are the major sources of funding? Is the funding consistent and predictable?

5. Has your district recently or does your district plan to use E-rate funding. If so, how? If not, why?

6. What else should we know about technology planning in your district?

2024 Nevada Educational Technology Survey - Technology Coordinator

5. Role of Technologies

Same as this one?

The following items refer to the role of technology throughout the district as the tools pertain to a variety of tasks.

1. What do you think are the opportunities and challenges associated with the expanded use of laptops to supplement or replace textbooks?

2. Has the expanded distribution of laptops had a positive impact on student outcomes? Why or why not?

3. What are some of the greatest challenges associated with the increased use of Internet for teachers in your district?

4. Are teachers in your district using the Internet to collaborate with other teachers. If yes, how?

5. How are teachers in your district using Artificial Intelligence (AI) in their teaching? What potential benefits or challenges do you foresee in integrating AI tools and technologies into education?

2024 Nevada Educational Technology Survey - Technology Coordinator

6. Professional Development

Same as this one?

These items pertain to the professional development available to teachers throughout your district.

1. What type of educational technology professional development is required for all teachers in your district?

2. What type of optional educational technology professional development is available for teachers in your district?

3. What is the greatest need for educational technology professional development for teachers in your district?

4. Share any other comments or suggestions regarding educational technology and professional development you feel is pertinent to this survey.

2024 Nevada Educational Technology Survey - Technology Coordinator

7.

Same as this one?

1. We appreciate your feedback and thank you for the time and effort you put into completing this survey. If you have any suggestions on how can improve this survey please enter them below. Otherwise, click the "done" button to finish.

Appendix B– Teacher Survey 2024

2024 Nevada Educational Technology Survey - Teacher

1. Nevada Educational Technology Survey

Dear Teachers,

This is the 2024 State Education Needs Survey. This biennial survey collects information required for Federal and State reporting and will inform the biennial educational technology needs assessment required by NRS. Information obtained in this survey will influence state educational technology policies and funding. The survey is intended to assess your views and perceptions of technology throughout your schools. The survey covers a variety of topics, from technology planning to teachers' use of technology in teaching and administrative tasks.

We ask that you please complete the Nevada Educational Technology Survey-Teacher. Your responses are anonymous and extremely important, as the results will provide important feedback for the Nevada State Legislature.

Please answer the questions thoroughly.

Thank you for your support.

Respectfully,

Dr. Diana Moss (dmoss@unr.edu)

2024 Nevada Educational Technology Survey - Teacher

2. Nevada Educational Technology Survey

Same as this one?

School Survey

* 1. In which district is your school?

- ☐ Carson 13
- ☐ Churchill 01
- ☐ Clark 02
- ☐ Douglas 03
- ☐ Elko 04
- ☐ Esmeralda 05
- ☐ Eureka 06
- ☐ Humboldt 07
- ☐ Lander 08
- ☐ Lincoln 09
- ☐ Lyon 10
- ☐ Mineral 11
- ☐ Nye 12
- ☐ Pershing 14
- ☐ Storey 15
- ☐ Washoe 16
- ☐ White Pine 17
- ☐ State-Sponsored Charter 18
- ☐ Other Non-District Affiliated Public School 18

For which school are you completing this survey?

2024 Nevada Educational Technology Survey - Teacher

3. Demographic Information

This information is for classification purposes only; we have no way of tracking this information back to the participant.

(*) Indicates a required question.

* 1. In which year did you begin teaching?

* 2. How long have you been teaching?

- ☐ This is my first year
- ☐ More than one year, but fewer than three years
- ☐ More than three years, but fewer than five years
- ☐ More than five years, but fewer than ten years
- ☐ More than ten years

* 3. How long have you been teaching at your current school?

- ☐ This is my first year
- ☐ More than one year, but fewer than three years
- ☐ More than three years, but fewer than five years
- ☐ More than five years, but fewer than ten years
- ☐ More than ten years

* 4. Which job classification most closely matches your current position?

- ☐ Certified teacher
- ☐ Media specialist
- ☐ Special education teacher
- ☐ Technology teacher/integration specialist
- ☐ Other (please specify)

* 5. What type of school accurately describes your current assignment/placement?

- ☐ Elementary School (K-5 or K-6)
- ☐ Middle School (6-8, 6-9, 7-8, or 7-9)
- ☐ High School (9-12 or 10-12)
- ☐ Elementary/Middle School (K-8)
- ☐ Other (please specify)

* 6. If you teach at a middle school or high school level, which subject(s) do you teach?
(Select all that apply)

- ☐ I teach elementary school
- ☐ Math
- ☐ Science
- ☐ English/Language Arts/Reading
- ☐ Social Studies/History/Government
- ☐ Physical Education/Health
- ☐ Technology
- ☐ Librarian
- ☐ Foreign Language Arts
- ☐ Specialist or Strategist
- ☐ CTE Program Teacher
- ☐ Other (please specify)

* 7. Are you:

- ☐ Male
- ☐ Female
- ☐ Choose not to answer

* 8. Please rate your experience with technology:

- ☐ Very inexperienced (I do not consider myself a technology user. I get someone else to do technology-based tasks for me)
- ☐ Inexperienced (I consider myself a novice user. I accomplish assigned tasks, but I am more efficient when I don't use technology to do a job)
- ☐ About average (I have enough skills to complete the management and communication tasks expected of me and occasionally prefer to use technology to accomplish my tasks)
- ☐ Experienced (My skills are very good. I use a variety of technology tools and I use them efficiently for all aspects of my job)
- ☐ Very experienced (I am a technology leader. I use technology efficiently, effectively and in creative ways to accomplish my job. I often teach others to use technology resources)

2024 Nevada Educational Technology Survey - Teacher

4. Existing Technology in the Classroom

This section pertains to the technology to which you and your students regularly have access in the classroom. Some questions refer to the age and capabilities of these tools. Although you may not have the exact information, please respond to the

best of your knowledge.

Note: Throughout this survey we use the term "device" to refer to desktop computer, laptop computer, mobile devices and tablet computer (e.g., iPads, Microsoft Surface, etc.).

(*) Indicates a required question.

* 1. In my classroom, I have a designated device that I can use for administrative tasks (e.g., grading, emails, attendance).

☐ Yes

☐ No

2024 Nevada Educational Technology Survey - Teacher

5. Designated Instructional Devices Teacher Use

* 1. In general, all devices for instructional and curricular tasks are easy to use.

☐ Strongly agree

☐ Agree

☐ Neither agree nor disagree

☐ Disagree

☐ Strongly disagree

* 2. Approximately what is the age of the instructional and curricular device(s)?

☐ Less than one year

☐ One to five years

☐ Five to ten years

☐ More than ten years

2024 Nevada Educational Technology Survey - Teacher

6. Existing Instructional Device For Student Use

* 1. In my classroom, I have a designated device that students can use for instructional purposes.

☐ Yes

☐ No

Same as this one?

2024 Nevada Educational Technology Survey - Teacher

7. Designated Instructional Devices for Student Use

* 1. In general, all devices that the students operate for instructional purposes are easy to use.

- ☐ Strongly agree
- ☐ Agree
- ☐ Neither agree nor disagree
- ☐ Disagree
- ☐ Strongly disagree

* 2. Approximately what is the average age of the devices that the students use in the classroom?

- ☐ Less than one year
- ☐ One to five years
- ☐ Five to ten years
- ☐ More than ten years

2024 Nevada Educational Technology Survey - Teacher

8. Total Devices Available in the Classroom

* 1. What is the ratio of students to devices during a typical class?

- ☐ 1 student : 1 device
- ☐ 2 students : 1 device
- ☐ 3 students : 1 device
- ☐ 4 students : 1 device
- ☐ 5 students : 1 device
- ☐ More than 5 students : 1 device

2. In general, these devices are easy to use.

- ☐ Strongly agree
- ☐ Agree
- ☐ Neither agree nor disagree
- ☐ Disagree
- ☐ Strongly disagree

3. Approximately what is the average age of the devices in the classroom?

- ☐ Less than one year
- ☐ One to five years
- ☐ Five to ten years
- ☐ More than ten years

4. Students in my classroom are allowed to take school devices home during evenings and school breaks.

- ☐ Yes
- ☐ No

Other (please specify)

2024 Nevada Educational Technology Survey - Teacher

9. Internet Availability

* 1. Do any of the devices in your classroom have an internet connection?

- ☐ Yes
- ☐ No
- ☐ I don't have any devices in my classroom

2024 Nevada Educational Technology Survey - Teacher

10. Internet Connection

1. The devices in my classroom have a wired connection to the internet.

- ☐ Yes
- ☐ No
- ☐ I don't have any devices in my classroom

2. In general, I find this wired connection to be dependable.

- ☐ Strongly agree
- ☐ Agree
- ☐ Neither agree nor disagree
- ☐ Disagree
- ☐ Strongly disagree
- ☐ Not applicable

3. The devices in my classroom have a wireless connection the Internet.

- ☐ Yes
- ☐ No
- ☐ I don't know

4. In general, I find this wireless connection to be dependable.

- ☐ Strongly agree
- ☐ Agree
- ☐ Neither agree nor disagree
- ☐ Disagree
- ☐ Strongly disagree
- ☐ Not applicable

5. The connection speed for classroom devices is such that typical online videos will begin playing:

- ☐ Very quickly
- ☐ Quickly
- ☐ Neither quickly nor slowly
- ☐ Slowly
- ☐ Very slowly

2024 Nevada Educational Technology Survey - Teacher

11. Technology Availability Comments

1. What comments do you have regarding the technology available in your classroom?

2. What comments do you have regarding students' access to internet and technology in their home for educational purposes?

3. What comments do you have regarding changes to educational technology due to Covid-19?

2024 Nevada Educational Technology Survey - Teacher

12. Teacher Preparation and Technology Readiness

1. Please indicate the degree to which you are currently prepared for the following instructional purposes:

	Very well prepared	Well prepared	Not prepared	Not at all prepared	N/A
Teach in a classroom where every student has their own device (1:1).	☐	☐	☐	☐	☐
Teach in a classroom where all of the instructional materials are delivered via the device.	☐	☐	☐	☐	☐
Find effective instructional materials on the Internet.	☐	☐	☐	☐	☐
Blended learning, hybrid 1:1, Bring your own device (BYOD), Project Based Learning (PBL).	☐	☐	☐	☐	☐
Integrate educational technology into your classroom.	☐	☐	☐	☐	☐
Incorporate library databases into student research projects.	☐	☐	☐	☐	☐

2. What comments do you have regarding your preparation to use technology in your classroom?

2024 Nevada Educational Technology Survey - Teacher

13. Professional Development Availability

This section pertains to training and/or professional development that you may have received while you have been a teacher in Nevada.

* 1. In your current school have you received any professional development opportunities/training for educational technology?

- ☐ Yes
☐ No
☐ Not sure

2024 Nevada Educational Technology Survey - Teacher

14. Professional Development Information

For questions 2-6, please estimate the number of hours you have participated in available technology professional development activities during the current school year.

1. Which of the following professional development opportunities have been available to you during the current school year?

- ☐ One-on-one training from a technology specialist or coach
☐ Group training related to technology (e.g. staff development days)
☐ Online professional development courses
☐ In this current school year I have not had any professional development opportunities
☐ Other (please specify)

2. One-on-one training from a technology specialist or coach:

- ☐ N/A
- ☐ 1-10 hours
- ☐ 10-20 hours
- ☐ 20-30 hours
- ☐ 30-40 hours
- ☐ 40+ hours

3. Group training related to technology (e.g. staff development days):

- ☐ N/A
- ☐ 1-10 hours
- ☐ 10-20 hours
- ☐ 20-30 hours
- ☐ 30-40 hours
- ☐ 40+ hours

4. Online professional development courses:

- ☐ N/A
- ☐ 1-10 hours
- ☐ 10-20 hours
- ☐ 20-30 hours
- ☐ 30-40 hours
- ☐ 40+ hours

5. Other

- ☐ N/A
- ☐ 1-10 hours
- ☐ 10-20 hours
- ☐ 20-30 hours
- ☐ 30-40 hours
- ☐ 40+ hours

6. How would you rate the quality of the technology-related professional development opportunities sponsored by the following entities?

	Very High	High	Neutral	Low	Very Low	N/A
District	☐	☐	☐	☐	☐	☐
Local Higher Education Institution (UNR, UNLV, CSN, GBC, etc.)	☐	☐	☐	☐	☐	☐
Regional Professional Development Program (RPDP)	☐	☐	☐	☐	☐	☐
Your school	☐	☐	☐	☐	☐	☐

Other (please specify name/quality rating):

7. Please share any additional comments you may have regarding your technology-related professional development opportunities and experiences.

2024 Nevada Educational Technology Survey - Teacher

15. Classroom Technology Use

This section pertains to the ways that you and your students generally use technology in your classroom.

1. What best describes your current practice of using technology in instruction?

- ☐ I seldom use technology to deliver instruction
- ☐ I almost exclusively use whole group presentation style either using an interactive whiteboard, PowerPoint or other instructional software to explain or demonstrate concepts or instructions.
- ☐ I often use whole group presentation style, but sometimes facilitate students in their use of a variety of information resources and hands-on activities.
- ☐ I almost exclusively facilitate student learning by encouraging students to use information resources and hands-on activities.

2. Check all of the following that you do to help plan with other teachers who teach the same grade level or content area (select all that apply).

- ☐ Use web-based tools that permit document sharing (e.g. Google Docs, Edmodo, C.E, wikis, blogs)
- ☐ Use shared space on the school network
- ☐ Email files
- ☐ Print and copy documents
- ☐ Meet face to face
- ☐ I do not regularly plan with other teachers

3. Please indicate how often the following technologies are used in your classroom:

	Daily	Weekly	Infrequently	Never	N/A
Audio or video podcasts (access or create)	☐	☐	☐	☐	☐
Audio/Video production/editing (Audacity, GarageBand, iMovie, Movie maker, etc.)	☐	☐	☐	☐	☐
Classroom response systems (clickers, etc.)	☐	☐	☐	☐	☐
Classroom voice amplification systems	☐	☐	☐	☐	☐
Content management systems/websites (Moodle, Canvas, Blackboard, etc.)	☐	☐	☐	☐	☐
Content specific applications (math, science, music, etc.)	☐	☐	☐	☐	☐
Database software	☐	☐	☐	☐	☐

4. Please indicate how often the following technologies are used in your classroom:

	Daily	Weekly	Infrequently	Never	N/A
Integrated learning systems (CompassLearningOdyssey, Plato Learning, etc.)	☐	☐	☐	☐	☐
Interactive whiteboard software (Promethean, SMART Notebook, etc.)	☐	☐	☐	☐	☐
Internet resources	☐	☐	☐	☐	☐
LCD projector	☐	☐	☐	☐	☐
Presentation software	☐	☐	☐	☐	☐

5. Please indicate how often the following technologies are used in your classroom:

	Daily	Weekly	Infrequently	Never	N/A
Document scanner (uploading electronic copies of paper textbook pages, etc.)	☐	☐	☐	☐	☐
Spreadsheets	☐	☐	☐	☐	☐
Tutorials	☐	☐	☐	☐	☐
Videoconferencing (Zoom, etc.)	☐	☐	☐	☐	☐
Video streaming (Discovery, Learn 360, TeacherTube, etc.)	☐	☐	☐	☐	☐

6. Please share any comments you have regarding the use of technology in your classroom.

2024 Nevada Educational Technology Survey - Teacher

16. School-Wide Technology Use

This section pertains to technology availability at a school-wide level.

1. Through a sign up or checkout procedure, I can arrange to have the following technologies available for a finite time in my classroom:

	Yes	No	N/A
Classroom response systems (clickers, etc.)	☐	☐	☐
Classroom voice amplification systems	☐	☐	☐
Content specific applications (math, science, music, etc.)	☐	☐	☐
Digital camera	☐	☐	☐
Document camera	☐	☐	☐
LCD projector	☐	☐	☐
Document scanner	☐	☐	☐

2024 Nevada Educational Technology Survey - Teacher

17. The Role of Artificial Intelligence (AI) in Education

1. How do you perceive the role of artificial intelligence (AI) in education, and what potential benefits or challenges do you foresee in integrating AI tools and technologies into your teaching practices?

2024 Nevada Educational Technology Survey - Teacher

18. Nevada Educational Technology Survey

We appreciate your feedback and thank you for the time and effort that you put into completing this survey. If you have any suggestions on how we can improve this survey please enter them below, otherwise click on the "Done" button to finish.

Sincerely,

The SETNA Team

1. How can we improve this survey?

Appendix C— Parent Survey (English) 2024

2024 Nevada Educational Technology Survey - Parent

1. Nevada Educational Technology Survey

Thank you for participating in the Nevada Educational Technology Survey. This biennial survey collects information required for Federal and State reporting and will inform the biennial educational technology needs assessment required by NRS 388.795. Information obtained in this survey will influence state educational technology policies and funding. Please answer the questions accurately.

2024 Nevada Educational Technology Survey - Parent

2. Nevada Educational Technology Survey

School Survey

* 1. In which school district is your student currently enrolled?

- ☐ Carson 13
- ☐ Churchill 01
- ☐ Clark 02
- ☐ Douglas 03
- ☐ Elko 04
- ☐ Esmeralda 05
- ☐ Eureka 06
- ☐ Humboldt 07
- ☐ Lander 08
- ☐ Lincoln 09
- ☐ Lyon 10
- ☐ Mineral 11
- ☐ Nye 12
- ☐ Pershing 14
- ☐ Storey 15
- ☐ Washoe 16
- ☐ White Pine 17
- ☐ State-Sponsored Charter 18
- ☐ Other Non-District Affiliated Public School 18
- ☐ Other (please specify)

2. In which grade is your child currently enrolled? If you have multiple children in school, please select all applicable levels.

- ☐ Preschool
- ☐ Kindergarten
- ☐ 1st Grade
- ☐ 2nd Grade
- ☐ 3rd Grade
- ☐ 4th Grade
- ☐ 5th Grade
- ☐ 6th Grade
- ☐ 7th Grade
- ☐ 8th Grade
- ☐ 9th Grade
- ☐ 10th Grade
- ☐ 11th Grade
- ☐ 12th Grade

Other (please specify)

3. Does your student regularly use technology to complete homework? If so, what types of activities did they complete? (Research, projects, educational games, studying, etc...)

- ☐ Yes
- ☐ No
- ☐ I don't know

If "yes" please explain here:

4. Does your student regularly use educational technology IN THE CLASSROOM? If so, what types of activities do they complete in school? (Research, projects, studying, etc...)

- ☐ Yes
- ☐ No
- ☐ I don't know

If "yes" please explain here:

5. What are your expectations regarding educational technology use IN THE CLASSROOM?

- ☐ High (Technology should be used on a daily basis in the classroom)
- ☐ Medium (Technology should be used regularly but not on a daily basis in the classroom)
- ☐ Low (Technology does not need to be used in the classroom)

Other (please specify)

6. Do you have any concerns regarding your student's use of educational technology IN THE CLASSROOM?

- ☐ Yes
- ☐ No

Please explain concerns here

7. What are your expectations regarding educational technology IN THE HOME?

- ☐ High (Technology should be used on a daily basis)
- ☐ Medium (Technology should be used regularly but not on a daily basis)
- ☐ Low (Technology does not need to be used in the home)

Other (please specify)

8. What are your thoughts on the integration of artificial intelligence (AI) technologies in your student's education? How do you perceive the potential benefits or drawbacks of AI-driven tools and resources in enhancing their learning experience and academic performance?

9. What comments do you have regarding the use of educational technology in your student's school?

10. Do you have anything else you would like us to know about educational technology in Nevada? If so, please share below.

3. Nevada Educational Technology Survey

You are done! Thank you for completing this survey. Your participation is very important and will help shape the future course of Educational Technology in NV schools.

Appendix D— Parent Survey (Spanish) 2024

2024 Encuesta de Tecnología Educativa de Nevada - Padres

1. Encuesta de Tecnología Educativa de Nevada

Gracias por participar en la Encuesta de Tecnología Educativa de Nevada. Esta encuesta bienal colecta la información necesaria para informes federales y estatales e informará a la evaluación bienal de la tecnología educativa requerida por NRS 388.795. La información obtenida en este sondeo influirá en políticas de tecnología educativa estatal y su financiación. Por favor, contesten las preguntas exactamente.

2024 Encuesta de Tecnología Educativa de Nevada - Padres

2. Encuesta de Tecnología Educativa de Nevada

Encuesta de Escuela

* 1. ¿En qué distrito escolar está matriculado su estudiante en este momento?

- ☐ Carson 13
- ☐ Churchill 01
- ☐ Clark 02
- ☐ Douglas 03
- ☐ Elko 04
- ☐ Esmeralda 05
- ☐ Eureka 06
- ☐ Humboldt 07
- ☐ Lander 08
- ☐ Lincoln 09
- ☐ Lyon 10
- ☐ Mineral 11
- ☐ Nye 12
- ☐ Pershing 14
- ☐ Storey 15
- ☐ Washoe 16
- ☐ White Pine 17
- ☐ State-Sponsored Charter 18
- ☐ Otra escuela pública no afiliada al distrito
- ☐ Otro (por favor especifique)

2. ¿En qué grado está matriculado su niño? Si usted tiene múltiples niños, por favor seleccione todos los niveles aplicables.

- ☐ Preescolar
- ☐ Kindergarten
- ☐ 1 grado
- ☐ 2 grado
- ☐ 3 grado
- ☐ 4 grado
- ☐ 5 grado
- ☐ 6 grado
- ☐ 7 grado
- ☐ 8 grado
- ☐ 9 grado
- ☐ 10 grado
- ☐ 11 grado
- ☐ 12 grado

Otro (por favor especifique)

3. ¿Su estudiante usaba regularmente la tecnología para completar la tarea? En ese caso, qué tipos de actividades completaron? (la investigación, los proyectos, los juegos didácticos, los estudios, etc...)

- ☐ Sí
- ☐ No
- ☐ No sé

Si "sí", explique aquí:

4. ¿Su estudiante usaba regularmente la tecnología EN EL AULA? En ese caso, qué tipos de actividades completaron en la escuela? (la investigación, los proyectos, los estudios, etc...)

- ☐ Sí
- ☐ No
- ☐ No sé

Si "sí", explique aquí:

5. Cuales son sus expectativas con respecto al uso de tecnología educativa EN EL AULA?

- ☐ Altas (La tecnología debería ser usada diariamente en el aula)
- ☐ Medias (La tecnología debería ser usada regularmente pero no diariamente en el aula)
- ☐ Bajas (No es necesario utilizar la tecnología en el aula)

Otro (por favor especifique)

6. ¿Usted tiene alguna preocupación con respecto al uso de la tecnología educativa de su estudiante EN EL AULA?

- ☐ Si
- ☐ No

Por favor explique sus preocupaciones aquí:

7. ¿Cuáles son sus expectativas con respecto a la tecnología educativa EN DOMICILIO?

- ☐ Altas (La tecnología debería ser usada diariamente)
- ☐ Medias (La tecnología debería ser usada regularmente pero no diariamente)
- ☐ Bajas (No es necesario utilizar la tecnología en casa)

Otro (por favor especifique)

8. ¿Cuáles son sus opiniones sobre la integración de tecnologías de inteligencia artificial (IA) en la educación de su hijo/a? ¿Cómo ve los beneficios o las desventajas posibles de herramientas y recursos basados en la IA para mejorar la experiencia de aprendizaje y el éxito académico?

9. ¿Qué comentarios tiene usted con respecto al uso de la tecnología educativa en la escuela de su estudiante?

10. ¿Tiene algo más que usted le gustaría que supiéramos sobre la tecnología educativa en Nevada? Si es así, por favor comparta abajo.



3. Nevada Educational Technology Survey

You are done! Thank you for completing this survey. Your participation is very important and will help shape the future course of Educational Technology in NV schools.

Appendix E– Superintendent Survey 2024

1. Name and District:
2. What supports do you need from the Nevada Department of Education/ Legislature regarding educational technology moving forward over the next two years?
3. What concerns do you have regarding educational technology and what do you think needs to be done to remedy these concerns?
4. Are there specific questions that you would include for teachers and parents for the next time the survey is conducted?
5. Is there anything else you would like the Nevada State Educational Technology Needs Assessment report to include?

Appendix F– Principal Survey 2024

1. Name and District:
2. What supports do you need from the Nevada Department of Education/ Legislature regarding educational technology moving forward over the next two years?
3. What concerns do you have regarding educational technology and what do you think needs to be done to remedy these concerns?
4. Are there specific questions that you would include for teachers and parents for the next time the survey is conducted?
5. Is there anything else you would like the Nevada State Educational Technology Needs Assessment report to include?

Appendix G– Notice of Required School District Participation in 2024 SETNA

Joe Lombardo
Governor

Jhone M. Ebert
Superintendent of
Public Instruction



Southern Nevada Office
2080 E. Flamingo Road, Suite 210
Las Vegas, Nevada 89119-0811
Phone: (702) 486-6458
Fax: (702) 486-6450

STATE OF NEVADA
DEPARTMENT OF EDUCATION
700 E. Fifth Street | Carson City, Nevada 89701-5096
Phone: (775) 687-9200 | www.doe.nv.gov | Fax: (775) 687-1116

MEMORANDUM

TO: Nevada School District Superintendents

FROM: Cindi Chang, Director of the Office of Teaching and Learning *Cindi L. Chang*

DATE: April 17, 2024

SUBJECT: Notice of Required School District Participation in Educational Technology Needs Assessment

This is to inform you of a statewide study that is currently underway. In accordance with NRS 388.795, an educational technology needs assessment must occur every spring of even numbered years.

Dr. Diana Moss of UNR will conduct this assessment. The results of this assessment will influence the educational technology initiatives for the next two years. The timeline to complete this study is extremely tight with the final draft due to LCB on June 1, 2024. I strongly encourage your continued cooperation from your district on this special request especially in light of the COVID-19 crisis that heightened our demands on technology.

Dr. Heather Crawford-Ferre of NDE is assisting Dr. Moss to contact educational technology directors in your district, and your support in this effort is greatly appreciated. Please feel free to forward this to whomever you believe should have this information.

If you have any questions or concerns around this request, please contact Dr. Moss at dmoss@unr.edu or Dr. Crawford-Ferre at hcrawfordferre@doe.nv.gov.

cc: Cindi Chang, Director Office of Teaching and Learning

Appendix H– Device Requirements for MAP Growth Reading Assessment

Device Requirements for MAP Growth Reading Assessment (NWEA)

Device	Operating System	Secure Testing Tool
Windows PC*	Windows 10	NWEA secure browser for PC (Download)
Macintosh	Mac OS X 11 minimum	NWEA secure browser for Mac (Download)
iPad (not iPad mini)	iOS 15 minimum Reading Fluency: iOS 14 minimum	For MAP Growth use NWEA Secure Testing App, 3.4 or higher (Download)
Chromebook*	Google Chrome OS 106 minimum	NWEA Secure Testing App, 3.2.0 or higher (Download)

*Touch screens are not supported, and Chromebook tablets are only supported with an external keyboard.

Source:

<https://teach.mapnwea.org/impl/maphelp/Content/MAPSetup/Technology/SystemRequirements.htm>

Appendix I– Device Requirements for Smarter Balanced and WIDA Assessments

Vendor (DRC) Device Requirements for Smarter Balanced and WIDA Assessments

DRC INSIGHT Device Hardware Requirements

Testing Devices

Hardware Requirements

These hardware requirements apply to all device types and operating systems unless noted.

- **Processor**
 - iPad – N/A
 - Minimum – CPU benchmark rating of 600*
 - Recommended – CPU benchmark rating of 3000* or higher
- **Available Memory**
 - Minimum – 2 GB RAM
 - Recommended – 4 GB RAM or higher
- **Available Disk Space**
 - Minimum/Recommended – 1 GB
- **Screen Size** – Required – 9.5” or larger
- **Actual Screen Resolution** – 1024 x 768 or better
- **Scale/Display Size** – 100%
- **Network Connection** – Wired or wireless network connection – 3 Mbps or better
- **Internet** – Required
- **Power Supply**
 - Minimum – Battery powered devices, a fully charged battery with a two-hour life
 - Recommended – Device plugged into a power supply
- **Headset with Microphone** – See “DRC INSIGHT Headset Guidance” found in the DRC INSIGHT Portal, General Information under the Documents section.

COS Service Device

Hardware Requirements

These base hardware requirements apply to all device types and operating systems.

- **Processor**
 - CPU benchmark rating of 3000 or higher*
- **Available Memory**
 - 4 GB RAM or higher
- **Available Disk Space**
 - Minimum – 10 GB
 - Recommended – 20 GB or more
- **Network**
 - Connected to the network through a wired connection

*A processor’s CPU benchmark rating is based on a common set of factors used by PassMark Software to assess relative processor performance. Processors with the same CPU benchmark rating will perform at relatively the same level.

- Use the link www.cpubenchmark.net/cpu_list.php for a searchable list of processors with their benchmark ratings and other information.
- To determine processor capability on a macOS device, Open a Terminal Window and run the following command:
`sysctl machdep.cpu.brand_string`