Nebraska Education Data Systems Study II

October 2019

Foreword from the Commissioner

Matthew L. Blomstedt, Ph.D.

Our collective mission is "to lead and support the preparation of all Nebraskans for learning, earning, and living." To serve this mission, it is critical that all stakeholders in the "system of education" adopt a relentless focus that all students, across all backgrounds and circumstances, have equitable access and opportunities for success.

Our "system of education" necessarily spans NDE, the ESUs, the districts, students and parents, as well as the broader set of legislative and community stakeholders. Because education in Nebraska is necessarily a partnership across a broad set of stakeholders, a cohesive vision and plan for the Nebraska Education Data System is required.

This is the second in a series of studies aimed at defining the common vision and priorities for the Nebraska Education Data System. The first study was commissioned by the legislature in 2014 pursuant to LR 264. I directed that study to take a broad view of education across the state – one that is not about accountability alone, but about the myriad possible and positive uses of information being collected. We must build an education data system that enables the goals of the state; the goals for the district; and the individual goals of students and their families.

I commissioned this second study, now five years later, to once again assess our current systems and provide a retrospective of what has been accomplished, or not accomplished, within the context of the recommendations and roadmap provided in the original study. Based upon broad stakeholder input, and consistent with the *2017-2026 Strategic Vision and Direction* by the Nebraska State Board of Education and Nebraska Department of Education, the study provides a set of recommendations and roadmap for Nebraska education data systems for the next five years.

The study validates three significant call for actions to support *Agents of Change for Equity*. First, vigorous support for the required resources and funding to achieve this critical work is imperative, including leveraging and coordinating among initiatives and priorities. Second, advocating for equity of access to resources, tools, and supports for all schools in Nebraska. Third, double down on the commitment to privacy and security considerations and approaches as well.

Together we can be *Change Agents for Equity* in Nebraska and continue to improve access and quality of the systems.

Sincerely,

Matthew L. Blomstedt, PhD

Commissioner of Education

Preface

This document examines the progress of Nebraska education data systems over the last five years, the current state of the data systems, and, supporting the *2017-2026 Strategic Vision and Direction* by the Nebraska State Board of Education and Nebraska Department of Education, the study provides a set of recommendations and roadmap for Nebraska education data systems for the next five years.

The is the second in a series of documents on the topic. In 2014, the One Hundred Third Legislature passed Legislative Resolution 264 that commissioned a study that examined education data systems across the breadth of districts, Education Service Units (ESUs), the Education Service Unit Coordinating Council (ESUCC), and the Nebraska Department of Education (NDE). It assessed the current state of three types of systems (Teaching and Learning, Administrative, and Back Office) as well as costs and efforts associated with data and accountability submissions. Based upon a cohesive vision for the "system of education," the study provided a set of recommendations, a five-year roadmap, and a recommended set of investments and projected returns.

This document provides a retrospective against the initial 2014 study and provides a set of recommendations for the next five years. The study largely followed the methods and approach of the original study, including repeating a comprehensive survey of districts. However, the study did not perform a detailed analysis of projected costs to implement the recommendations – leaving that for specific future projects to estimate based upon the tactical needs of the time, the availability of legislative and/or grant funding, and its deemed prioritization.

This study was formulated with input from a broad set of stakeholders including district superintendents, administrators, and educators; the Education Service Unit Coordinating Council (ESUCC), Education Service Units (ESUs), Network Nebraska, the Nebraska Department of Education (NDE) and project representatives from the Fostering Connections in Education initiative and the Preschool Development Grant.

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Executive Summary

Introduction

The 2014 study of Nebraska education data systems presented a current state analysis and five-year roadmap for advancing the state's education data systems based upon a recommended level of investment of roughly $14M/year for the first three years. At that time, it was estimated to yield an ongoing statewide cost saving of $31.3M per year based upon anticipated data burden reductions, accountability costs, and technology costs. Over the course of the last five years, many of those recommendations in the original study were fully or partially implemented across the state.

This report follows a similar format and approach to the original document outlining the current state of Nebraska Education Systems, progress, areas for improvement, recommendations, and a roadmap forward for the next five-year period. The report reviews:

- **State Data Infrastructure** - A review of the current Nebraska Department of Education (NDE) developed and deployed ADVISER statewide data system infrastructure and supporting policy/structural components.
- **Accountability Systems** - NDE supported applications focused on state and federal accountability reporting and assessment.
- **Additional State Systems** - Additional systems maintained in areas where there is joint involvement of the state and districts:
- **District Systems** - District owned administrative, instructional, and back office applications for operating the business of education within their agencies.

2014 Plan Retrospective

Projects chartered in the last planning cycle resulted in improved systems, services, and organizational structures benefitting Nebraska schools and students. The current study content looks at the original study goals, progress made, and produces a new set of strategic objectives for work in the coming five-year cycle that builds on efforts already completed or currently underway in the state. The vision recommended by the current study continues to focus and extend NDE efforts on a standardized, holistic statewide data system built on long-term capacity, sustainability, function, breadth, efficacy, and optimized services across the state. Key progress on the ten original 2014 recommendations is as follows:

- **Ensure security, privacy, transparency, and the proper use of data –** Key accomplishments include adoption of a Nebraska Student Online Personal Protection Act (SOPPA), creation of the Nebraska Student Data Privacy Consortium, forming the Security and Audit Committee, and ESU implementation of a statewide single sign-on system (SSO).

- **Unify the accountability data collection requirements into the ADVISER Data System – ** Major infrastructure work in the NDE branded ADVISER system was completed using a combination of federal grant and operating funds. The ADVISER system consists of standardized infrastructure and interoperability technology, performance dashboards, and longitudinal data warehouse.

- **Require application vendors and other sources to provide data in a standard – ** Built on the Ed-Fi data and education interoperability standard, NDE was successful in reducing data burden through common infrastructure and source data quality enforcement. ADVISER now requires all statewide SIS vendors to provide their data in this format to NDE. Progress has also been made in integrating special education and academic achievement plan data into this standardized operational model.

- **Leverage and strengthen Nebraska's ESU network - ** The ESUCC hosts the ADVISER Data System providing statewide district access and support. Other major accomplishments over the period include creation of a Virtual Support and Training System, and Network Nebraska. All these services improve the ESU provider profile and service offerings to districts across the state.

- **Leverage the state-level market to influence vendors and negotiate lower prices for districts - ** NDE led several statewide procurements over the time period including the NWEA statewide MAP, Summative Assessments, and an ACT agreement that pays for all students to take the college readiness exam. The ESUCC also manages Marketplace, a purchasing network providing significant costs savings to districts. Network Nebraska also negotiated a discounted statewide Zoom license for web conferencing.

- **Invest in providing education intelligence and access to actionable insights - ** The ADVISER Dashboards were designed to provide actionable student and school-level data to teachers and school administrators statewide. While implemented in part, they did not achieve the level of anticipated success. They continue to be an area of focus and district functionality for the coming five years.

- **Invest in an integrated data system that spans the districts, the ESUs, and NDE - ** The ADVISER Data Infrastructure created over the last report time period provides the backbone that integrates data from multiple sources and spans state educational agencies. NDE's Office of Data, Research, and Evaluation also implemented a set of perceptual surveys taken by staff, parents, and students supporting school improvement.

- **Integrate staff data from district and state data sources to better support teacher evaluation and professional development - ** The ADVISER Data Warehouse now links teacher data with student performance. The Future Ready Nebraska plan also identified Personalized Professional Learning as key component.[1]   Under this plan, a growing set of professional development content resources are available via the NDE sponsored Moodle LMS.

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[1]   https://www.education.ne.gov/future-ready-nebraska/personalized-professional-development/

- **Invest in the licensing, integration and training of an Instructional Improvement System -** The ADVISER Data Warehouse now supports multi-dimensional analysis of major performance and fiscal indicators. As such, it provides the data backbone for instructional improvement analytics. Additionally, the Nebraska Open Educational Resources (OER) Hub provides equitable access to open educational resources and services to all districts. The Hub, formed from a collaboration between the ESUCC and NDE, curates quality instructional resources aligned to Nebraska content area standards.

- **Develop the staff and processes necessary to sustain the ADVISER Data System –** Sustainment of initial development efforts were a key objective of the original report. While SLDS grant funding supported the development of the ADVISER Data System, the grant provided no funds to sustain the system in future years. Legislative requests for sustaining funds met were not met. This continues to be an area of focus in the coming years.

2019-2024 Five Year Plan

A significant amount of progress is noted against the original 2014 NDE roadmap objectives. Moving forward, the focus for NDE is to continue supporting and expanding existing efforts and working towards new strategic priorities defined by the Nebraska State Board in the *2017-2026 Strategic Vision and Direction*. Recommendations for the next five years include:

- **Continue work in student data privacy, transparency and information security –** Data privacy efforts should continue with an expanded focus on statutory compliance, effective parental and community communications, statewide education, and promotion of a secure computing environment.

- **Provide additional equity across districts with access to a core set of applications and instructional assets.** Smaller, rural districts pay more per student for applications and instructional materials and have significantly less access than medium and large districts. While all districts improved over the last five years, a significant gap remains.

- **Expand the scope and depth of the ADVISER Infrastructure to support evolving needs for data use and informed decision making.** NDE should continue ongoing work in integrating vendor and internal systems data to adhere to Ed-Fi data interoperability standards. Expand the application program interface (API) to encompass more than just the Ed-Fi ODS, providing federated access to other databases and applications.

- **Emphasize *digital learning* to provide equitable, high-quality, engaging, education experiences for Nebraska students. R**ecommendations include work on instructional governance, instructional content alignment and digital authoring, improved professional development and further investigations around personalized learning.

- **Execute a diversified strategy for education intelligence that serves both the local district and common services to small districts -** Recommendations include improved collaboration across the state, core dashboards supporting equity goals, and development of a coordinated research agenda across the state and its research partners.

- **Derive a more diversified funding model to advance and sustain statewide data systems across Nebraska -** The last five years proved that efforts by NDE, the ESUCC, ESU's, and Network Nebraska provide significant service and product benefit to local districts. A more diversified funding and district service/support model is recommended that provides a sustainable environment for existing projects, funds new data/development/service initiatives, and optimizes legislative requests.

- **Expand K-12 Infrastructure integration to external agencies supporting the needs of at-risk youth and students who are part of high-risk populations.** The ADVISER Infrastructure should be expanded to support at-risk students by creating an exostructure that federates with external agencies. Specific recommendations include new work focusing on Systems-Involved students and extending support to community-based initiatives.

- **Enrich post-secondary and workforce data linkages -** Significant progress continues to be made with the Nebraska Statewide Workforce and Educational Reporting System (NSWERS) system in integrating post-secondary and workforce data with other Nebraska agencies. Recommendations include creation of improved people matching algorithms, expanded education timeline coverage, statewide transcripts and better communication with employers and trade organizations.

- **Integrate with emerging early childhood care and education data systems providing data across the talent pipeline for a thriving Nebraska –** Addressing end-to-end education data integration is a key Nebraska strategy. Recommendations supporting this important goal include projects extending NDE's ADVISER infrastructure to support early childhood education and providing systems and supports that minimize reporting burden and student transitions while expanding services across the EC provider network.

Great progress has been made across Nebraska over the last five years and a strong foundation for growth and expansion is planned over the next five-year period. The balance of this study provides a deeper investigation and analysis of Nebraska's current educational environment as well as an aggressive five-year roadmap that supports current and future state recommendations.

Current State of Nebraska Education Data Systems

This section outlines the current state of Nebraska Education Systems, as follows:

- **State Data Infrastructure**. Nebraska Department of Education (NDE) developed and deployed this standards-based, statewide data system over the last five years. The system is branded as the Nebraska ADVISER Infrastructure.

- **Accountability Systems**. NDE fields a set of applications at the state level focused on state and federal accountability.

- **Additional State Systems**. Additional systems are maintained in areas where there is joint involvement of the state and districts:

- **District Systems.** Each district has its own set of administrative, teaching and learning, and back office applications for operating the business of education within the district.

State Data Infrastructure

A goal of Nebraska's Future Ready Strategy is to "collect and provide data in efficient and meaningful ways to support instruction and decision-making and minimize the reporting burden on districts.[2] Utilizing a Statewide Longitudinal Data System (SLDS) grant awarded in 2012[3], the ADVISER (Advanced Data Views Improving Student Educational Response) Infrastructure[4] was implemented and rolled out statewide over the last five years. [5]

The ADVISER Infrastructure consists of the following major subsystems:

- **Ed-Fi API and ODS.** The Application Programming Interface (API) and an Operational Data Store (ODS) are based upon the Ed-Fi data standard.[6] The Ed-Fi API and ODS is developed and maintained as an open source software solution by the Ed-Fi Alliance. The Ed-Fi data standard and set of Ed-Fi technologies are available from the Ed-Fi Alliance without licensing fees. However, licensees are responsible for operationalizing and sustaining the infrastructure, requiring staff for installation, configuration, extension, maintenance and support. The ODS consolidates data from multiple systems and supports interoperability between systems and applications transactionally using the API.

- **ADVISER Data Warehouse.** This NDE historical, longitudinal data warehouse is populated nightly from the Ed-Fi ODS. The Data Warehouse is a dimensional structure based upon the Ed-Fi data standard. Through grants and a growing range of services and resources, NDE expanded the scope of the data warehouse from K12 to P-20W (early learning through postsecondary and workforce).

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[2]   https://www.education.ne.gov/future-ready-nebraska/data-privacy/
[3]   http://www.education.ne.gov/DataServices/PDF/Statewide_Longitudinal_Data_Systems.pdf
[4]   What was referred to in the 2014 study as the "Nebraska Education Data System" is now referred to as the "ADVISER Data System"
[5]   https://www.education.ne.gov/dataservices/education-data-systems/adviser-dashboard/
[6]   https://www.ed-fi.org

- **Accountability Data Mart (ADM)**. This operational extract comes from district accountability data found in the NDE Data Warehouse. Business rules are executed on the ADM to validate and quality assure the data. District accountability reports are generated from the ADM for final approval by the districts.

- **Student Unique Identifier (Uniq-ID).** NDE is replacing the current unique ID system for students that was licensed from a vendor with an open source solution shared from the Wisconsin Department of Public Instruction (DPI). This open source ID system was developed to be natively compatible with Ed-Fi infrastructure.

- **Single Sign-On (SSO**). The ESUCC has implemented a single sign-on for districts and ESUs that federates with existing directories (Active Directory and Google) and authentication mechanisms. The capability allows users to enter one set of credentials to access their web apps.

Accountability Systems

The US Department of Education web site (http://datainventory.ed.gov) describes all data reported to the Department of Education (ED), with the exception of personnel and administrative data. The ED Data Inventory includes descriptive information about each data collection, along with information on the specific data elements in individual collections. The most significant federal data collections are as follows:

- **EDFacts.** EDFacts centralizes K-12 education performance data supplied by state education agencies (SEAs) with other data assets within the U.S. ED, such as financial grant information, to enable better analysis and use in policy development, planning, and management. The purposes of EDFacts are to: (1) place the use of robust, timely performance data at the core of decision and policymaking in education; (2) reduce state and LEA data burden and streamline data practices; (3) improve state data capabilities by providing resources and technical assistance; and (4) provide data for planning, policy, and management at the federal, state, and local levels. EDFacts relies on the EDFacts Submission System (ESS), a centralized portal through which states submit their education data to the U.S. Department of Education.

- **CCD-NPEFS**. The primary purpose of the Common Core of Data National Public Education Financial Survey is to make available to the public an annual state-level collection of revenues and expenditures for public education of grades pre-kindergarten through 12. State Education Agencies have one year to revise this data. Each year, NDE outputs a revised file approximately one year after the original data is released. The original file is Version 1a, the revised file is Version 1b. Revenues and expenditures are audited after the close of the fiscal year and are then submitted to NCES by each state education agency.

- **CCD-F-33**. Revenues and expenditures are audited after the close of the fiscal year and are then submitted to NCES by each state education agency for the Common Core of Data School District Finance Survey. Beginning with fiscal year 1990, detailed fiscal data on revenues and expenditures for all school districts providing public education to pre-kindergarten to grade 12 students have been collected. This data can be linked

to the data collected on the non-fiscal CCD Local Education Agency. Student counts and amounts of debt at the beginning and end of the fiscal year are also provided.

- **CCD-Nonfiscal.** The Common Core of Data Non-Fiscal is a program by NCES that annually collects non-fiscal data about all public elementary and secondary schools, public school districts and state education agencies in the United States. The data is supplied by state education agency officials and includes information that describes schools and school districts, including name, address, and phone numbers as well as descriptive information about students and staff, including demographics.

- **CSPR**. The Consolidated State Performance Report (CSPR) is the required annual reporting tool for of each State, the District of Columbia, and Puerto Rico, as authorized under Section 9303 of the Elementary and Secondary Education Act (ESEA), as amended.

- **CRDC**. The U.S. ED conducts the Civil Rights Data Collection (CRDC), formerly the Elementary and Secondary School Survey (E&S Survey), to collect data on key education and civil rights issues in our nation's public schools. CRDC collects a variety of information including, student enrollment and educational programs and services, disaggregated by race/ethnicity, sex, limited English proficiency and disability. CRDC is a longstanding and important aspect of the ED Office for Civil Rights (OCR) overall strategy for administering and enforcing the civil rights statutes for which it is responsible.

At a state level, the following Nebraska public reporting requirements are supported:

- **Nebraska Education Profile**. The Nebraska Education Profile (NEP) is an annual report providing information and data about Nebraska public schools and student performance. The report highlights performance of students by district and school building in NSCAS results for English Language Arts (ELA), Mathematics, and Science. It includes data on student achievement, program participation, and metrics on attendance rate and dropout rate. Financial data is also provided. http://nep.education. ne.gov/

- **Financial Reporting (ESSA) Online**. In compliance with Every Student Succeeds Act (ESSA), Annual Financial Reports (AFR) and other financial information collected from districts and schools is made publicly available. https://www.education.ne.gov/fos/

In addition, NDE must respond to public data requests. Pursuant to the Nebraska public records laws, the Nebraska Department of Education (NDE) provides access to (or copies of) NDE records upon written request unless the records are specifically required to be kept confidential or the records are permitted to be kept confidential. https://www.education. ne.gov/policyreference/p11/

Additional State Systems

Additional systems are maintained in areas where there is joint involvement of the state and districts:

- **Grants Management System (GMS).** The GMS is a web-based system used by NDE for processing various grants and plans. This system supports application submissions, amendments, and approvals as well as the issuance of grant award notifications. The system also supports the processing of payments against grant awards through reimbursement requests. The GMS which has become the principal method for processing Department issued grants. https://www.education.ne.gov/gms2/

- **Child Nutrition Program (CNP).** The Child Nutrition Program system administers the National School Lunch Program (NSLP). The NSLP is a federally assisted meal program based on income eligibility guidelines managed by district nutritional service programs. Children at participating schools are eligible for free or reduced-price lunches through the program. The CNP system is a user-friendly web application that allows authorized state agency personnel and sponsors to submit and approve application, claims, and advance requests via the Internet. https://www.education.ne.gov/ns/

- **Special Education (ILCD).** The Improving Learning for Children with Disabilities (ILCD) process has the following objectives: 1) to identify gaps between current results and desired outcomes; 2) to facilitate the development of improvement strategies at the district level; 3) to document the implementation of federal and state laws and regulations; and 4) to document positive outcomes for children with disabilities. It is a partnership between the NDE Special Education Office and Nebraska's School Districts to gather data, analyze results, identify gaps with both Part B and Part C services, rate district performance, stimulate the development of improvement strategies, and develop and implement improvement strategies for the district.

  The ILCD process relies on multiple sources of data (including, but not limited to: parent/staff surveys, functional outcomes, graduation/drop-out rates, student file reviews, student performance on state-wide and local assessments) to gauge the effectiveness of special education supports and services for children and youth with disabilities. The ILCD system that displays district data around eight Inquiries including self-assessment ratings by the districts. https://www.education.ne.gov/SPED/

- **Teacher Certification System**. NDE defines the requirements and offers Teaching, Administrative, and Special Services certificates/permits. NDE also approves Teacher Preparation Programs. A web site is maintained to assist current and aspiring educators. The Teacher Certification System allows teachers to apply, renew, or update their certification online. https://www.education.ne.gov/tcert/

- **Nebraska Public Employees Retirement System (NPERS).** The Nebraska Public Employees Retirement Systems (NPERS), under the direction of the Public Employees Retirement Board (PERB), administers several statewide retirement systems and one deferred compensation plan for the State of Nebraska. All five mandatory retirement plans are governmental plans as defined under Internal Revenue Code § 414(d) and 29 U.S.C. § 1002(32) [i.e. ERISA § 3(32)]. The voluntary Deferred Compensation Plan (DCP) is instituted under IRC § 457(b). NPERS carries out its mission from one location in Lincoln, Nebraska. The five mandatory plans NPERS administers are for State, County, School, Judges and Patrol employees. The voluntary Deferred Compensation Plan is administered primarily for State, Judges, and State Patrol employees. County employees are eligible to participate if their county does not offer a voluntary plan. https://npers.ne.gov/SelfService/

- **ADVISER Dashboard**. Built upon the Ed-Fi based ADVISER Infrastructure, the ADVISER Dashboard is a web-based view of student and staff data that provides educators with a quick and easy way to personalize instruction and make data driven instructional decisions. This enables educators to efficiently analyze large amounts of student and classroom information in a teacher-based context. The acronym ADVISER stands for "Advanced Data Views Improving Student Educational Response". The Nebraska ADVISER Dashboard consolidates data from multiple systems which enables educators to efficiently analyze large amounts of information. The ADVISER Dashboard is an optional tool for use by Nebraska public school districts. https://www.education.ne.gov/dataservices/education-data-systems/adviser-dashboard/

District Data Systems

This study repeated the methodology applied in the original study to survey the districts regarding their data systems. All district superintendents were invited to participate in a survey of system availability and importance. The survey introduced the concept of three types of systems: Teaching and Learning, Administrative, and Back Office. Superintendents reported whether their districts had a system in place or whether their staff were performing the functions as described manually (or not at all). They were also asked about the importance of each system. The combination of system presence (or absence) and perceived importance paints an emerging picture of districts' most-pressing needs. The superintendents reported their opinion on the need for data to inform upcoming strategic initiatives in the schools and districts, and their likelihood of participating in state or ESU-led systems if offered. The survey also asked district leaders to estimate high-level cost and employee effort associated with data and accountability submissions.

Districts were classified by number of students in order to better understand the nuance of districts' experience with information systems and accountability submissions. The three largest districts, Omaha Public Schools, Lincoln Public Schools, and Millard Public Schools are classified as Very Large. These three represent 37% of the student population in Nebraska. Large districts are those with student counts between 3,000 and 10,000. Medium districts are those with student populations between 590 and 3,000 students; this grouping was informed in part by those districts that self-identify as "mid-size" in the Schools Taking Action for Nebraska Children's Education (STANCE) Coalition. Small districts are those under 590 students but above 250. Very Small districts are those with less than 250 students. Figure 1 below shows the percent of total students in Nebraska represented by each of the size classifications above.

Leaders from all districts were invited to respond to an online survey of Nebraska educational data systems. The complete survey is available in Appendix D of this document. Of the 244 public districts in Nebraska, 164 districts responded to the survey, representing 67% of districts and nearly identical to the response rate five years previous. This sample size is strong enough to produce a level of confidence above 95%. The response rate for each district size grouping is shown below in Figure 2. Figure 3 shows the response rate by ESU.
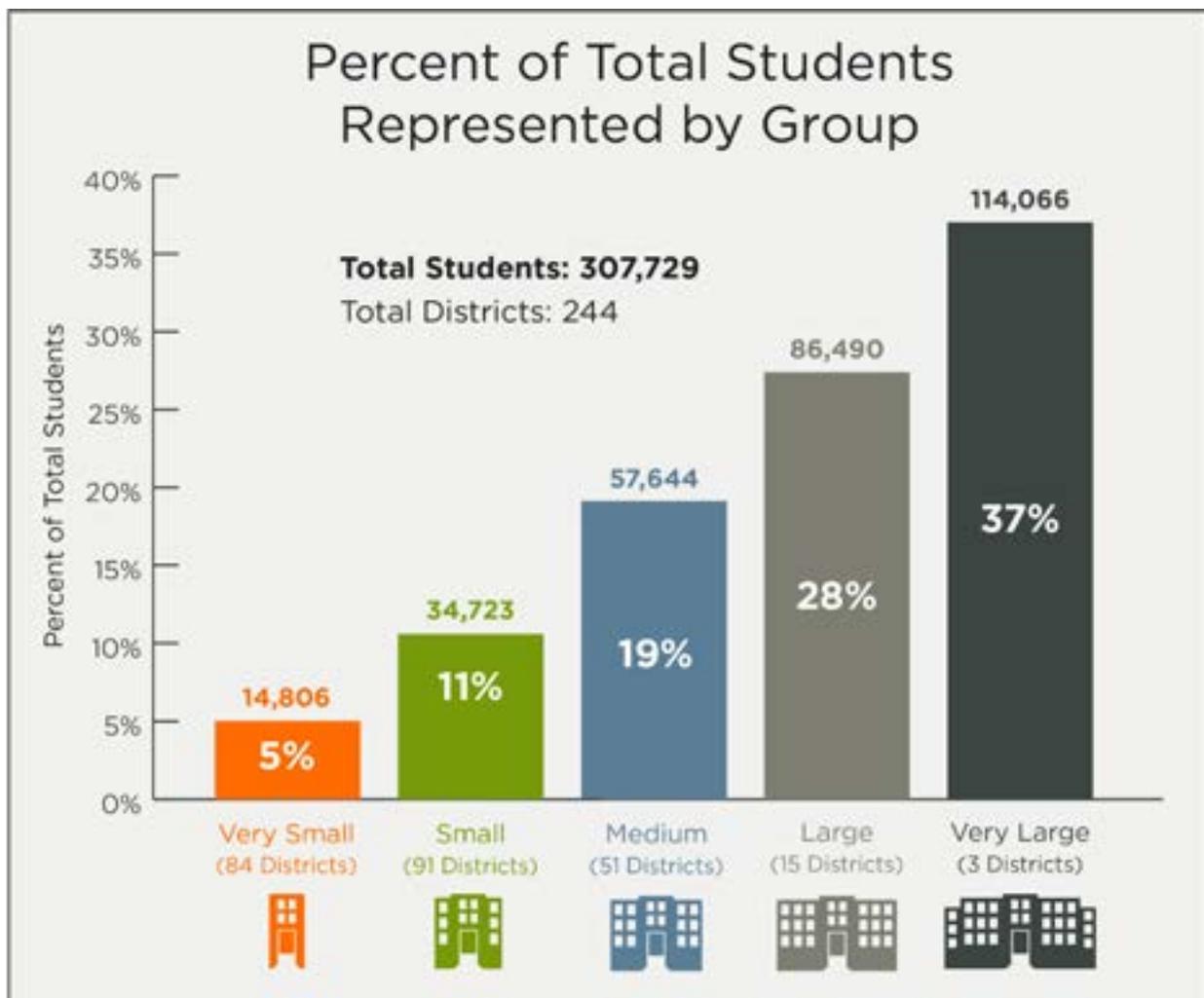

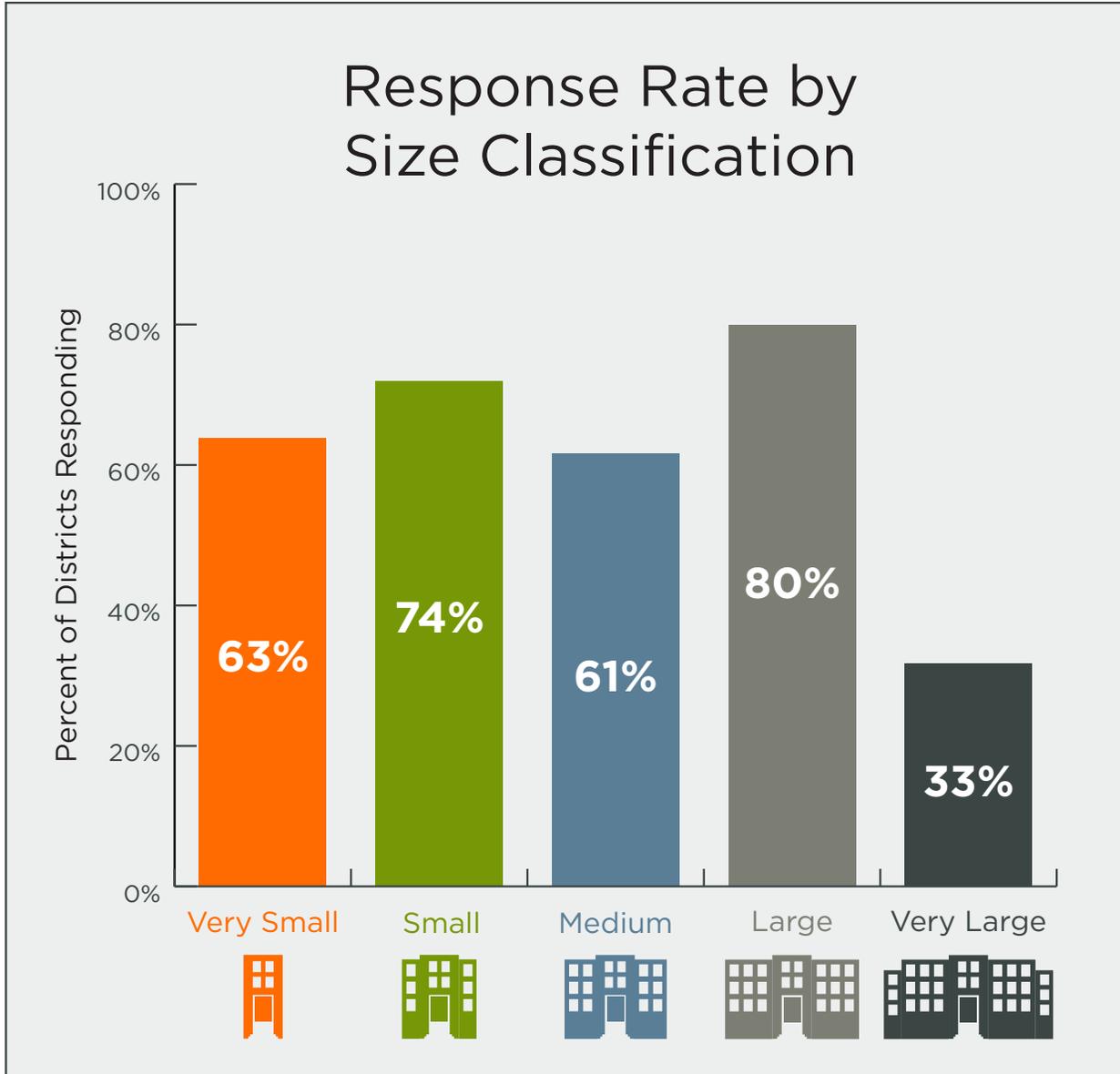Figure 1 Percent of Total Students Represented by Group

Response Rate by Size Classification

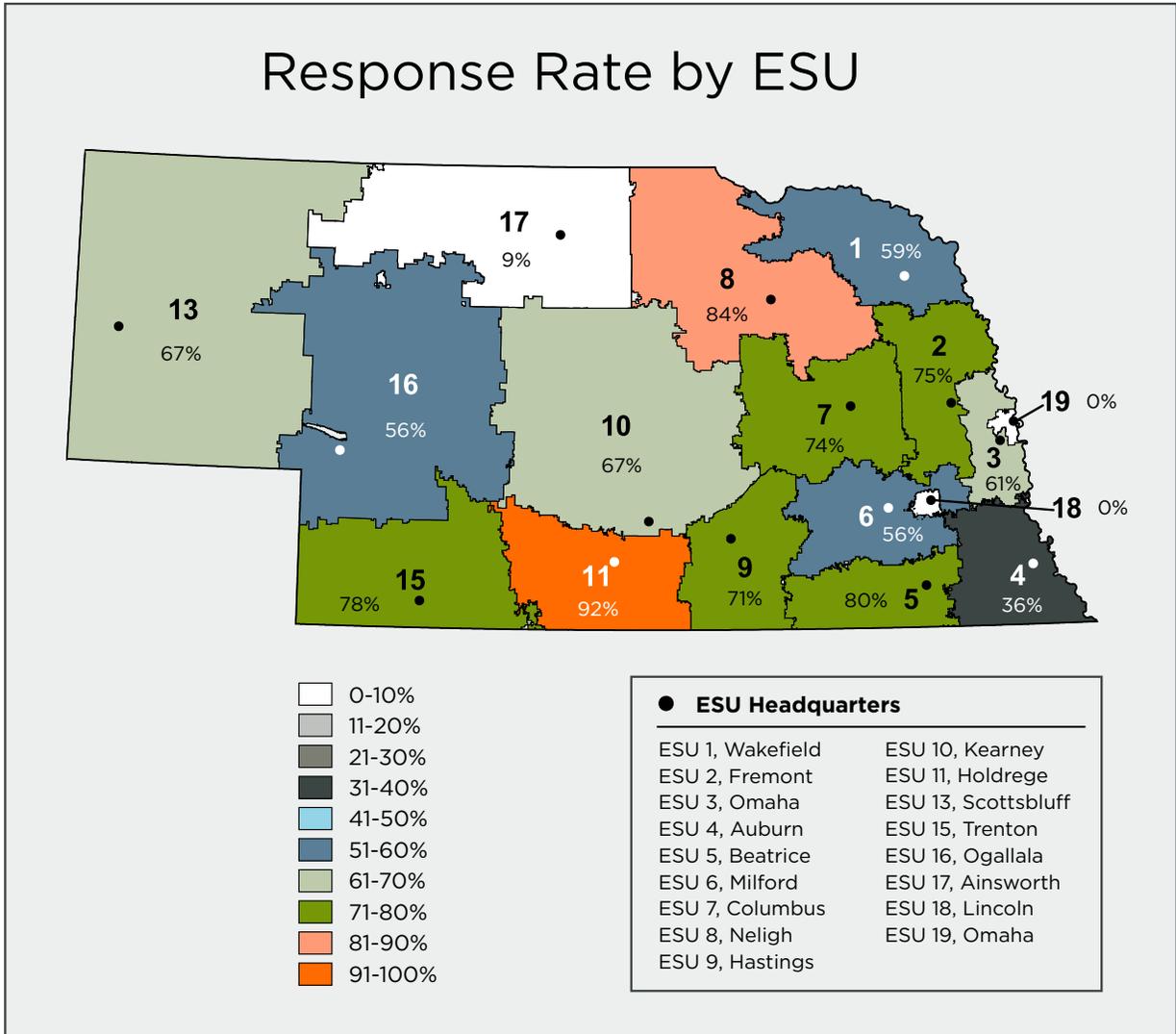Figure 2 Response Rate by Size Classification

Figure 3 Response Rate by ESU

The district survey asked which system types were available and grouped into three types: Teaching and Learning, Administrative, and Back Office. These are presented in Table 1 below. A chief distinction among the groups is the primary user. Teaching and Learning systems are tools that inform the daily efforts of teachers including planning lessons, delivering content, assessing students' understanding, differentiating instruction, and reflecting on data to inform decisions. Administrative systems are geared to school leaders – principals and specialists – to manage the operations of schools and student information. Back Office systems are those systems used primarily by district administrative personnel responsible for financial information, human resources, and procurement. A complete description of each system is available in Appendix C.

Table 1: Education Data Systems

Teaching and Learning Systems	Administrative Systems	Back Office Systems
• Data Management • Student Centric Assessment Tool • Learning Management System – Teacher centric • Professional Development • Educator Evaluation • Content Management • Progress Monitoring/ Response to Intervention System • Credit Recovery • Career Readiness	• Student Information System • Test Analysis • Transportation • Nutrition Management • IEP Management • Guidance and Counseling • Library Management	• Finance System • Human Resource System • Procurement • Substitute Management

The survey asked districts to indicate the availability of the 20 systems across the three categories. As shown in Figure 4, the average number of systems declined with each size grouping, with Very Small, Small, and Medium districts reporting roughly half of the applications were available (9.6, 9.5. and 10.3 systems respectively), large districts having three-quarters of the systems (15.3 systems), and very large districts having nearly all (19 systems).

Comparing these results to those 5 years ago in Figure 4, districts of all sizes increased the number of available digital systems on average as one might expect. However, an equity gap continues to exist between the very small, small and medium districts versus the large and very large.

Nearly all districts reported having a digital Student Information System (SIS), IEP System, Finance system, and Library Management System. The SIS is the single most important application for districts, supporting the day-to-day operation of schools. In addition, because the SIS is the system of record for much of the student data, it also represents the single most important source for the state's data system.

Average Number of Digital Systems By Group Size

Average # of Teaching and Learning Systems | Average # of Back Office Systems | Average # of Administrative Systems

Very Small

	Teaching	Back Office	Administrative	
2014	3.1	1.1	3.1	
2019	4.1	1.7	3.7	

Small

| 2014 | 3.0 | 1.4 | 3.3 |
| 2019 | 4.0 | 1.8 | 3.7 |

Medium

| 2014 | 3.8 | 2.1 | 3.7 |
| 2019 | 4.0 | 2.5 | 3.8 |

Large

| 2014 | 3.8 | 3.2 | 4.7 |
| 2019 | 6.5 | 3.3 | 5.5 |

Very Large

| 2014 | 7.0 | 3.5 | 6.5 |
| 2019 | 8.0 | 4.0 | 7.0 |

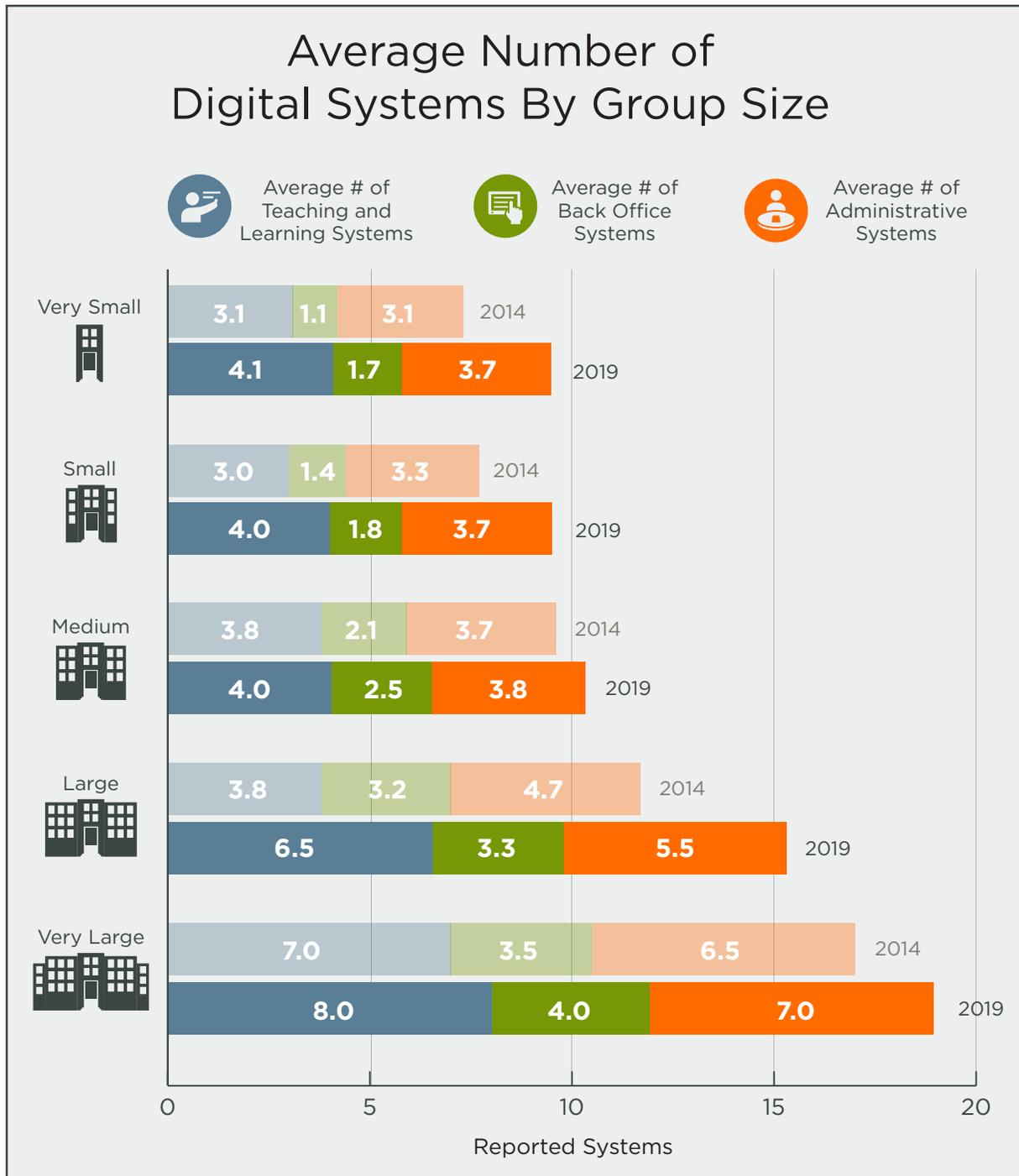Reported Systems (x-axis: 0, 5, 10, 15, 20)

Figure 4 Average Number of Digital Systems by Group Size

While smaller districts have fewer digital systems across all educational data systems (Teaching and Learning, Administrative, and Back Office), they must allocate more dollars per student for those digital systems they have, as shown in Figure 5. Very Small districts average $180 per student; small and medium average $76 and $83 per student, respectively; where large and verge districts average $33 and $31 per student.

Estimated Annual Expenditures Per Student for Digital Systems

Very Small — $180
Small — $76
Medium — $83
Large — $33
Very Large — $31

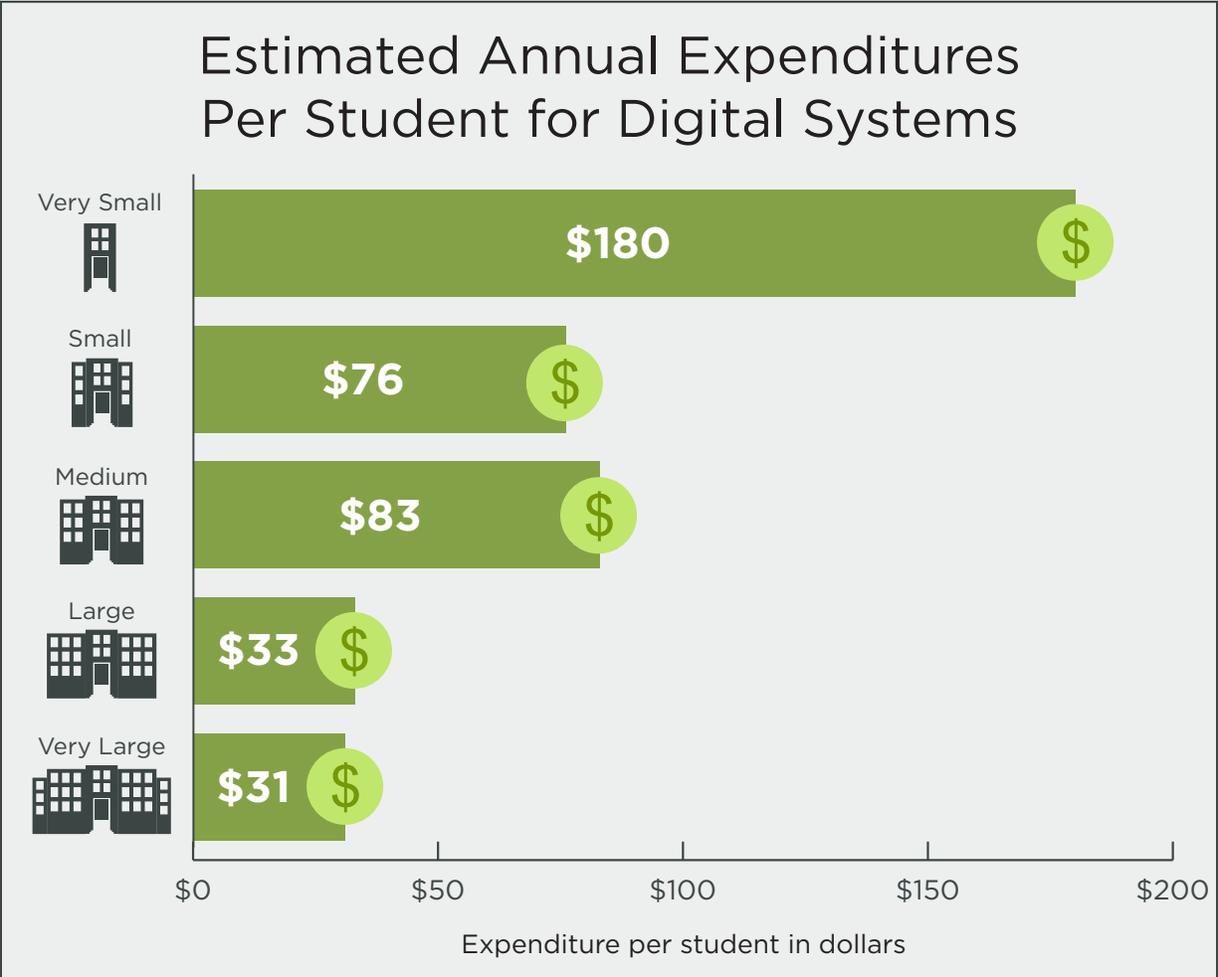Expenditure per student in dollars

$0 | $50 | $100 | $150 | $200

Figure 5 Estimated Annual Expenditures per Student for Digital Systems

Retrospective of Financial Investments and Returns

The 2014 study of Nebraska education data systems presented a 5-year roadmap for advancing the education data system based upon a recommended level of investment of roughly $14M/year for the first three years would yield an ongoing costs savings across the state of $31.3M per year based upon reduced data burden, accountability costs and technology costs.

The recommended levels of enterprise-level investment were not approved by the legislature due to financial climate and competing priorities. The only dedicated investment came from a $4M federal grant for a Statewide Longitudinal Data System (SLDS) awarded in 2012. As a result, departments were forced to make data system improvements by shifting resources from limited and reduced budgets.

Despite the shortfall in recommended investments limiting the success of certain initiatives, progress was made in the last five years. Overal,l the reported average district data burden is down from 6 FTE, reported in the 2014 study, to 4.5 FTE in 2019. Figure 6 shows the current average data burden by size of districts.

Estimated Data Burden in Numbers of Full-Time Employees

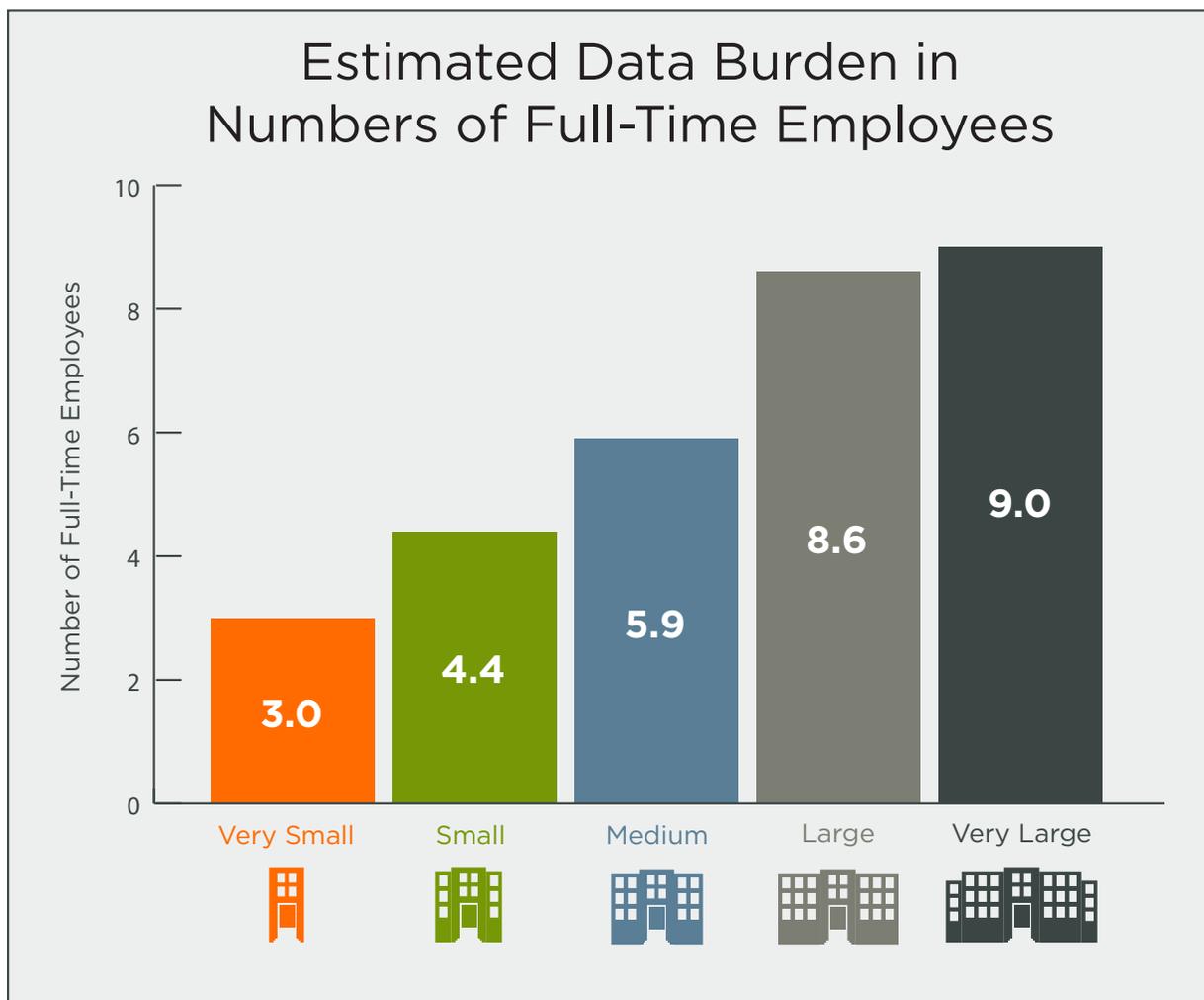| District Size	Number of Full-Time Employees
Very Small	3.0
Small	4.4
Medium	5.9
Large	8.6
Very Large	9.0

Figure 6 Estimated Data Burden in Numbers of Full-Time Employees by District Size

Retrospective of Progress Against Recommendations

A summary of progress is outlined below against the ten recommendations made in the 2014 study.

1. **Ensure security, privacy, transparency, and the proper use of data the core of the ADVISER Data System implementation[7].**

Student data security and privacy continues to be a national topic with new privacy legislation being passed across the country. The Nebraska Legislator adopted the Student Online Personal Protection Act (SOPPA), modeled after the California Student Online Personal Information Protection Act (SOPIPA).   The law prohibits "operators" from engaging in target advertising and from gathering or selling student information.

The Nebraska Student Privacy Alliance was also created over the last five years. One of nine states affiliated with the national Student Data Privacy Consortium[8], the group created a common privacy amendment for contracts as part of the multi-state collaboration.

Data and privacy are one the "gears" in Nebraska's Future Ready Strategy[9]. As part of this initiative, Nebraska is currently executing a plan to adopt and sustain policies protecting privacy and security of student data. Key personnel attended student data privacy workshops sponsored by the Privacy Technical Assistance Center (PTAC).[10] Internal training for educational staff is also planned to use NDE's Moodle online learning management system. Finally, NDE formed the Security and Audit Committee to create, operationalize and audit a common set of audit security policies designed to help ensure a safe and compliant computing environment across educational systems.

Supporting parental and public data transparency, the Nebraska Education Profile (NEP) is a web tool designed and developed by the NDE presenting state and district education data in multiple ways for multiple audiences. The NEP defines the major elements of data collection and publishes education data at the state, district, and school levels.[11]

The ESUCC implemented a statewide integrated user access system – a single-sign-on (SSO) construct – spanning 259 districts, organizations and the NDE. The system supports SSO user authentication across 23 applications by staff and students.

Requests for a Security and Privacy Officer position were requested, but not funded by the Legislature.

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[7]   The original study referenced the "Nebraska Education Data System" which later was named the "ADVISER Data System."
[8]   https://privacy.a4l.org/
[9]   https://www.education.ne.gov/future-ready-nebraska/data-privacy/
[10]   https://nces.ed.gov/programs/ptac/
[11]   https://nep.education.ne.gov/

2. Unify the accountability data collection requirements into the ADVISER Data System to minimize the reporting burden on districts.

A goal of Nebraska's Future Ready Strategy is to "collect and provide data in efficient and meaningful ways to support instruction and decision-making while minimizing the reporting burden on districts.[12] Utilizing a Statewide Longitudinal Data System (SLDS) grant awarded in 2012, the ADVISER (Advanced Data Views Improving Student Educational Response) Data System[13] was implemented and deployed statewide over the last five years. [14]

The ADVISER Data System consists of three major subsystems:

- **ADVISER Infrastructure** based on an Application Programming Interface (API) and an Operational Data Store (ODS) using the Ed-Fi data standard.[15] The Ed-Fi API and ODS is developed and maintained as open source by the Ed-Fi Alliance. The ADVISER Infrastructure consolidates data from multiple systems and supports interoperability between systems and applications.

- **ADVISER Dashboard**, a web-based view of student and staff data that provides educators with a quick and easy way to personalize instruction and make data driven instructional decisions. This enables educators to efficiently analyze large amounts of student and classroom information using the ADVISER dashboard in a teacher-based context.

- **ADVISER Data Warehouse,** a longitudinal data warehouse populated nightly from the Ed-Fi ODS.

Previously, Nebraska school districts prepared and sent data collections to NDE using static templates into the Nebraska Student and Staff Record System (NSSRS) for validation and accountability reporting. Since the NSSRS was NDE's primary method for data collection, the effort required for these submissions accounted for much of the data burden borne by the districts.

The ADVISER Data System is identified in Nebraska Rule as the system of record, requiring district source systems to provide data into the system. Starting with the 2019/2020 school year, all accountability data will be extracted from the Data Warehouse (which is fed by the ODS) and derived from an Accountability Data Mart. Business rules are executed centrally and consistently on the derived data.   Districts are also provided a portal to review and approve their data prior to submission.

Statewide rollout of the ADVISER Infrastructure and SIS interfaces using the API took 5 years, with 100% of the districts participating in the 2018-19 school year.

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[12]   https://www.education.ne.gov/future-ready-nebraska/data-privacy/
[13]   What was referred to in the 2014 study as the "Nebraska Education Data System" is now referred to as the "ADVISER Data System"
[14]   https://www.education.ne.gov/dataservices/education-data-systems/adviser-dashboard/
[15]   https://www.ed-fi.org

3. **Require application vendors and other sources to provide data in a standard form specified by NDE directly into the ADVISER Data System.**

The ADVISER Data System is built upon the Ed-Fi data standard and provides a comprehensive data model for K-12 data with a supporting API. Sponsored by the Michael & Susan Dell Foundation, the Ed-Fi Alliance provides national governance in collaboration with numerous state and local education agencies across the country that are committed to the open-source education data standard.

In 2015, NDE required that all SIS's statewide integrate and provide their data transactionally via the Ed-Fi API into the ODS. In fact, NDE is actively working towards homogeneous integration across all district and state educational application portfolio components. The statewide special education system (SRS) and the Academic Achievement Plan (AAP) have also been integrated into the Ed-Fi architecture and API. New application procurements, such as the NWEA Statewide Assessment RFP, all require Ed-Fi integration as part of the RFP. These functional and policy actions help ensure consistency in system architecture, lowered cost of ownership, and standardized data across the entire state's application pool.

4. **Leverage and strengthen Nebraska's ESU network, the ESUCC, and Network Nebraska to host, maintain, and sustain the ADVISER Data System, to support a statewide virtual help desk, and to train the educators in it is use.**

The ESUCC hosts the ADVISER Data System, providing statewide access and support to districts. NDE and the ESUCC legal personnel worked with the USDOE to craft the appropriate legal structure to allow the ESUCC to hold student data and manage the ADVISER Data System. Examples of successful partnering of this provider network includes:

- Nebraska Student Privacy Alliance - A collaboration on data privacy and security topics between the ESU3, ESUCC, and NDE.
- Virtual Support and Training System (VST) – This network supports statewide data systems education and support systems and was established by ESU 3, 10, the ESUCC and NDE.
- Network Nebraska - Provides statewide broadband supports to all Nebraska schools through partnership with the Office of the CIO.

5. **Leverage the state-level market to influence vendors, negotiate lower prices through competition, provide consistent functions and pricing across large and small districts, and expand the number and quality of instructional applications.**

NDE led several statewide procurements over the time period including the NWEA statewide contract providing the MAP Assessment and the Nebraska Summative Assessment statewide, and an ACT contract that pays for all students to take the college readiness exam. These activities leverage the buying power of the state, improving consistency, providing common tools, and removing local costs that would otherwise be paid directly by districts.

The ESUCC also manages Marketplace, a coop purchasing network where districts can leverage pre-negotiated rates and contracts for "preferred vendors" including student information systems. The Marketplace provides significant per-student costs savings to districts, particularly for smaller, rural districts. This service offering is key to achieving equitable pricing for software and technology across all Nebraska districts.

Network Nebraska continues to provide greater levels of broadband service at lower costs, with monetary savings passed to the state's education organizations. Network Nebraska also negotiated a discounted statewide Zoom license for web conferencing.

6. **Invest in providing education intelligence - access to actionable insight - through a warehouse, business intelligence tools, and increased internal capacity for districts, policy makers, and researchers.**

The ADVISER Dashboards were designed to provide actionable student and school-level data to teachers and school administrators statewide. They provide indicators and drilldowns for a broad swath of student data including enrollment, demographics, attendance, discipline, grades, assessment scores, and credit tracking toward graduation.

However, the ADVISER Dashboards failed to provide the desired user benefits. Our investigations found initial pilot use, but no examples of systematic, statewide production use. This is attributed to the following reasons:

- Most of the resources devoted to the ADVISER roll-out were focused on the implementation of underlying infrastructure and the connections to the various Student Information Systems.

- Insufficient resources were provided for training, data coaching, and ongoing instructional supports to provide any meaningful level of impact. The lack of sufficient ESU access to district data also hindered their ability to properly support their districts.

- Use of the ADVISER Dashboards were not tied to, or integrated with, administrative or district academic processes that were in place or planned.

- The ADVISER dashboards and its supporting ETL (Extract, Transform, and Load) packages are a large application subsystem to maintain and the Ed-Fi Alliance has limited its ongoing support for the Dashboards. NDE did not have enough resources to keep pace with necessary updates. As a result, the Dashboards simply did not work in some environments.

In addition, the Nebraska Education Profile (NEP)[16] provides a one-stop public web site for Nebraska education metrics at the state, district, and school levels. The data spans demographics, program participation, attendance and dropout rates, student performance on key assessments, graduation and college-going rates, and financial information.

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[16]   https://nep.education.ne.gov/

7. **Invest in an integrated data system that spans the districts, the ESUs, and NDE to support continuous education improvement.**

The ADVISER Data Infrastructure provides the backbone that integrates data from multiple sources and spans districts, ESUs and NDE.

To support continuous school improvement, the ADVISER dashboard allows each school to set and track progress against a set of metrics, or key performance indicators (KPIs). Drilldowns are provided from these KPI's to the individual students that are negatively impacting the measures to promote appropriate focus, decision making, and personalized interventions. However, for the reasons stated previously, these ADVISER Dashboard capabilities have not been applied in the context of continuous improvement.

NDE's Office of Data, Research, and Evaluation also implemented a set of perceptual surveys taken by staff, parents, and students. These surveys are used for school improvement.

8. **Integrate staff data from district and state data sources, link teachers to student performance and success, and add additional data to better support teacher evaluation and professional development.**

The ADVISER Data Warehouse provides a consolidated, longitudinal resource to link and analyze teacher impact on student performance. However, because there are many factors that impact student performance, this type of analysis is still emerging.

The Future Ready Nebraska plan identifies Personalized Professional Learning as key component.[17] Under this plan, a growing set of professional development content resources are available via the Moodle LMS.

9. **Invest in the licensing, integration and training of an Instructional Improvement System that is cost-effective for districts of all sizes.**

The ADVISER Data Warehouse supports analysis of assessment, attendance, discipline, and growth model data by multiple dimensions, comparing performance across fiscal years, and performance across districts and services. As such, it provides the data backbone for instructional improvement analytics.

The Nebraska Open Educational Resources (OER) Hub provides equitable access to open educational resources and services. The Hub was formed as a result of a collaboration between the ESUCC and NDE. It curates and creates quality instructional resources aligned to Nebraska content area standards. Nebraska joins more than 30 OER Project Hubs on the national OER Commons public digital library, bringing groups of educators across the country together to design, organize, and share resources that meet their common education goals.

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[17]   https://www.education.ne.gov/future-ready-nebraska/personalized-professional-development/

10. Develop the staff and processes necessary to sustain the ADVISER Data System.

While SLDS grant funding supported the development of the ADVISER Data System, the grant provided no funds to sustain the system in future years. Legislative requests for sustaining funds were not met. However, NDE continued to provide support for the ADVISER Data System through several mechanisms:

- Statewide training was provided in the ADVISER Dashboards
- A Virtual Support & Training (VST) network was established with ESUs 3 & 10, the ESUCC and NDE
- SIS vendors were encouraged to provide data training as part of their support
- District assigned data stewards to coach in data use and to address data quality issues

As discussed previously, most support activities over the last five years were focused on successful roll-out of the ADVISER Infrastructure and the connection of the various SIS's to the Ed-Fi API. Unfortunately, sufficient internal staff and processes were not available to promote and sustain the use of the ADVISER Dashboard product.

Goals for the Next Five Years

The *2017-2026 Strategic Vision and Direction* by the Nebraska State Board of Education and Nebraska Department of Education[18] (revised in 2019) identifies three goals:

1. Ensure the education system, including the Nebraska Department of Education, is taking charge of its roles and responsibilities to provide leadership and enhance support systems in the state (Leadership)

2. Ensure that all Nebraskans, regardless of background or circumstances, have equitable access to opportunities for success (Success, Access, and Support)

3. Increase the number of Nebraskans who are ready for success in postsecondary education, career, and civic life (Teaching, Learning, and Serving)

The Board considered the multiple roles of the NDE in the development of the Strategic Plan and in the expectations set forth for the NDE. This recognition is coupled with the **expectation of providing quality, equitable support through a multi-faceted system under the charge of the NDE**. The shared responsibility of leadership between the Board and the Commissioner includes developing the plan, monitoring goals, and implementing strategies through the NDE's programs and supports for schools, students, systems, and clients across the state.

Based on the overall strategic priorities, the following strategic direction has been directed for Nebraska data and systems:[19]

Table 3 Strategic Direction for Data Systems

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18   http://nebraskaeducationvision.com/wp-content/uploads/2019/08/2019-Strategic-Plan.pdf
19   https://nebraskaeducationvision.com/strategic-direction/

Recommendations

Recommendations are divided into the following areas:

- Continuing and sustaining what is working with current process initiatives
- Unfinished business: Completing and fulfilling on shortfalls in initiatives
- New recommendations for a diversified approach to fund sustaining the data systems
- Emerging areas for expansion

What's Working: Continuing and Sustaining Initiatives

Significant progress was achieved in many areas that should continue to be expanded and sustained including:

1. **Continue ongoing work in student data privacy, transparency and information security with a focus on statutory compliance, effective parental and community communications, and a secure computing environment.**

Security and privacy concerns require specific focus. Threats to cybersecurity are constantly evolving and becoming more sophisticated. Where once nefarious actors were mainly motivated by financial gain, a new class of actors have emerged that are a threat to student data motivated by social media notoriety, embarrassment, eroding trust in institutions, and destabilization. As more data is collected on individuals, privacy concerns are escalating. Specific recommendations include activities to:

- Identify the various roles and responsibilities at the state, ESU and district levels that are necessary to sustain a strong security and privacy initiative.
- Assign those roles to existing and/or new personnel and establish the processes to coordinate and sustain those activities.
- Continue and enhance participation in the Nebraska Student Privacy Alliance, initially focusing on developing common contractual language with vendors.
- Conduct a statewide security and privacy practice self-assessments in order to develop detailed state and local action plans.
- Update Rule 6 for data sharing, aligning with national best practices and the state's SOPPA legislation.
- Provide ongoing security and privacy training to all state and district instructional and support staff.
- Develop best practice policies for information security, data access, proper data use, data retention, archival, and destruction.
- Actively work with legislature and districts to craft balanced laws that allow managed student data sharing supporting educational achievement while protecting data privacy.
- Provide a parent/guardian full transparency into the data collected on their child including the right to review that data and request changes on demand as required.

2. **Focus on providing equity across the districts with respect to having cost-effective access to a core set of applications and instructional assets.**

Smaller, rural districts pay more per student for applications and instructional materials and have significantly less access than medium and large districts. While all districts improved over the last five years, a significant gap remains.

The survey of districts showed broad support for statewide or regional collaborations that, under the right conditions (e.g., price, features, support), would increase equitable access to common applications, as shown in Figure 7.
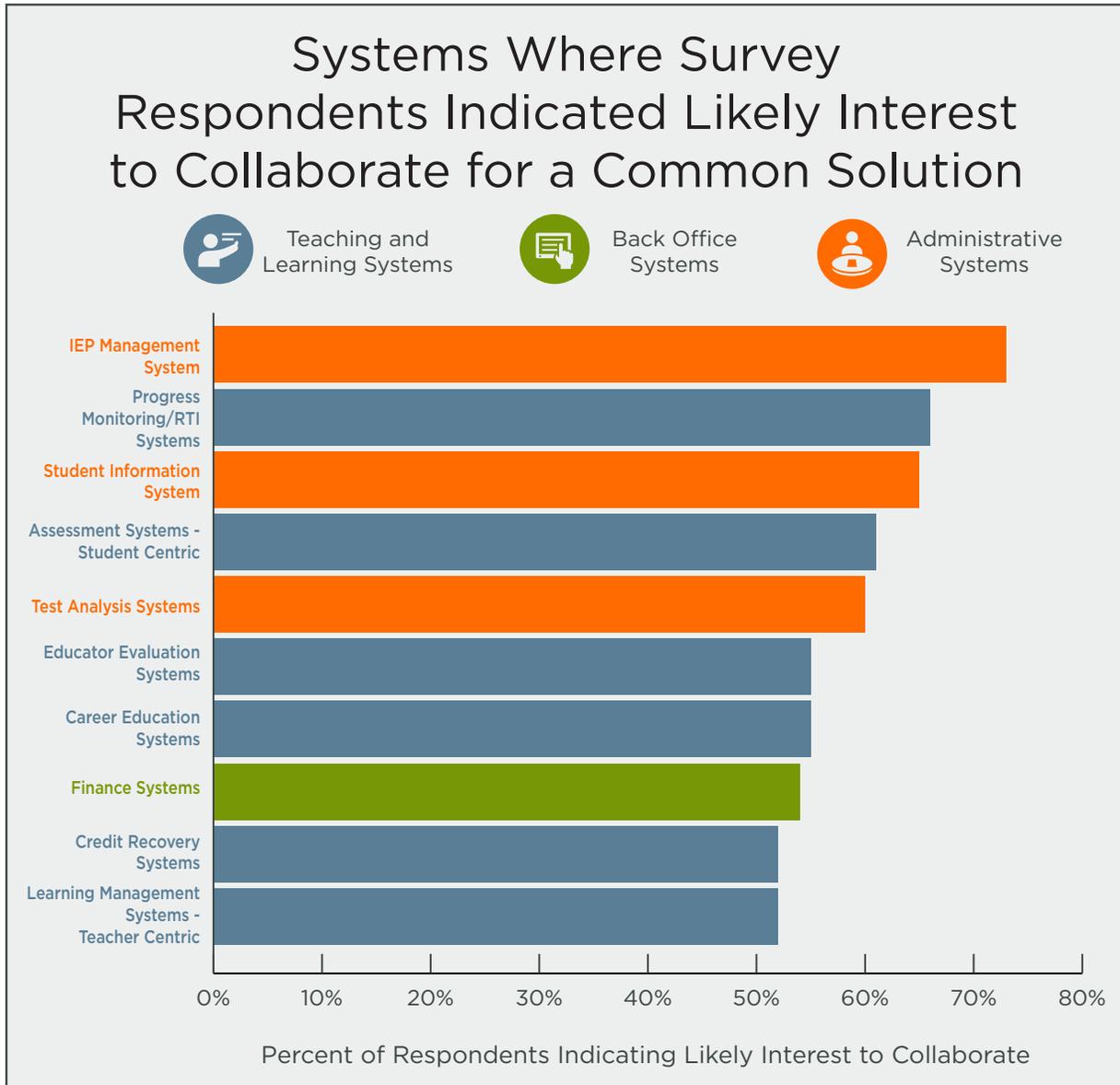

Figure 7 Percent of Districts Extremely Likely or Very Likely to Join Statewide/Regional Collaborative

Specific focus is needed to close the gap between the number of education applications and quality instructional assets that are available in small districts versus medium and large districts. Recommendations include work to:

- Create a statewide task force that focus on recommendations for a comprehensive and sustained plan that closes the equity gap and establishes specific prioritized district goals.
- Identify a core set of integrated applications and instructional materials for all districts.
- Pilot various acquisition mechanisms and sustaining models-based task force recommendations that may include:
    - Expanding the use of open source applications and resources.
    - Providing a unified voice to vendors, for example to encourage standards and to require common contractual language.
    - Augmenting the ESUCC Marketplace to address a broader and more complex set of needs across the districts where statewide or regional collaborative purchasing can be applied to acquire best-in-breed solutions at lower cost.
    - Capitalizing on the Education Innovation Network to close statewide equity gaps.
- Close equity gaps and deploying those approaches proven during the pilot phase to ensure the associated services are sustained for integration, training, support, governance, and data quality.

3. **Expand the scope and depth of the ADVISER Infrastructure to support evolving needs for data use and informed decision making.**

NDE should continue ongoing work in integrating vendor and internal systems data to adhere to Ed-Fi data interoperability standards. The ADVISER Infrastructure should continue to be refined with the goal of reducing district data reporting burden around state and federal reporting. The ADVISER Infrastructure should also integrate additional subdomains and their source applications that includes the:

- Complete upgrade of the Person ID system to handle expanded directory use cases and application interconnectivity.
- Improve SSO integration while expanding support for more statewide applications.
- Augment identity management, for example, through multi-factor authentication.
- Provide classroom and student rostering for more applications directly from the ADVISER API to improve data quality.
- Perform an NDE portfolio analysis of applications, databases, and data sources to determine how data can be better integrated and shared. Specifically, focus should be placed on data movement and central integration strategies (e.g. should some data stay at the source and be accessed in a federated manner). The analysis will include grant management, finance, staff, continuous improvement, vocational, special education, migrant services, nutritional services, adult education, and Positive Behavioral Intervention and Supports (PBIS) data.

- Integrate and unify additional data including perceptual survey data, gradebook and assignment information, standards-based grading, competency-based report cards, extracurricular activities, program, and intervention data supporting early warning, continuous improvement, individualized interventions, program, and service assignment data enabling efficacy analytics.

- Expand the application program interface (API) to encompass more than just the Ed-Fi ODS, providing federated access to other databases and applications.

- Integrate district financial data by mapping expenditures to a common chart of accounts and program designations supporting budgeting decisions based on efficacy and impact.

- Capture lesson and content used for detailed learning records from Learning Management Systems (LMSs) and trace their application to specific student analytics.

4. **Emphasize *digital learning* to provide equitable, high-quality, engaging, education experiences for our students.**

As part of the Future Ready Framework and the Nebraska Digital Learning Plan, Nebraska is implementing and integrating standards-based curricula and assessments that facilitate deeper learning, critical thinking, information literacy, digital citizenship, creativity, innovation, and the active use of technology in all areas. To support this initiative, the following specific recommendations include work to:

- Formalize an instructional governance function that facilitates collaboration, encourages the development of shared resources, curates, and vets shared content against best practice standards. The governance function will foster student equity across the state, best in class education content, and personalized learning opportunities.

- Mobilize the educator workforce to populate the OER Hub with high quality instructional resources. Engage and incentivize all Nebraska districts to become leaders in instructional best practices, actively sharing across the state to improve equity.

- Promote best practice alignment with Nebraska standards for digital-age skills, curriculum, technology application in the classroom, and educator skills and competencies for digital learning.

- Expand online professional development (PD) using the statewide Learning Management System.

- Update the Future Ready Plan based on experiences of the last five years and project use of the latest technology innovations in classrooms.

- Conduct exploratory and pilot activities using emerging digital learning technologies such as virtual/augmented reality, gamification, and sports through a formal program that promotes the use of innovative digital learning.

- Investigate, pilot and mature techniques for personalized learning by codifying the necessary practices and applications required to support personalized learning. This includes focus on personalized learning plans, and personalization in learning management systems.

Unfinished Business

5. Execute a diversified strategy for education intelligence that serves both a) the local district needs for custom reporting and analytics and b) the needs for common services to small districts to achieve equity.

The ADVISER Infrastructure provides the "plumbing" to realize the benefits of education data use across the state. A multi-faceted approach is recommended to meet the diverse set of data needs across the state to:

- Enable medium and large districts to support their evolving needs with enhanced data analysis capability and capacity via a self-service interface.
- Promote collaborative development and sharing of data reporting, dashboards, and analytics using a standard set of business intelligence tools.
- Develop a core set of data dashboards at the state level to meet the equity goals for smaller districts.
- Develop a coordinated research agenda for NDE and its associated university and organization research partners.

Specific recommendations include a focus on:

- Collaborative evaluation and standardization on statewide business intelligence tool(s) s for data access, exploration and visualization (e.g., Tableau, PowerBI, Qlik).
- Training and data coaching to part-time data analysts at the local district and school levels that can respond rapidly to local data requirements.
- Establishment of a "Data Visualization and Use Network" of districts to collaborate and satisfy common use cases as well as sustaining the activity through shared district contributions of resources and/or funding.
- Developing and training educators in a lighter-weight, open source set of data dashboards meeting the core needs of small districts.
- Coordinating and finalizing a coordinated research agenda that reflects the priorities and goals of the State Board and school districts.
- Expanding the ADVISER Data Warehouse with targeted portals and self-service data marts for reporting and analytics including:
    - Providing a secure portal for delivery and sharing of defined and curated reports and data sets.
    - Creating educationally relevant data marts that bring together cohesive collections of data organized for easy analysis and reporting.
    - Creating de-identified data marts with access portals supporting researcher queries and studies into student-level data.
- Developing dashboard support for parents and students. Research shows that parent engagement[20] and student participation in goal-setting activities positively impacts student performance.

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[20]   https://www.responsiveclassroom.org/what-research-says-about-parent-involvement/

- Enhancing predictive analytics that inform staff, parents, and administration around student performance trajectories and areas for growth.
- Building new capabilities for analytics, econometric analysis, machine learning, geospatial analysis, and text mining.
- Applying analytics and principles of Total Quality Management (TQM) to illuminate, analyze, repair, and optimize data issues.

New Recommendation to Fund Sustaining Data Systems

6. **Derive a more diversified funding model to advance and sustain statewide data systems across Nebraska.**

The last five years proved that efforts by NDE, the ESUCC, ESU's, and Network Nebraska provide significant service and product benefit to local districts. The providers have done this while reducing application and technology costs as well as minimizing district data reporting burden. These services were provided within current budgets due to statewide funding reductions and competing legislative priorities.

A more diversified funding and district service/support model is recommended that:

- Provides NDE core funding to sustain the statewide ADVISER Data Infrastructure as a small percentage of the Nebraska Education state budget as defined by the Tax Equity and Educational Opportunities Support Act (TEEOSA).
- Funds new data use and service initiatives at the state, district and/or ESU levels out of the Nebraska Educational Improvement Fund (Lottery Funds). These funds would be used to improve equity of data use resources across the districts.
- Funds new initiatives and developments through grants and from projects funded from philanthropic organizations. NDE would collaboratively develop strategies with stakeholders for the best use of State and Federal grant funds.
- Continues to make legislative requests for increased capacity to sustain initiatives, specifically focusing on adding FTEs at the NDE, ESUCC, and the ESUs.
- Sustains and supports new statewide initiatives with yearly fees paid (or supported by in-kind resources) by participating districts to NDE, the ESUCC, and ESUs.

The state's data initiatives target districts to receive the benefits and the cost savings; it is reasonable to recover some of the district's cost savings for sustainment and support. Supporting this point, there are precedents for district funding supports for the statewide efforts where they benefit. Network Nebraska had no direct legislative funding. The project was essentially self-funding using E-rate subsidies and paying for sustaining activities through a district monthly participation fee plus usage fees. The collective purchasing activities of the ESUCC Marketplace provides a second example. This system is funded from a 2% payback from vendors. Finally, the state's current ESU model is built around districts paying their ESU's for shared services provided.

Any new strategy will need to be phased in over many years. It is recommended that a cross-cutting commission spanning the state, ESU, and district levels be convened to derive a more diversified and comprehensive funding strategy for data systems to be developed, deployed, improved and sustained.

Emerging Areas for Expansion

There is an emerging need to support the student timeline coverage of data system so include data spanning the talent pipeline for a thriving Nebraska, integrating with early childhood, post-secondary and workforce systems, and integrate with outside agencies supporting at-risk students. The following areas provide recommendations across these merging areas for expansion.

7. **Expand the K-12 Infrastructure integration to various external agencies that support the needs of at-risk youth and students who are part of high-risk populations.**

The ADVISER Infrastructure should be expanded to better support at-risk students by creating an exostructure that federates with external agencies. Gartner defines "*exostructure strategy*" as an organizational approach acquiring the critical capability of interoperability as a deliberate strategy to leverage the increasing numbers of partnerships, tools and services in the education ecosystem."[21]

At-risk students and students who are part of high-risk populations include children who are:

- Abused, neglected, abandoned or dependent
- Homeless
- Disabled
- Diagnosed with behavioral health needs including mental health disorders or substance abuse
- Under foster care, kinship care, or congregate care and children awaiting adoption;
- Juvenile law violators in diversion or problem-solving court programs;
- Juvenile law violators in the juvenile or criminal court system.

Specific recommendations focus on:

- Leveraging and expanding the ongoing initiative for "Fostering Connections in Education," a cross-agency program focusing on *Systems-Involved* students to extend integration between the NDE ADVISER Infrastructure to:
    - Youth Rehabilitation and Treatment Centers (YRTCs)
    - Juvenile Court, Criminal Court, and Probation
    - Department of Health and Human Services (DHHS) Family Services
    - DHHS Behavioral Health
- Extending support to community-based initiatives and providing integrations with:
    - Non-profits funding youth programs
    - Community organizations and partnerships providing youth supports and involvement including sports organizations
    - Local governmental and tribal organizations that are coordinating youth services

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[21]   https://www.gartner.com/newsroom/id/2994417

8. **Enrich post-secondary and workforce data linkages.**

Significant progress has been made to bring in post-secondary and workforce data into the Nebraska Statewide Workforce and Education Reporting System (NSWERS). NSWERS provides analysts and researchers secure access to accurate and reliable longitudinal student information to discover policies, processes, and practices across students' academic involvement that best improve outcomes. Specific recommendations to extend and enrich the data sharing are as follows:

- Better student data links from external sources through improved person matching algorithms
- Expanded educator timeline coverage to include collegiate Educator Preparation Programs (EPPs) and associated degree and certification processes. This will support a feedback loop to EPPs on the success and effectiveness of their teachers, and feedback to districts on improved hiring and recruitment practices.
- Develop a system for standardized statewide student transcripts supporting transfers, course/credit definition, and applications to colleges and universities.
- Connect with local employers and trade organizations supporting student career pathways and workforce opportunities.

9. **Integrate with emerging early childhood care and education data systems.**

Leverage the state's Preschool Development Grant (PDG) to address end-to-end data integration in their overarching Needs Assessment and Strategic Plan. Specific recommendations include:

- Extending NDE's Person ID system to provide unique persona identifiers for pre-school children and their parents.
- Connecting early childhood service provider networks and agencies to enhance and remove barriers to care.
- Smooth transitions across the early childhood care spectrum from pre-kindergarten through elementary school.
- Capture longitudinal child data that supports continuous improvement and allows analysis of service and service provider effectiveness.
- Minimizes the accountability reporting burden for philanthropic, community, state, and federal funding.
- Extends connections to non-profits, community organizations, partnerships, and government organizations to better support providing equitable access to high quality services.

Five-Year Roadmap

This section outlines a five-year plan for the recommendations above.

1. Data privacy, transparency, and information security.

- Year 1: Identify statewide security and privacy roles and responsibilities and assign to appropriate personnel.

- Year 1: Conduct a statewide maturity review of security and privacy practices and make recommendations for future improvements and priorities.

- Year 2: Develop common privacy and security contractual language and update Rule 6 for data sharing.

- Year 2: Develop and conduct audience-based security and privacy training statewide.

- Year 3: Develop policies for transparent retention, archival and disposal of data.

- Year 4: Provide parental visibility into the types of student data collected, the applications that capture and use student data, and associated vendor agreements.

- Year 5: Develop mechanisms to share specific student data with parents in the ADVISER infrastructure and implement the processes to correct erroneous source data as required.

2. Cost-effective access to a core set of applications and instructional assets for all districts.

- Year 1: Create a task force to close the equity gap, ensuring a core set of applications and instructional materials exist for all districts and grade levels.

- Year 2: Pilot various mechanisms and models for achieving and sustaining equity across the state.

- Years 3-5: Close equity gaps across the state per plan using approaches proven during the pilot phase.

3. Continue to expand the ADVISER Infrastructure to meet data use needs.

- Year 1: Complete Identity and single-sign-on modernization.

- Year 1: Provide rostering using the ADVISER API to integrated applications.

- Year 1: Perform a portfolio analysis of applications, databases, and data sources to determine integration strategies.

- Years 2-3: Integrate additional student data to support broader reporting and analytics use cases.

- Years 2-3: Expand the ADVISER API to access other databases and applications.

- Years 3-4: Integrate financial data and applications to guide effective use of funds.

- Years 4-5: Capture lesson and content data from LMSs to enable effectiveness analytics.

4. Emphasize digital learning for equitable, high quality education experiences.

- Year 1: Formalize an instructional governance function to facilitate equitable access to high quality instructional resources.

- Year 1: Mobilize districts and their educators across the state to populate the OER Hub during the summer break. Enlist the instructional leadership of the larger districts to create reusable instructional resources.

- Year 2-3: Promote Nebraska's digital learning standards.

- Year 2-3: Expand online educator professional development using the state LMS.

- Year 3: Update the state's Future Ready Plan to reflect best practices, lessons learned, and new technology innovations.

- Year 3-5: Explore, pilot, promote, and expand the use of emerging technologies for digital learning.

- Year 3-5: Explore, pilot, promote, and expand the use of personalized learning approaches.

5. Execute a diversified strategy for education intelligence that provides common services to small districts while also enabling local district reporting and analytics.

- Year 1: Collaborate, select, and acquire standard BI tool(s) and provide training

- Year 1: Establish a Data Visualization and Use Network

- Year 1: Release Minimum Viable Product (MVP) of the new ADVISER Dashboards. Develop statewide training and supports for all districts.

- Year 2: Develop a coordinated research agenda to meet state priorities.

- Year 2-3: Develop self-service data marts and reporting portals.

- Year 2-5: Sustain and expand education intelligence solutions provided through the Data Visualization and Use Network.

- Year 3-5: Execute and report on coordinated research agendas.

- Year 4-5: Expand role-based dashboard support and analytics to students and parents.

- Year 4-5: Apply analytics and Total Quality Management (TQM) principles to continuously improve data quality.

6. Derive a more diversified funding model to advance and sustain statewide data systems.

- Year 1: Convene Data System Funding Commission to derive a diversified funding strategy.

- Year 2: Pilot new aspects of the funding model and plan for roll-out of the approaches.

- Years 3-5: Implement diversified funding strategy across the state.

With respect to the three emerging areas for expansion:

7. **Expand the K-12 Infrastructure integration to various external agencies that support the needs of at-risk youth and students who are part of high-risk populations.**

8. **Enrich post-secondary and workforce data linkages.**

9. **Integrate with emerging early childhood care and education data systems.**

Each of these areas have active programs managing their development. The roadmap defers the details to these program plans and therefore are not reflected in this document.

Appendix A Glossary of Terms

Accountability Submissions – generally refers to the collective body of data submissions made by districts to the State and then in turn to the federal government. These typically include annual reports of information such as student demographic information, attendance, and performance on statewide tests.

Common Education Data Standards – The reference to a national data dictionary managed and supported by the community of data collection and use purposes. The standards provide a framework for the areas of early childhood, k-12, postsecondary, and workforce systems.

Continuous Improvement – a cycle of continuous improvement is used here to describe the active collection of and reflection on student performance on tasks related to learning. Teachers engaging   in a continuous improvement cycle will frequently assess their students (with low stakes) and quickly intervene to support students who have not yet mastered a concept.

Data-Driven Decision-Making – the active process of teachers and school and district leaders that make decisions on what to change, keep, and/or improve in school and classroom practices based on the student need demonstrated in the data.

Ed-Fi – a data standard and associated technical assets that serve as a foundation for enabling interoperability among education data systems designed to improve student achievement and teacher satisfaction.

Instructional Improvement System – a network of systems secured and hosted in Nebraska that will connect to eliminate redundancies, enhance student performance across platforms, and save teachers' time

State Longitudinal Data System (SLDS) – This refers to those systems funded by federal grant dollars intended to enhance the ability of States to efficiently and accurately manage, analyze, and use education data, including individual student records.

Appendix B Commonly Used Acronyms

- AAP – Academic Achievement Plan
- ADM – Accountability Data Mart
- ADVISER – Advanced Data Views Improving Student Educational Response
- AFR – Annual Financial Report
- API – Application Programming Interface
- BI – Business Intelligence
- CCD – Common Core of Data
- CEDS –Common Education Data Standards
- CIO – Chief Information Officer
- CNP – Child Nutrition Program
- CRDC – Civil Rights Data Collection
- CSPR – Consolidated State Performance Report
- DHHS – Department of Health and Human Services
- DRE – Nebraska Department of Education's Data, Research, and Evaluation Team
- EPP – Educator Preparation Program
- ESSA – Every Student Succeeds Act
- ESU – Educational Service Units
- ESUCC – Educational Service Units Coordinating Council
- ETL – Extract, Transform, and Load
- FTE – Full-Time Employee
- GMS – Grants Management System
- ILCD – Improving Learning for Children with Disabilities
- LMS – Learning Management System
- MVP – Minimum Viable Product
- NCSA – Nebraska Council of School Administrators
- NDE – Nebraska Department of Education
- NEP – Nebraska Education Profile
- NPERS – Nebraska Public Employees Retirement Systems
- NSEA – Nebraska State Education Association
- NSSRS – Nebraska Student and Staff Record System
- NSWERS – Nebraska Statewide Workforce and Educational Reporting System
- ODS – Operational Data Store
- OER – Open Educational Resources
- PD – Professional Development

- PDG – Preschool Development Grant
- SIS – Student Information System
- SLDS – Statewide Longitudinal Data System
- SOPPA – Student Online Personal Protection Act
- SSO – Single Sign-On
- TEEOSA – Tax Equity and Educational Opportunities Support Act
- TPP – Teacher Preparation Program
- USDOE – United States Department of Education
- VST – Virtual Support and Training System
- YRTC – Youth Rehabilitation and Treatment Centers

Appendix C Description of Systems

TEACHING AND LEARNING SYSTEMS

Data Management System

- Ability to load and update content data from any system
- Search, index, browse, and retrieve content data elements
- Analysis of education data from other systems
- Maintain auditing data across systems
- Reporting with education data from other systems

Assessment System

- Manage, assign, deliver, and score student assessments
- Manage test items and forms including questions types, questions, answers, rationale, etc.
- Author, review, and approve workflows and tools
- Scoring tools
- Manage test set-up options

Learning Management System

- Browse/search course catalog and view course description/content
- Complete pretest/posttest
- Complete course evaluation
- View/print transcript and certificate
- Manage learning activities (e.g.., online courses, training, webinars, etc.) assign/schedule or publish, and archive
- Course/section self-registration and payment

Professional Development System

- View/print calendar with scheduled and completed evaluations, course sections, etc.
- Brick and mortar classroom, online, and asynchronous learning
- View/print certificate and transcripts
- Progress reports
- Override class enrollment
- Manage educator goal plans and coaching plans

Educator Evaluation System

- View, complete, submit and approve an evaluation
- Create and schedule cycles and individual evaluations for educators, teachers, and principals
- Manage evaluation model frameworks and tools
- Manage and deliver surveys
- Administer and assign evaluations to educators
- Monitor progress

Progress Monitoring/Response to Intervention System

- Student progress monitoring tools by stage of intervention
- Set intervention levels of intensity
- Manage resources: general education and special education teachers and specialists
- Monitor learning rate and level of individual student performance
- Ongoing student assessment
- Tiered instruction
- Parental reports on student progress

Credit Recovery System

- Section scheduling supports students across multiple districts or schools, students
- within same district only, or students within same school only
- Pretest/Posttest
- In- person student-teacher interaction
- Manage course catalog, including core and elective
- Independent completion option

Collaboration and Conferencing Tools

- Chat, Wiki, Blogs
- Discussion boards
- Staff collaboration and conferencing

Career Development/Information System

- Manages student progress toward industry certifications
- Identifies postsecondary options based on career interest inventories
- Tracks participation in career education programs
- Manages student personal learning plans
- Provides occupational information by career clusters/paths

ADMINISTRATIVE SYSTEMS

Nutrition/Food Management System

- Manage menus
- Manage food inventory
- Manage meal costs and income

Transportation Management Systems

- Manage drivers
- Manage buses and maintenance
- Manage students and routes
- Manage extracurricular activity traffic

School Counseling and Guidance

- Manage and track each counseling contact including reason and outcome, anecdotal
- comments, etc. over the course of a school year, including history
- Configuration options including contact reasons, outcomes, follow up date, etc.
- View/print cumulative counselor contact history for any student
- View/manage counseling records
- Print list of contacts
- Permit a follow update for any counseling contact
- Manage rules and guidelines
- Incident reports

IEP Management System

- Forms management including referrals, meeting notes, prior written notices as well as e-signatures, evaluations report forms and design forms
- Manage library content, including goals and prescriptions
- Manage plans such as student accommodation plan, individual language learner plan, individual compensatory plan, etc.
- Section 504 management compliance
- Monitor individual student progress

Library Management System

- Acquisitions
- Book and content cataloging
- Circulation
- Serials: periodicals and other subscriptions
- Multimedia
- Overdue materials tracking
- Barcoding

Test Analysis System

- Robust import capability (i.e., national, state and local assessments; information from a Student Information System; and student academic grades and attendance

- Support report format and styles such as dashboards with drilldown, text, charts, graphs, etc.

- Support report groupings such as district, school, teacher, class and student; demographics or programs; cohorts; custom groupings; standards

- Support reporting periods such as single year, multiyear, custom date ranges, etc.

- Support output medium for reports including print, PDF, Excel CSV and SAS

Student Information System

- Discipline and behavior management

- Grades reporting and transcripts management

- Health and Immunization records management

- Class scheduling management

- Parent portal

- Student personal information

- Manage student absences

- Messaging among stakeholders

- School calendar functions

BACK OFFICE SYSTEMS

Finance System

- Accounts payable capabilities

- Accounts receivable capabilities

- Controlling/budgeting capabilities

- Fixed assets management capabilities

- Other capabilities include calendar and support for parent and child account codes

Human Resources Management System

- Personnel/employee administration including personal information, benefits and termination
- Time management (e.g., time clocks, etc.)
- Organization management
- Recruitment/talent management
- Training and development
- Payroll management
- Self-service center
- Manager center

Procurement System

- Purchasing
- Inventory Management
- Vendor Management
- Materials Planning
- Warehouse Management
- Workflow/approval
- Plant Maintenance

Substitute Management

- Substitute pool management
- Manage absences and substitute assignments
- Communication tools

Appendix D Nebraska Survey of Educational Data Systems

Introduction

Nebraska Survey of Educational Data Systems

Hello,

Welcome to the Nebraska Survey of Educational Data Systems.

Administrators from all public school districts in Nebraska have been invited to provide information that will inform an interim study to the Nebraska Legislature prompted by LR 264. This study will examine Nebraska's educational data systems and includes questions on adequacy, quality, cost, and transparency.

We appreciate you taking a few minutes to provide responses to the following questions on behalf of your school district: **${e://Field/District}**

The questionnaire contains 31 items and should take about 15 minutes to complete.

In the following questionnaire, educational data systems are grouped into three general categories: Teaching and Learning Systems, "Back Office" Systems, and Administrative Systems. A group of questions will be asked about each category of educational data systems in your school district.

Thank you for your participation!

Teaching and Learning Systems

Teaching and Learning Systems

The following group of questions address data systems for "Teaching and Learning" in your school district.

1. Do you have a <u>Data Management</u> system in your district?

Data management systems generally provide the following features:
• Ability to load and update content data from any system
• Search, index, browse and retrieve content data elements
• Analysis of education data from other systems
• Maintain auditing data across systems
• Reporting with education data from other systems

○ Yes (we have a digital system)

○ Yes (we do not have a digital system)

○ No

2. Do you have an <u>Assessment</u> system in your district?

Assessment systems generally provide the following features:
• Manage, assign, deliver and score student assessments
• Manage test items and forms including question types, questions, answers, rationale, etc.
• Author, review and approve workflows and tools
• Scoring tools
• Manage test set-up options

○ Yes (we have a digital system)

○ Yes (we do not have a digital system)

○ No

3. Do you have a <u>Learning Management</u> system in your district?

Learning management systems generally provide the following features:
• Browse/search course catalog and view course description/content
• Complete pretest/posttest
• Complete course evaluation
• View/print transcript and certificate
• Manage learning activities (e.g., online courses, training, webinars, etc.), assign/schedule or publish, and archive
• Course/section self-registration and payment

○ Yes (we have a digital system)

○ Yes (we do not have a digital system)

○ No

4. Do you have a <u>Professional Development</u> system in your district?

Professional development systems generally provide the following features:
• View/print calendar with scheduled and completed evaluations, course sections, etc.
• Brick and mortar classroom, online, and asynchronous learning
• View/print certificate and transcripts
• Progress reports
• Override class enrollment
• Manage educator goal plans and coaching plans

○ Yes (we have a digital system)

○ Yes (we do not have a digital system)

○ No

5. Do you have an <u>Educator Evaluation</u> system in your district?

Educator evaluation systems generally provide the following features:
• View, complete, submit and approve an evaluation
• Create and schedule cycles and individual evaluations for educators teachers and principals
• Manage evaluation model frameworks and tools
• Manage and deliver surveys
• Administer and assign evaluations to educators
• Monitor progress

○ Yes (we have a digital system)

○ Yes (we do not have a digital system)

○ No

6. Do you have a <u>Progress Monitoring or Response to Intervention (RTI)</u> system in your district?

Progress monitoring/response to intervention systems generally provide the following features:

- Student progress monitoring tools by stage of intervention
- Set intervention levels of intensity
- Manage resources: general education and special education teachers and specialists
- Monitor learning rate and level of individual student performance
- Ongoing student assessment
- Tiered instruction
- Parental reports on student progress

○ Yes (we have a digital system)

○ Yes (we do not have a digital system)

○ No

---

7. Do you have a Credit Recovery system in your district?

Credit recovery systems generally provide the following features:
- Section scheduling supports students across multiple districts or schools, students within same district only, or students within same school only
- Pretest/Posttest
- Face-to-face student-teacher interaction
- Manage course catalog, including core and elective
- Independent completion option

○ Yes (we have a digital system)

○ Yes (we do not have a digital system)

○ No

---

8. Do you have Collaboration and Conferencing Tools in your district?

Collaboration and conferencing tools generally provide the following features:
- Chat, Wiki, blogs
- Discussion boards
- Staff collaboration and conferencing

○ Yes (we have a digital system)

○ Yes (we do not have a digital system)

○ No

9. Do you have a <u>Career Development or Career Information</u> system in your district?

Career Development/Information systems generally provide the following features:
• Manages student progress toward industry certifications
• Identifies post-secondary options based on career interest inventories
• Tracks participation in career education programs
• Manages student personal learning plans
• Provides occupational information by career clusters/paths

○ Yes (we have a digital system)

○ Yes (we do not have a digital system)

○ No

10. How important are the following **Teaching and Learning** systems for your district?

	Extremely important	Very important	Somewhat important	Not too important	Not at all important
Data Management System	○	○	○	○	○
Assessment System	○	○	○	○	○
Learning Management System	○	○	○	○	○
Professional Development System	○	○	○	○	○
Educator Evaluation System	○	○	○	○	○
Progress Monitoring or Response to Intervention (RTI) System	○	○	○	○	○
Credit Recovery System	○	○	○	○	○
Collaboration and Conferencing Tools	○	○	○	○	○
Career Development/Information System	○	○	○	○	○

Administrative Systems

Administrative Systems

The next group of questions address data systems for "Administrative" purposes in your school district.

11. Do you have a <u>Nutrition or Food Management</u> system in your district?

Nutrition and food management systems generally provide the following features:
• Manage menus
• Manage food inventory
• Manage meal costs and income

○ Yes (we have a digital system)
○ Yes (we do not have a digital system)
○ No

12. Do you have a <u>Transportation Management</u> system in your district?

Transportation management systems generally provide the following features:
• Manage drivers
• Manage buses and maintenance
• Manage students and routes
• Manage extracurricular activity traffic

○ Yes (we have a digital system)
○ Yes (we do not have a digital system)
○ No

13. Do you have a <u>School Guidance and Counseling</u> system in your district?

School Guidance and Counseling systems generally provide the following features:
• Manage and track each counseling contact including reason and outcome, anecdotal comments, etc. over the course of a school year, including history
• Configuration options including contact reasons, outcomes, follow-up date, etc.
• View/print cumulative counselor contact history for any student
• View/manage counseling records
• Print list of contacts
• Permit a follow-up date for any counseling contact
• Manage rules and guidelines
• Incident reports

○ Yes (we have a digital system)
○ Yes (we do not have a digital system)
○ No

14. Do you have an Individual Education Plan (IEP) system in your district?

IEP management systems generally provide the following features:
• Forms management including referrals, meeting notes, prior written notices as well as e-signatures, evaluations report forms and design forms
• Manage library content, including goals and prescriptions
• Manage plans such as student accommodation plan, individual language learner plan, individual compensatory plan, etc.
• Section 504 management compliance
• Monitor individual student progress

○ Yes (we have a digital system)

○ Yes (we do not have a digital system)

○ No

15. Do you have a Library Management system in your district?

Library management systems generally provide the following features:
• Acquisitions
• Book and content cataloging
• Circulation
• Serials: periodicals and other subscriptions
• Multimedia
• Overdue materials tracking
• Barcoding

○ Yes (we have a digital system)

○ Yes (we do not have a digital system)

○ No

16. Do you have a Test Analysis system in your district?

Test analysis systems generally provide the following features:
• Robust import capability (i.e., national, state and local assessments; information from a Student Information System; and student academic grades and attendance)
• Support report format and styles such as dashboards with drill-down, text, charts, graphs, etc.
• Support report groupings such as district, school, teacher, class and student; demographics

or programs; cohorts; custom groupings; standards
• Support reporting periods such as single-year, multi-year, custom date ranges, etc.
• Support output medium for reports including print, PDF, Excel CSV and SAS

○ Yes (we have a digital system)

○ Yes (we do not have a digital system)

○ No

17. How important are the following **Administrative** systems for your district?

	Extremely important	Very important	Somewhat important	Not too important	Not at all important
Nutrition or Food Management System	○	○	○	○	○
Transportation Management System	○	○	○	○	○
School Guidance and Counseling System	○	○	○	○	○
Individual Education Plan (IEP) Management System	○	○	○	○	○
Library Management System	○	○	○	○	○
Test Analysis System	○	○	○	○	○

"Back Office" Systems

"Back Office" Systems

The group of questions below address data systems for school management or "Back Office" purposes in your school district.

18. Do you have a <u>Finance</u> system in your district?

Finance systems generally provide the following features:
• Accounts payable capabilities
• Accounts receivable capabilities
• Controlling/budgeting capabilities
• Fixed assets management capabilities
• Other capabilities include calendar and support for parent and child account codes

○ Yes (we have a digital system)

○ Yes (we do not have a digital system)

○ No

19. Do you have a <u>Human Resource Management</u> system in your district?

Human resource management systems generally provide the following features:
• Personnel/employee administration including personal information, benefits and termination
• Time management (e.g., time clocks, etc.)
• Organization management
• Recruitment/talent management
• Training and development
• Payroll management
• Self-service center
• Manager center

○ Yes (we have a digital system)

○ Yes (we do not have a digital system)

○ No

20. Do you have a <u>Student Information</u> system in your district?

Student information systems generally provide the following features:
• Discipline and behavior management
• Grades reporting and transcripts management
• Health and immunization records management
• Class scheduling management
• Parent portal
• Student personal information
• Manage student absences
• Messaging among stakeholders
• School calendar functions

○ Yes (we have a digital system)

○ Yes (we do not have a digital system)

○ No

21. How *important* were the following factors when selecting your current Student Information System (SIS)?

	Extremely important	Very important	Somewhat important	Not too important	Not at all important
Cost	O	O	O	O	O
Flexibility (it is easily customized)	O	O	O	O	O
Continuity (changing would be disruptive or costly)	O	O	O	O	O
Usability (this SIS is easy to use)	O	O	O	O	O
Parent Access (this SIS provides a parent portal to student information)	O	O	O	O	O
Availability (all the modules I need)	O	O	O	O	O
Training (vendor provides training for teachers)	O	O	O	O	O
Support (vendor offers support)	O	O	O	O	O
Other (please specify):	O	O	O	O	O

22. How *satisfied* are you with the following factors on your current Student Information System (SIS)?

	Extremely satisfied	Very satisfied	Somewhat satisfied	Not too satisfied	Not at all satisfied
Cost	O	O	O	O	O
Flexibility (it is easily customized)	O	O	O	O	O
Continuity (changing would be disruptive or costly)	O	O	O	O	O
Usability (this SIS is easy to use)	O	O	O	O	O
Parent Access (this SIS provides a parent portal to student information)	O	O	O	O	O
Availability (all the modules I need)	O	O	O	O	O
Training (vendor provides training for teachers)	O	O	O	O	O
Support (vendor offers support)	O	O	O	O	O
Other (please specify):	O	O	O	O	O

23. Do you have a Procurement system in your district?

Procurement systems generally provide the following features:

• Purchasing

• Inventory management

• Vendor management

• Materials planning

• Warehouse management

• Workflow/approval

• Plant maintenance

○ Yes (we have a digital system)

○ Yes (we do not have a digital system)

○ No

24. Do you have a <u>Substitute Management</u> system in your district?

Substitute management systems generally provide the following features:

• Substitute pool management

• Manage absences and substitute assignments

• Communication tools

○ Yes (we have a digital system)

○ Yes (we do not have a digital system)

○ No

25. How important are the following **"Back Office"** systems for your district?

	Extremely important	Very important	Somewhat important	Not too important	Not at all important
Finance System	○	○	○	○	○
Human Resource Management System	○	○	○	○	○
Student Information System	○	○	○	○	○
Procurement System	○	○	○	○	○
Substitute Management System	○	○	○	○	○

General Questions

General Perceptions of Educational Data Systems

The following questions address your relative perceptions of data systems and data-related initiatives currently active in your school district.

26. Of the following educational data systems, please identify the five (5) most important to your district.

☐ Assessment Systems - Student Centric

☐ Learning Management Systems - Teacher Centric

☐ Professional Development Systems

☐ Content Management Systems

☐ Educator Evaluation Systems

☐ Progress Monitoring/RTI Systems

☐ Credit Recovery Systems

☐ Collaboration and Communication Systems

☐ Career Education Systems

☐ Nutrition and Food Management Systems

☐ Transportation Systems

☐ Guidance/Counseling Systems

☐ IEP Management Systems

☐ Library Management Systems

☐ Student Information Systems

☐ Test Analysis Systems

☐ Finance Systems

☐ Human Resource Systems

☐ Procurement Systems

☐ Substitute Management Systems

27. How important is data use for the following strategic initiatives in your district?

	Extremely important	Very important	Somewhat important	Not too important	Not at all important
Measuring success of early childhood providers	○	○	○	○	○
Implementing a teacher effectiveness framework	○	○	○	○	○
Measuring student perceptual information	○	○	○	○	○
Improving special education services	○	○	○	○	○
Offering credential-based career education	○	○	○	○	○
Measuring the college-going and college-success rates of district graduates	○	○	○	○	○

Costs of Educational Data Systems

The following questions address the costs associated with educational data systems in your school district.

28. Please estimate the annual cost, <u>in dollars ($) per year</u>, for all educational data systems (Teaching and Learning, Administrative, and "Back Office") in your district.

[ ]

29. Please estimate (to the nearest person) the <u>number of full-time employees</u> devoted to managing student information systems and accountability submissions in your district?

[ ]

Support Role of Nebraska Department of Education

Finally, the following questions address your perceptions of the role of the Nebraska Department of Education relative to educational data systems.

30. Given the right conditions (e.g., price, features, support, etc.), how likely would your district be to join an optional statewide/regional collaborative for the following systems?

	Extremely likely	Very likely	Somewhat likely	Not too likely	Not at all likely
Assessment Systems - Student Centric	○	○	○	○	○
Learning Management Systems - Teacher Centric	○	○	○	○	○
Professional Development Systems	○	○	○	○	○
Content Management Systems	○	○	○	○	○
Educator Evaluation Systems	○	○	○	○	○
Progress Monitoring/RTI Systems	○	○	○	○	○
Credit Recovery Systems	○	○	○	○	○
Collaboration and Communication Systems	○	○	○	○	○
Career Education Systems	○	○	○	○	○
Nutrition and Food Management Systems	○	○	○	○	○
Transportation Systems	○	○	○	○	○
Guidance/Counseling Systems	○	○	○	○	○
IEP Management Systems	○	○	○	○	○
Library Management Systems	○	○	○	○	○
Student Information Systems	○	○	○	○	○
Test Analysis Systems	○	○	○	○	○

	Extremely likely	Very likely	Somewhat likely	Not too likely	Not at all likely
Finance Systems	◯	◯	◯	◯	◯
Human Resource Systems	◯	◯	◯	◯	◯
Procurement Systems	◯	◯	◯	◯	◯
Substitute Management Systems	◯	◯	◯	◯	◯

Last Page

31. If you have any final comments on the survey, please provide them in the space provided. Otherwise, please hit the "Submit" button below.

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