

**The Oregon DATA Project:
Direct Access to Achievement**

Project Narrative

1. Need for Project

Introduction

Oregon has long been actively engaged in developing and refining process for standardizing the collection and storage of school-based data. The state's efforts began in 1997, when the Oregon Department of Education (ODE) implemented the Database Initiative (DBI), a school-level standardized data reporting system, and they continue today with the Pre-Kindergarten thru Grade 16 Integrated Data System (KIDS) project.

Along the way, Oregon became one of the first states in the nation to introduce the use of a unique secure student identifier (SSID), in the 2001-2002 school year. Shortly after that, the state created the Consolidated Collections database, which stores student-level data on test activities, demographic information, and school attendance details.

During the current school year, Oregon implemented a new unique staff identifier (USID) system. The USID allows for efficient vertical and horizontal data tracking of every school and school district employee in the state. The project spanned nearly two years, includes over 75 distinct data points per staff member, and brings Oregon into compliance with federal requirements for highly qualified teacher reporting. The USID is the gateway to staff accountability and school improvement in Oregon.

Oregon continues to improve and expand its education data infrastructure, thanks to the efforts of a highly collaborative community of educators, legislators, parents and other citizens. The Oregon Legislature has made or is poised to make significant investments in the data-related projects described below. Policy option packages on the Governor's Recommended Budget receive the highest priority, and the Ways & Means Committee has been overwhelmingly supportive of these projects.

- **KIDS**—The 2005 Legislature approved the KIDS Phase II initiative to develop a pilot system for centralizing and standardizing student records and transcripts. By this spring, the pilot will complete work with four large districts and two Education Service Districts (ESDs) to create a data warehouse solution. KIDS Phase III is a project that will integrate the state's remaining 190 school districts into the statewide data warehouse, with full implementation scheduled for 2011. Remaining work includes development of an enterprise data dictionary, a new electronic student record format, and a student record exchange application available to all districts. The policy option package is included in the Governor's Recommended Budget for the 2007-2009 biennium.
- **IDTS**—The 2005 Legislature funded the Integrated Data Transfer System (IDTS) project to connect the data systems of the state's three education

Oregon Department of Education

sectors (K-12, community colleges, and the Oregon University System). IDTS creates a standardized, common file format (a universal transcript) to electronically transfer high school transcripts, state and national assessment data, and evidence of student proficiency from Oregon high schools to the Oregon University System and community college campuses. The linkage of IDTS feedback data will enhance the existing K-12 data access. IDTS will be operational in fall of 2007.

- **Assessment Literacy**—This program provides teachers, district administrators and other stakeholders with essential information on how to use the data from student tests and assessments to improve student learning. The program will establish statewide assessment training for stakeholders and other education professionals. It also includes collaboration with Oregon universities to develop assessment literacy accreditation. Funding for the \$1.7 million initiative is included in the Governor’s Recommended Budget for the 2007-2009 biennium.
- **Cross-Office Data Management**—This program streamlines and enhances agency data analyses to help meet the mandates of No Child Left Behind (NCLB) and improves the quality and timeliness of data available to Oregon’s public schools and citizens. The proposal will allow ODE to create more dynamic, user-friendly data tools for collection, validation, analysis, and reporting of all data. Funding for the \$494,000 initiative is included in the Governor’s Recommended Budget for the 2007-2009 biennium.
- **Longitudinal Growth Model**—The Growth Model allows ODE and individual schools and districts to track the learning progress and growth of individual students. Elements of the model include refined statistical formulas, a statewide communications plan, and reports that offer stakeholders relevant information. Funding for the \$1.8 million initiative is included in the Governor’s Recommended Budget for the 2007-2009 biennium.

These investments are being made despite persistent funding issues for the Oregon educational system, which has a well-earned reputation for a host of “more with less” successes in student achievement and project implementation.

Education leaders, regional Education Service Districts and policymakers are moving forward with the Oregon DATA Project, which will enhance the entire system’s ability to use data to inform instructional decision-making. The outcomes of the project will include a system of regional data warehouses containing highly aggregated local and state level data, coupled with professional development that will enable teachers and administrators to effectively engage in ad-hoc query and analysis of instructionally relevant student-level data from nearly anywhere in the state.

Added funding through this Institute of Education Sciences (IES) Request for Application will help Oregon more speedily realize its overarching goal of improving student learning.

Status of Current System

Student Identifiers

Oregon has a unique secure student identifier (SSID) for every student in the school system. The implementation of this system required many lengthy conversations with stakeholders across the state to determine best practices for ensuring data security.

In school year 2001-2002, the focus was on issuing SSID numbers to all students and requiring it for the first time on state assessment records for all school districts. Since then, the use of the SSID number has been expanded to all student-level data collections, and a number of the collections now have three to four years of data.

For school year 2004-2005, ODE made a conscious effort to centralize federal reporting through the EDEN portal. As of school year 2005-2006, the department received an “Outstanding Partner Award” from the U.S. Department of Education for being one of only six states to establish a formal submission plan and submit the initial set of EDEN data files from school year 2005.

For 2006-2007, ODE already has nearly 80% of its required data elements submitted to ED Facts. The EDEN data that is submitted to ED Facts is reported to ODE through various data collections. This data has gone through a variety of edit and validation checks before being loaded into the data warehouse. Once there, it is retrieved using the business rules of the data owner and file specifications from U.S. Department of Education for EDEN. The data owner validates it by using a spreadsheet to compare the data to other reports or to the raw data, ensuring that appropriate business rules have been applied. The data owner then approves this data via an internal application at ODE; it is then submitted to ED Facts.

The data compiled for submission to ED Facts is stored in a separate database and is becoming increasingly useful to data owners as a source for other federal reporting, such as the Consolidated State Performance Report (CSPR) and the Title III biennial report. The data also has been used as an acceptable source to compare data for other required federal reports to ensure accuracy and consistency, and to pull information on Limited English Proficiencies and Special Education for School Monitoring visits.

Oregon’s web-based assessment system, Technology Enhanced Student Assessment (TESA), requires the SSID number as part of the login and verification process. The KIDS project will use the SSID as a basis for data gathering and electronic transfer of records between school districts.

The Integrated Data Transfer System creates a process for high schools to transmit student-level data as a standardized transcript to Oregon post-secondary institutions. This data will then be stored for each campus in electronic form to allow access to a more comprehensive set of information for each student than is currently available. The project takes advantage of the SSID to assist with record matching, but also to allow the possibility of linking student data for research purposes across the K-12, community college, and four-year public university levels. The system works with service providers and vendors to build the “send” function into the existing SIS packages already used by schools, prioritized by student volume and practicality. IDTS then creates a translation at OUS, and a router to Texas and the national EDI system used by universities across the country. The project is on track to meet its goal of incorporating records from half of Oregon’s students by the end of

Oregon Department of Education

June; use of funding has been so efficient that unused monies may be rolled back to the Legislature at the end of the budget cycle.

These parallel uses of the SSID allow long-term matching of student records in an unprecedented way in Oregon.

Data Architecture

Oregon's existing data environment includes a set of independent operational and transactional database systems (Student Information Systems and Business Information Systems), each with its own data model, data dictionary, business rules, and quality assurance procedures. Large and multiple school districts typically use integrated commercial systems such as SUNGARD Pentamation, eSIS, Oregon EdVantage, and PowerSchool, while tiny, rural districts use local databases and spreadsheets. Each of these systems was designed to accommodate the needs of the organizations that collect the data, and to facilitate state and federal compliance reporting.

From an operational perspective, most of these systems are generally adequate for tracking students and for state and federal reporting requirements, including those associated with NCLB. However, the systems are not integrated and the information is not standardized to any significant degree. These autonomous data systems create data quality problems and redundancies.

Data Security

ODE expects all custodians of students' information and institutional data using information technology resources to manage that data appropriately and according to the rules regarding classification of data, the Family Educational Rights and Privacy Act (FERPA) requirements, and minimum data security standards. ODE's data management policies, procedures, and practices are designed to safeguard four vital aspects of data: integrity, privacy, security, and access. In addition, ODE has adopted the Department of Administrative Services (DAS) "Acceptable Use" policy as the foundation for technology-related policies and procedures.

All public school entities within the state of Oregon are governed by FERPA. This law governs the confidentiality of student records, providing parents certain rights to their children's educational records and transferring these rights to the child when he or she turns eighteen or attends a school beyond the high school level.

The confidentiality of students' records is further supported by numerous Oregon Revised Statutes and Oregon Administrative Rules. Additionally, all school and Education Service Districts maintain policies and associated administrative rules that refer back to the Oregon Revised Statutes and Administrative Rules. These established procedures provide guidance on user access to information, and protection of individually identifiable information in the technical setting, such as access rights and privilege control.

Data Analytics and Data Driven Decision-Making

The Oregon DATA Project model presents only a portion of the total picture with respect to putting the tools for data-driven decision-making in the hands of Oregon teachers and administrators. Even in the Oregon districts that have moved ahead and purchased data warehouse solutions, there remains significant gaps in enabling teachers

and administrators to use data effectively to improve student achievement. The key to filling this gap is to provide high-quality professional development and ongoing professional and technical support on a local, regional and statewide basis.



“It is permissible to move ahead without the answer; however, if you do not have a question, do not begin.”

— Mel P. Heller, Ed.D.,
Loyola University of Chicago

Data-driven decision-making touches many elements of the broad picture of student achievement and school improvement. In most cases, it begins with a basic change in the overall school and district culture with respect to using data. School personnel interested in improving the performance of their schools need first to learn how to ask the right kinds of questions that the data has the potential to help answer.

An overriding cornerstone to the successful implementation of a statewide longitudinal data system in Oregon is professional development focused on teaching school personnel how to ask the right kinds of questions. There is, and will continue to be, an intense need for data-focused professional development and the funding and support that will ensure success for the long term.

Data Warehousing

A number of Oregon school districts and ESDs have begun the process of building regional data warehouses—moving data from disparate student information systems into these warehouses, providing query and analysis tools for conducting ad-hoc and formative data analysis, and training staff on how to use data to inform and enhance instructional outcomes.

The KIDS data warehouse project is designed to integrate all 198 school districts in the state, including ESD and regional data warehouses, while developing and implementing an enterprise metadata or data dictionary. The KIDS data model and schema development is robust, and will accommodate additional data elements from the districts or regional warehouses as defined for informing instructional decision-making and professional development for teachers, district administrators, and educational research organizations. KIDS has the following key objectives:

1. Integrate students’ data from all 198 school districts.
2. Standardize all data elements within the enterprise, including codes, data formats, and, and business rules.
3. Develop and implement an enterprise-level metadata repository to enable data quality process and consistency of terms and definitions across the enterprise.
4. Develop the architecture and infrastructure for a longitudinal data system for satisfying NCLB, Adequate Yearly Progress (AYP), and other federal and state compliance reporting and analysis.
5. Develop Phase 4 of the KIDS project, which will deal with areas such as finance, staff, nutrition, and transportation.

All the districts and regional warehouses will push detailed data to the KIDS warehouse to maintain common data standards, and global metadata for the enterprise of education in the state.

Summary of Limitations

There are significant limitations in the current statewide data system, primarily related to the disparate and disconnected nature of the data that is collected and stored. The KIDS project addresses some of these issues, and the Oregon DATA Project will allow the state to fill in the gaps. Following is a summary:

- Lack of adherence to statewide standards for reporting, most notable in variation in data quality from one district to the next. This causes inconsistencies in data use and usefulness from one district to the next, despite the existence of a statewide data dictionary.
- Precludes centralized training and support to improve data quality, as many perceive that they are stand-alone systems with few commonalities. There is little collaboration or resource pooling across the state as a result.
- Lack of granular, integrated, accurate, standardized data. Lack of close collaboration between the districts and ODE in tracking students as they move through the educational system, both vertically and horizontally, in order to improve performance by identifying actionable indicators.
- Need for data and tool standardization between all reporting districts to ensure accurate, consistent, and useful analytical input for decision-making purposes.
- No single version of the truth for business rules and data definitions among various data sources.
- Lack of easily validated financial information that accurately reports budgeted vs. actual expenditures by program that allows correlation of these expenditures to student performances.
- Lack of online access to information for all stakeholders regarding student progress and school quality.
- No mechanism for recording teacher data or financial data.

Gains through grant support

At the federal level:

- Access to high quality data, with reliable statewide adherence to one data dictionary and set of reporting standards.
- More accurate data for improved reporting while maintaining FERPA compliance.
- More data to inform decisions made by policymakers to cultivate school improvement and student achievement.

At the state level:

- Comprehensive communication plan to ensure stakeholders are aware of and involved in development and progress of project.
- Consistent statewide curriculum for professional development related to longitudinal data system.

Oregon Department of Education

- Reduction in reporting burden.
- Elimination of duplicate requests for the same information.
- Interoperable data warehouse system, allowing for transport and transfer of critical student data and transcripts across the P-20 education enterprise.
- More data to inform decisions made by policymakers.

At the regional level:

- Improved and expanded tools for the collection, analysis, and application of high-quality data to improve instruction and student achievement.
- Comprehensive and sustained training and support in new tools, data analysis, and standards alignment (to bring conclusions from data to classrooms).
- Seamless transfer of comprehensive student transcripts within 48 hours of request.
- Ability for teachers and administrators to build and access digital dashboards to track summative and formative data at the building, classroom, and student levels.

At the school level:

- Improved and expanded tools for the timely collection, analysis, and application of high quality, meaningful data to improve instruction and student achievement.
- Comprehensive and sustained training and support in new tools, data analysis, and standards alignment to bring conclusions from data to classrooms in the form of individual learning plans per student.
- Better alignment of instruction to individual student needs.

At the community level:

- More accurate and accessible information and comparison data on schools, students.

At the research level:

- Comprehensive statewide data to perpetually assess and revise system to meet needs of administrators, teachers, and students.
- Flexibility to add and delete data elements, and to expand and contract at the state/region/district/school levels in response to student and educator changing needs.
- A sophisticated system attractive to researchers, affording the state the potential to be included in national studies.

Governance and Policy

Governance Structure

The Oregon DATA project will be directed by the Oregon Department of Education, with program management provided through the Educational Enterprise Steering Committee, a multi-stakeholder group that has been working to improve Oregon education systems for two years. The EESC's ties to all governing sectors brings statewide support for this initiative from the Governor, state Legislature, and regional and local leadership, ensuring sustainability from both a financial and an alternative resources perspective.

Communication Infrastructure

The EESC already has a communication mechanism in place, the K-12 partnership website (*k12partners.org*). This site was launched eight months ago, and has become the hub for information sharing and discussion at the ESD and district levels. Interested parties can register quickly and easily, and use a two-step process to have content updates sent directly to their e-mail so they don't have to travel to the site every day. More than 900 education professionals in Oregon are already registered and receiving weekly updates. This will remain the hub for information on the DATA Project.

Once the project is launched, the site will be expanded to provide more interactive features specific to the project, and its existence promoted during the training stage.

Analysis and Research

The Oregon DATA Project streamlines and enhances agency data analyses to help meet the mandates of and improve the quality and timeliness of data available to Oregon's public schools and citizens. The proposal will allow ODE to create more dynamic, user-friendly data tools for collection, validation, analysis and reporting of all data. In addition, the SSID used in Oregon is the key to a distributed model for the development of a longitudinal data system that allows maximum possibility for both data linkage and flexibility to adhere to future FERPA requirements.

The IDTS project includes plans for accessing K-20 data with a statewide review panel of cross-sector, high-level policymakers who would review data use requests. Approval would mean that the requesting agency or individual would be provided with a linked package of requested data that would otherwise still be in sector silos, but would be organized and connected for the approved use.

Ongoing Training

In order for a longitudinal data system to be truly effective as a tool for instructional decision-making, school staff must be fully trained and proficient in its use. Users must have a thorough understanding of the principles and concepts of data driven decision-making (DDDM) and be able to use query and analysis tools to move from reacting to results to being able to predict results. Achieving this goal means that all stakeholders must receive training that focuses on the principles and practices of DDDM.

Training and professional development activities will focus on building and maintaining school and district level data teams and supporting their work at the regional and state level through ongoing workshops, seminars and other professional development opportunities. Training resources and publications available through

Oregon Department of Education

sources such as the National Center for Education Statistics also will be leveraged for the maximum benefit of stakeholders

Contributing to this effort is the Assessment Literacy initiative, which provides teachers, district administrators and other stakeholders with essential information about how to use assessment data to increase student achievement and how to evaluate outcomes and monitor program advancements. The program also partners with Oregon universities to develop assessment literacy accreditation.

Evaluation Procedures

Oregon has a well-established assessment framework in place, administered through the Northwest Regional Educational Laboratory (NWREL). The NWREL team will work closely with the DATA Project to develop a formative evaluation approach that provides timely reviews, reports, and conversations of project processes and effectiveness. NWREL also will help develop and review instruments for needs assessments, for measuring effectiveness of communications and governance strategies, and for evaluating professional development and workshop activities.

In a typical year, the organization conducts more than 30 evaluation studies in educational areas including reading, mathematics, science, history, education reform, culturally based education, and of course, technology.

Sustainability Plan

The distributed nature of the regional warehouse system not only distributes the work of collecting, storing and analyzing the data—it distributes the cost. Regionalization makes it more likely that each area will allocate regional resources through local service plans and resolution dollars to sustain their data resources.

Regional distribution of the data warehouse architecture, management and professional development allows the originators of the data to interact with it in more meaningful ways. Each school district owns and is responsible for the viability of its student data. This architecture ensures the continued integrity of the custodial responsibilities over the data by the districts. In addition, regionalized data allows for the effective analysis and management of that data. The regional data warehouses will also act as clearinghouses for compliancy data before submission to the state KIDS data warehouse. Regionalized data warehouses will serve to mitigate the technical differences between individual district's student information systems, making the collection of compliancy data as well as the aggregation of school improvement data more viable.

The regional data warehouses will enforce the business rules necessary for the collection of compliancy data by the state into the KIDS data repository.

2. Project Design

Introduction

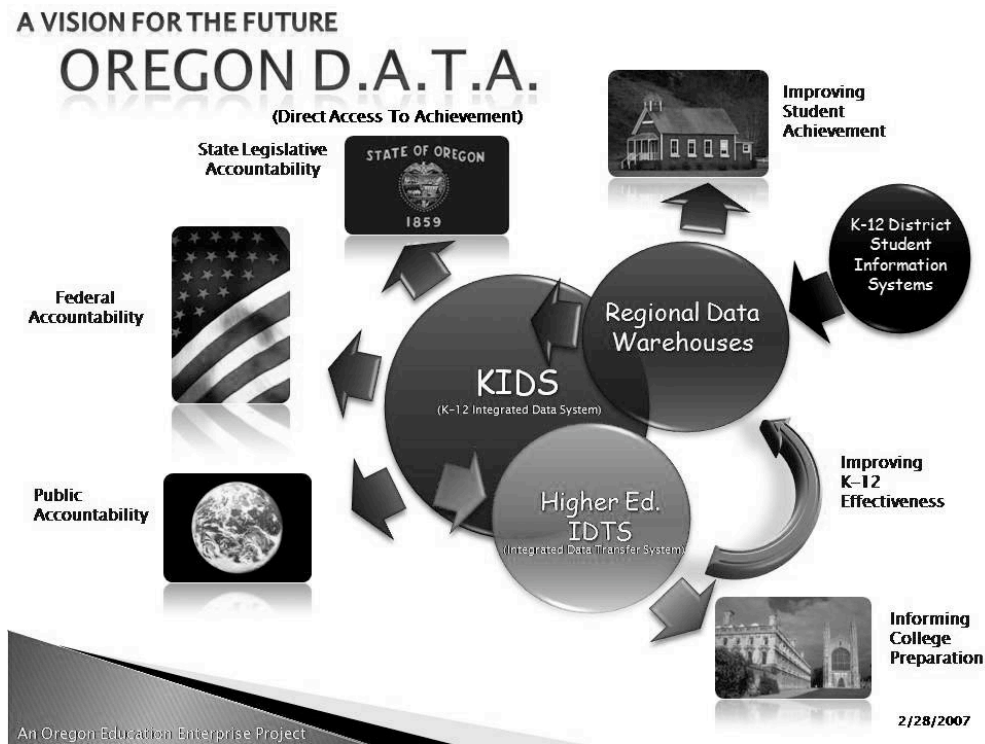
The KIDS project is currently implementing an enterprise and distributed architecture at four pilot districts, and is designed to handle compliance and transcript data from districts, regional warehouses, and other non-affiliated small districts around the state. See a diagram of the KIDS architecture on page 25.

Oregon Department of Education

It is our belief that the interests of stakeholders are best served by building on the regional data warehouse system, one in which warehouses are tied together through a consistent system of standardized and interoperable data elements and accompanying data dictionary. This methodology will significantly reduce the current “disparate” environment. It will make formative data more readily available to all constituents for the purposes of informing instruction. It also will enable the level of regional autonomy necessary for customization to meet specific regional data needs. In addition, this regional approach will help deliver more tailored customer service to participating districts and reduce issues related to bandwidth and network traffic.

The proposed architecture would provide the “best of both worlds.” The standardized but customizable regional warehouses will offer a primary focus on data-driven decision-making, complemented by the KIDS state-level data warehouse, which supports easier and more reliable reporting and transcription. The end result will be a coherent statewide assessment system that allows for formative analysis with real-time data. The vertically integrated statewide longitudinal data system will provide a reliable, easily understood picture of the state of the education in Oregon.

Figure 1: The Oregon DATA Project



The project will be accomplished through a highly collaborative process that utilizes existing partnerships with schools, legislators, parents, and other stakeholders.

The Oregon DATA Project will be developed and implemented through a phased life-cycle approach and continuously evaluated through the expert services of the Northwest Regional Educational Laboratory. NWREL staff members have a great deal

Oregon Department of Education

of experience working with programs and projects to clarify their logic models and evaluation questions, and to design and manage appropriate data collection plans to address those questions.

With the implementation of the data initiatives described in the “Needs” section of this proposal, Oregon has taken many of the foundational steps necessary to ensure the success of the program. Using the partnerships and data framework already in place and augmented by IES funding from the Longitudinal Data Grant, Oregon’s plan addresses these components:

- A highly structured module of policies, procedures and curriculum for professional development.
- A comprehensive survey of the data needs of key stakeholders in the Oregon school system, from the public, parent and student levels through the school, district, regional and state levels.
- A comprehensive survey of business needs.
- Creation of an enterprise-wide data architecture that draws from analysis of information needs, includes all data elements required for reporting, and specifies a data model, data dictionary, business rules, and quality assurance procedures.
- The development and deployment of data standards statewide.
- Refinement of the data warehouse system to include interoperable state and regional warehouses.
- Development of a suite of tools for data collection, analysis, generation of individual student profiles and learning plans.
- Development of a comprehensive and sustained training program for districts and schools.
- Development of a comprehensive data quality assurance program that includes continuous improvement measures.
- Development of a significant research initiative that enables the quality data gathered to be shared for measurement of progress, to assess the success of the post-secondary loop, and to tease out content areas that need improvement.

Business needs analysis

The business needs analysis is already in progress at the state and regional warehouse level, through KIDS, IDTS, and the work of the regional ESDs. Compliance reporting and transaction information will complement the longitudinal data system’s goal of monitoring and improving student performance.

Funds associated with this grant will allow Oregon to expand current efforts to include a statewide, detailed analysis of specific classroom, school and district information needs with attention paid to the analysis of data to drive instructional decision-making all the way to the classroom level.

The survey tool will be defined and developed by the Data Quality Work Group. Oregon’s regional Education Service Districts will deploy the tool, gather the information from member districts, and validate that data. The validated data

Oregon Department of Education

will be aggregated by the Oregon DATA Project director, assisted by curriculum leaders from the Instructional Learning Council (ILC), a statewide school improvement consortium. The Data Quality Work Group will use that information to design the program.

Data collection inventory

Oregon currently operates under several data systems, including KIDS, IDTS, large regional warehouses, large district warehouses, and a variety of transactional school information systems.

One of the priorities of the Oregon DATA Project is to ascertain exactly which systems are in place statewide. Which transaction systems are being used where? Who is hosting these systems? What do they have access to? How do they analyze data? Where do schools not have access to a warehouse? What questions do practitioners need the answers to, in order to improve instruction?

A needs-based prioritization of resources means schools with little or no access, support or tools will be brought online first. Additionally, the survey will assess the systems that are defined and prioritize the systems that are currently being used. The intent of this assessment will be to determine what is actually being done in the field every day to drive school improvement. Who is doing what kind of data collection? How are they using the processes? The goal is to identify how the 198 school districts in Oregon are using data to drive decisions.

Questions to be asked include: How many districts are relying on state standards vs. developing their own school or district-based standards? Who is doing PBS (Positive Behavior Support) and RTI (Response to Intervention)?

Data architecture design

The data architecture of Oregon's project will consist of a distributed set of regional data warehouses already hosted or in development by Education Service Districts. These regional warehouses will be tied together by the state KIDS warehouse. The Oregon DATA Project defines a "regional data warehouse" as an ESD or group of ESDs hosting a data warehouse (for multiple districts, for example).

Part of the work of the project will consist of creating, documenting and implementing standardized data elements, data codes, business rules, extensible data model/schema, and enterprise level metadata repository for KIDS and regional warehouses. In this way, all data warehouses in the state system will remain synchronized with the master KIDS warehouse. This will also facilitate the change control process and sharing of development for economies of scale.

Preliminary information regarding information needs at classroom, school, district, state, and federal levels indicates that, in order for a statewide longitudinal data system to be useful at all levels, it must contain two primary categories of data.

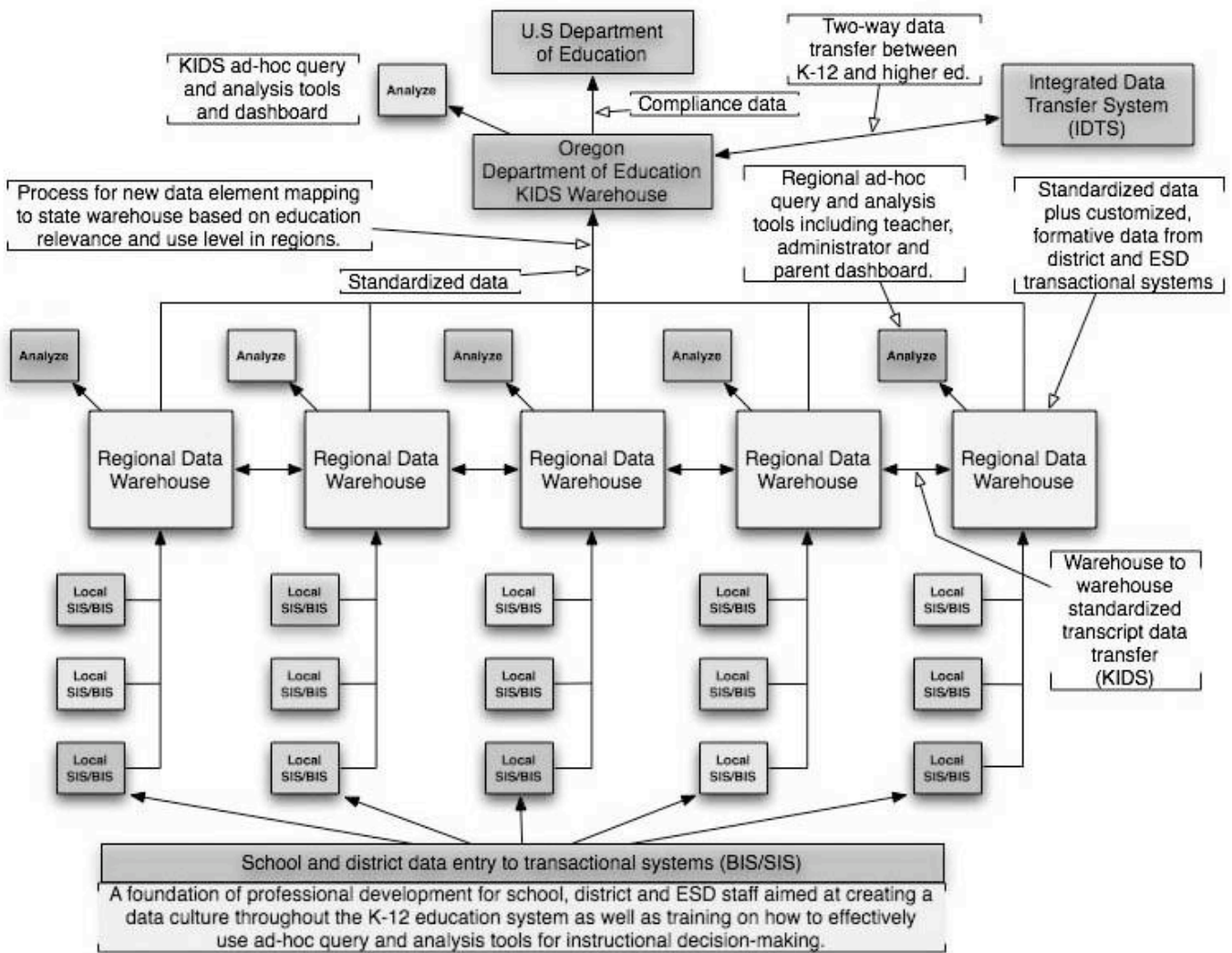
First, it must contain data elements required by the Oregon and federal departments of education for the purposes of educational compliance and reporting. The KIDS project is intended to fulfill those requirements by extracting data from district and regional data centers into a statewide data warehouse. KIDS collects information primarily for use in compliance procedures, while the work of the regional and data warehouses are intended for use in informing instruction. KIDS is a data warehouse

Oregon Department of Education

project, and all relevant data at the enterprise level that requires integration will be pushed or pulled from district or regional data systems or warehouses, whether to inform instruction, compliance reporting, or policy development.

Second, it must contain data at the level of granularity that can easily be used to analyze the effectiveness of instructional programs and processes. The Oregon DATA Project would include these categories of additional data, which would be collected from all district student information systems and regional data warehouses: attendance, behavior, program status (such as English Language Learner, Title I), and formative assessment data.

Figure 2: Architecture Model



Oregon Department of Education

Data in local data warehouses and in student information systems would be tied to the state KIDS data warehouse by extracting raw data elements from district and regional systems. This would provide a statewide connection of data, allowing record transfer and potentially a systemwide view of the data.

The Oregon DATA Project will provide processes for aligning the various metadata. As long as there are disparate systems, the metadata alignment will be in the form of: 1) defining required features for the data model, minimum data requirements and the data attributes to be defined within the data dictionary; and 2) defining consistent business rules that will fit across and align the various systems, aiding the goal of ensuring quality data.

In order to do that, all of the important specific data requirements throughout the state that align to the ED Facts (EDEN) data will be analyzed. In addition, an enhanced statewide data element roster will be shared at a district level.

Unique permanent student identifier use

As discussed in the “Needs” section, Oregon has a fully functional SSID system in place. All Oregon students have SSID numbers, which are required on all student-level data collections for all school districts. A number of these collections now house three to four years’ worth of student-level data. In addition, Oregon has implemented a Unique Staff ID system (USID) that captures the required elements needed for the High Quality Teacher requirements of NCLB.

Oregon’s TESA (Technology Enhanced Student Assessment) program is a web-based testing system that requires the SSID number as part of the login and verification process. The KIDS state data warehouse project will use the SSID as a basis for data gathering and electronic transfer of records between school districts. The SSID also offers the potential for the Integrated Data Transfer System, which connects the data systems of Oregon’s three education sectors, to link student data for research purposes across the K-12, community college, and six- year public university levels.

Data collection implementation

The success of the survey phase depends upon effectively leveraging the input of all stakeholders. The K-12 Partners website will be used for interactive engagement of stakeholders to gather feedback on recommendations made by the Data Quality Work Group.

This collective input will be used to build a collaborative communication system to aid in effective data collection, reporting, and dissemination. Stakeholder groups will be provided with interactive opportunities for input in all phases of the process, including web-based channels and face-to-face meetings.

Oregon currently has a web-based assessment system in place that shortens reporting time and increases data accuracy. The TESA program currently uses web-delivered tests to assess each student’s progress toward meeting or exceeding state standards and earning the state’s Certificate of Initial Mastery or Certificate of Advanced Mastery. The program delivers results quickly and helps each student know his or her strengths and areas that need more study and practice.

Oregon Department of Education

Districts have reported that students who received their scores quickly showed significant improvement over students who test results took time to appear. These results reinforce our belief that making student data available quickly and accurately greatly improves student performance, as well as the educational systems ability to meet students' needs.

Data system implementation

Regional warehouses will modify their data systems to address the needs of their component districts as data is collected, verified, and aggregated. The regional warehouses will then construct analysis tools within their system so that granulated data can be successfully transmitted back to the field. The ESDs will coordinate and manage this process.

Northwest Regional Educational Laboratory team members will conduct stringent testing to ensure that data has validated functionality. A comprehensive professional development component will include regional training on the business intelligence tools for all data users.

The third stage of the implementation plan is going live, which will begin with a tightly controlled and continuously evaluated pilot plan, and, after necessary modifications have been made, expand to a full rollout, with neediest districts receiving first exposure.

Business intelligence tools use

The heart of the success of any data warehouse project lies in the ability to easily conduct detailed ad-hoc analysis of student data, as well secure and appropriate access to individually identifiable student information. This requires that the system includes user-friendly tools that allow for security, ad-hoc query building, snapshots of formative data related to student performance, attendance, behavior and other key data elements, and pre-configured reports that deliver just-in-time data in a fully preconfigured format.

A portion of these grant funds would be used to fully integrate a robust suite of business intelligence tools into the enterprise data warehouse structure. These tools would enable individuals at all levels, from classroom teacher to district administrator, to state superintendent, legislators, parents, community members and others, to access data in such a way so as to inform decision-making related to student achievement and program effectiveness.

Oregon is currently piloting a front-end dashboard tool that will interoperate with various SISs, allowing for uniform training and sustainability by resource pooling. This tool will be leveraged by the Oregon DATA Project. It is currently hosted by ODE and available at no charge to districts. The interface will be customizable at district, school and teacher levels.

Equitable access across the state is also being addressed through a contract with Qwest to establish and expand last-mile connectivity to every school in Oregon over the next three years.

Sustainability Strategies

By deploying a regionally decentralized system of data warehouses, Oregon can leverage regional and local school district resources to sustain the DATA Project.

Oregon Department of Education

Districts will be able to allocate resources for the development and maintenance of regional data systems as well as invest in local professional development resources and reporting tools to meet the needs of their regional public constituencies.

Communication and Training

The success of the Oregon DATA Project largely rests with the involvement of all of the stakeholder groups in the Oregon education system. A comprehensive communications plan will precede the major work on this initiative, and continue for the three years of the project and beyond. The project's communications director will design a series of strategies that align to the unique needs of each group, whether that be a cost analysis presentation to the business community, an interactive forum for community leaders, or an informational session for legislators.

At the state level, educators will be introduced to the Oregon DATA Project through presentations at six conferences and two summer institutes currently hosted by ODE. Attendees will be presented with an overview of the project as well as information on how to obtain training. National education associations such as the Association of Supervision and Curriculum Development (ASCD) and their state chapters will be approached with offers of presentations as well. That initial strategy could reach as many as 20% of Oregon's educators, as well as state and national association members.

At the regional and local level, professional development will be offered by curriculum directors serving on the Instructional Leadership Council (ILC). These certified trainers will serve school district staff, and also coordinate all the training and professional development activities to other stakeholder groups within their regions, such as student, parent and community groups.

Trainers will work with regional warehouse ESDs to create Stage 2 training on specific data tools, such as the Dashboard application.

Certified trainers from the ILC will be staged at six regional sites (large school districts or ESDs) chosen to provide geographic coverage of the entire state. The training will be delivered in the format deemed most appropriate for the area, and will include web-based channels as well as face-to-face sessions.

The professional development module of the Oregon DATA Project will follow these three stages:

- **Stage 1: Promotion and information**

This phase will introduce the project and what it hopes to accomplish, promoting the concept that collecting and reporting meaningful data can lead to analysis that helps with student success in a variety of ways. Oregon wants its stakeholders to buy in to the reality that data is important—that its use can help students be more successful, help teachers be more effective, and help parents be more instrumental in their children's education. For teachers, the training will help data teams become an essential part of the school culture, a valuable extension of the work they already do.

It is our belief that school personnel interested in improving the performance of their schools need first to learn how to ask the right kinds of questions that the data has the potential to help answer.

- **Stage 2: Tools**

This second stage of training will provide education to the end users of the system on the data system tools, such as the Digital Dashboard. Users will learn how

best to utilize this suite of tools for data collection, analysis, and generation of individual student profiles and learning plans.

- **Stage 3: Practical applications**

The third stage of the professional development and training will occur as the system is being piloted and implemented. End users will be shown how to link the analysis information to changes in instruction, with an emphasis on the comparative benefits of formative vs. summative assessment.

Evaluation

The Northwest Regional Educational Laboratory (NWREL) will provide formative and summative grant evaluation services for the Oregon DATA Project. This complex, multi-year project includes: multiple partners and stakeholders developing new and more effective methods of working together; new software and hardware components requiring training and professional development; the implementation of new procedures and/or business rules statewide; and a governance structure to manage this process to achieve an extensive set of goals.

The NWREL evaluation plan will contain formative and summative components. The NWREL team will work closely with the DATA Project on developing a formative evaluation approach that provides timely reviews, reports, and conversations of project processes and effectiveness. NWREL will help develop and review instruments for needs assessments, for measuring effectiveness of communications and governance strategies, and for evaluating professional development and workshop activities. It will also provide expertise in the evaluation and analysis of research and data. Monthly or bimonthly reports and meetings, as appropriate, will be scheduled with the project director or his representatives on these activities and strategies.

The summative evaluation plan will be based on a customized logic model examining the project context, the resources (software and hardware being developed and purchased), the strategies and activities of the DATA Project, analysis of the outcomes, and assessment of the impacts of the long-term goals.

The summative evaluation will focus on the goals the project has outlined that will occur at the federal, state, regional, school, community, and research levels. A variety of appropriate evaluation methodologies and instruments will be used to measure the extent to which these goals have been met, relating back to the user requirements resulting from the business analysis.

A formal summative evaluation report will be provided at the end of each project year, with timely updates provided in meetings and communications with the project director.

On this project, all of the major ODE participants are facile with a wide range of technologies that allows communications, resource sharing, and research and analysis to occur efficiently. NWREL has extensive technology capability and will make effective use of these in developing and implementing the evaluation plan.

The work of the NWREL will be supported by the International Society for Education Technology and the EESC Peer Review Subcommittee.

3. Project Personnel

The following key personnel participate on the Educational Enterprise Steering Committee (EESC), a permanent panel formed two years ago as a result of Oregon legislation mandating core services provided by Oregon's Education Service Districts. The EESC works across all sectors of the enterprise to identify and address common priorities and goals of Oregon educators and students. As part of its charter, the EESC funded directors' positions in core service areas, including School Improvement, Technology and Administrative Services. Mickey Garrison, Leslie Golden and Bob Burns serve in these positions, respectively. They work collaboratively on various programs where technology supports and facilitates school improvement efforts, and this data quality initiative is the primary focus of their collaboration.

Golden and Garrison coordinate the efforts of the EESC's Data Quality Work Group (DQWG), which holds primary responsibility for the development, implementation, and sustainability of the Oregon DATA Project. The work group comprises representation from the Governor's Office, Oregon Department of Education, ESD Superintendents, K-12 district Superintendents, the Oregon University System (OUS), and community colleges.

In the following paragraphs, we identify key players and their roles and responsibilities regarding the data project, as well as the percentage of time they anticipate devoting to it during the next three years. Full resumes follow the Project Narrative.

- **Project Sponsor:** Doug Kosty, Oregon Department of Education (10% dedicated time in each of three years).
- Mr. Kosty is currently the Assistant Superintendent of the Office of Assessment and Information Technology at the Oregon Department of Education. As sponsor of the Oregon DATA Project, Mr. Kosty will provide overall leadership for all phases of the initiative. Mr. Kosty was a key developer as a KPMG Project Manager for the Oregon Database Initiative Project (DBI), a revolutionary advance in the coordination and implementation of an educational data system. As the Project Manager, he was responsible for directing the technology development of the project while overseeing the KPMG staff assigned to the project.
- **Project Manager:** Baron Rodriguez, Oregon Department of Education (50% dedicated time in each of three years).
- Mr. Rodriguez will be responsible for providing overall management of the project, overseeing all project activities and project planning, scheduling, reporting, contract management and risk management. Mr. Rodriguez has extensive IT experience specializing in multi-agency/cross jurisdictional projects, providing IT leadership, project management and building strong technology teams. Mr. Rodriguez provides leadership to the Information Technology Division, which has a staff of 38 technology professionals and a biennial budget of over \$7 million. The staff provides data collection applications and support statewide to over 212 school districts and ESDs and maintains data on nearly one million students in Oregon. This year, ODE development staff has successfully delivered a brand new application, namely the Staff Level collection. This collection is extremely complex and will

Oregon Department of Education

provide data on every staff member at the districts, allowing the federal government and state policy makers to make informed decisions regarding the achievement of students down to the classroom level.

- **Project Functional Lead:** Mickey Garrison, Education Enterprise Steering Committee (100% dedication of time in each of three years).
- Dr. Garrison is the School Improvement Director for the Education Enterprise Steering Committee. As the full-time functional lead of the Oregon DATA Project, Dr. Garrison's duties will include overseeing all aspects of the training and professional development segments of the plan. She will work collaboratively with the project director and the EESC work group to develop assessment measures for districts to gather information on their current data sources. She will co-develop training of all three phases of the professional development module and will provide information to the field via regional meetings and conferences about data training opportunities. Dr. Garrison has more than 30 years' experience in the education field, as a teacher, administrator, consultant, and researcher with special expertise in data collection and analysis.
- **Project Technical Lead:** Leslie Golden, Education Enterprise Steering Committee (100% dedication of time in each of three years).
- Ms. Golden is the Technology Director for the Education Enterprise Steering Committee. As the full-time technical lead of the Oregon DATA Project, Ms. Golden's duties will include overseeing all aspects of the technical details surrounding the regional warehouses, including analysis, design, testing and implementation. Ms. Golden is a project director with five years' experience in education technology and 15 years' experience in litigation case management.

In addition to these key staff members, the Oregon Department of Education plans to hire a **Communications Coordinator**. This person will be responsible for designing communication strategies that align to the specific needs of the many and varied stakeholder groups in the Oregon education system. The Communications Coordinator will provide oversight and management of the DATA Project's communication and public education outreach efforts. Duties will include developing, planning and implementing statewide communication about the project; coordinating channels such as newsletters and websites; and advising and assisting members of the project on public information activities.

A **Business Analyst** will perform a liaison function between the business side of the project and the functional component, including vendors. Duties will include analyzing the business needs of the Oregon DATA Project, gathering the necessary information to establish project requirements and involving stakeholders in the process.

A **Research Analyst** provided through NWREL will aid project directors in staying current with research that can help inform the project design and implementation, as well as provide details on how data obtained through the Oregon project can be shared through national research channels.

A breakdown of specific personnel resources is provided in the Budget Narrative.

The EESC Data Quality Work Group

A subgroup of the EESC, the Data Quality Work Group (DQWG), will provide primary direction and input into the Oregon DATA Project. Their names and affiliations are below; resumes follow the Project Narrative.

- Rod Aust, Willamette Education Service District
- Joel Robe, Willamette Education Service District
- Mark Endsley, Oregon University System
- Mojo Nwokoma, Oregon Department of Education
- Rick Wahlstrom, Northwest Regional Education Service District
- Ron Enger, Southern Oregon Education Service District
- Jay Matheson, Southern Oregon Education Service District
- Scott Robinson, Portland Public Schools
- Tom Luba, Linn-Benton-Lincoln Education Service District
- Tony Alpert, Oregon Department of Education
- Vickie Fleming, Redmond School District
- Elaine Yandle-Roth, Oregon community colleges

4. Resources

The Oregon educational community has a history of communication, coordination and collaboration as the groundwork for successful projects. Oregon’s current resources are no exception. The facilities, equipment, and staff necessary to fulfill Oregon’s vision of a statewide longitudinal data system are firmly in place.

Educational Enterprise Steering Committee

The Oregon DATA Project is wholeheartedly supported by the EESC, which will provide backing for development and implementation of all phases of this program under the direction of the ODE. The EESC’s ties to all governing sectors also brings statewide support for this initiative from the Governor, state Legislature, and regional and local leadership, ensuring sustainability from both a financial and an alternative resources perspective.

Northwest Regional Educational Laboratory

The Northwest Regional Educational Laboratory (NWREL) was established as a non-profit organization in 1966 with the stated mission of “improving educational results for children, youth, and adults by providing research and development assistance in delivering equitable, high-quality educational programs.” Over the last 39 years it has conducted hundreds of evaluations. In the last 15 years, NWREL has had an extensive focus on educational technology-related evaluations and has performed more than 50

Oregon Department of Education

evaluations on a wide range of projects, including multi-year and statewide evaluations. Based on quantitative and qualitative data from a variety of measurement tools and data sources, these evaluations have provided formative feedback to project directors and summative reports for management and policy audiences on the impacts of technology.

Instructional Leadership Council

The ILC is a school improvement consortium comprised of a curriculum director from each ESD. It serves as the direct link between K-12 education and the Oregon Department of Education. ESD curriculum directors meet monthly with K-12 directors and conduct ongoing site visits to schools within their region, which provides them with first-hand knowledge of what the needs are in the field. Curriculum directors serving on the ILC will be the certified trainers that provide Oregon DATA Project training to school district staff, and will coordinate all the training and professional development activities within their regions.

Washington partnership

Oregon and Washington are working closely together to design complementary longitudinal data systems. The programs will be tailored to fit the individual needs of each state, but the exchange of data across the border is a chief design concern. Although each state's project will be funded separately, the two states will be comparing progress throughout the development process to ensure that ideas and lessons learned are shared by the two states.

Connectivity

ODE has just signed a deal in principle with the state's largest telecommunications company to establish and/or expand connectivity bandwidth to every school in Oregon within the next three years. Strategic grants provided through ODE in concert with this contract will make it possible for the have-nots to finally employ bandwidth for improved instruction (via access to tools and data), and more equitable access to education opportunities for students. Teachers and administrators will be able to access and use data without interrupting critical student access to 21st century skills and information.

Web-based tools

The ODE and EESC are currently piloting a fully vetted web-based tools set that will interoperate with a number of student data systems to allow teachers and administrators to extract and view student-level data in a digital dashboard, which is scalable to accommodate other SISs and BISs. This tool set and portal is being hosted and supported at no cost to users. Individual districts will also be able to host this independent of the state in their own instance, and cost for maintenance will shift to them. This tool set and application is worth upwards of \$2 million, but districts will pay nothing beyond the cost of financing local IT interoperation costs.

Training portal

The Oregon Virtual School District is a web-based portal to online courses, digital content, and tools for students and teachers to seamlessly integrate technology into teaching and learning. Most of the courses and all of the tools are free to users. OVSD provides teachers and educational professionals with an online professional development workspace and repository. It is developed and will begin housing online modules, accessible 24/7 across the state, within the next two months. All levels of trainings that will be developed to support the DATA project will be deliverable through this online environment, and will be an integral part of creating equitable access to program support.

5. Management Plan

A timeline for development and implementation is included in Appendix A. The timeline describes major tasks to be completed, milestone dates, and personnel responsible for each.

Project Sponsor—The Oregon DATA project sponsor is Doug Kosty, the Assistant Superintendent of Assessment for ODE. Mr. Kosty serves on the Education Enterprise Partnership, which unites K-20 education across the state of Oregon. (10% of time each year; in-kind \$15,000 per year)

Project Management—Baron Rodriguez, certified Project Management Professional (PMP), is the Chief Information Officer for the Oregon Department of Education, and will provide project leadership. Mr. Rodriguez will ensure the project deliverables provide direct benefit to help inform data-driven decision-making through longitudinal data provided through this grant opportunity. (50% of time in each of three years; \$60,000 in-kind per year)

Technical Leadership—Mojo Nwokoma, Director of Enterprise Data Systems Architecture (KIDS project) will provide technical guidance to ensure the needed technical infrastructure and data elements are provided as part of the KIDS project and to avoid duplication of effort. (10% of time each year; \$10,000 in-kind per year)

Higher Education Coordination—A third leg of support in the planning and development of the interoperable state/regional warehouse system is Mark Endsley, of the Oregon University System. Mr. Endsley brings expertise in the design and implementation of Oregon's Higher Education data systems (IDTS and ATLAS), and will contribute towards the long-term goal of full data transport across the K-20 enterprise. In-kind contribution: \$5,000 in salary (5% of time in each of three years)

LEA Expertise/Coordination—As discussed above, the EESC funds director's positions in school improvement and technology to help coordinate and drive statewide resources and programming to Oregon's 198 school districts, through interagency collaboration between ODE, the ESDs, and other key stakeholders. As directors for the EESC, Leslie Golden and Mickey Garrison are driving the Oregon DATA project, and

Oregon Department of Education

will serve as co-directors. Golden and Garrison coordinate and facilitate the efforts of the Data Quality Work Group, which holds primary responsibility for the development, implementation, and sustainability of the Oregon DATA Project. The work group will provide direction and immediate oversight for the following contributors:

- Responsibility for statewide project communication and the provision of administrative support to the project, will come from **EESC**. Communication efforts will include consistent maintenance of content on the information website, development of “promotional” materials, and coordination of regional meetings to discuss project roll-out, etc. Northwest has committed print shop resources, and partial FTE for this role. In-kind contribution: \$30,000.
- Responsibility for IT statewide support and coordination will come from the **Oregon Department of Education**. ODE will competitively release support and technical expertise through a request for proposal process. Oregon has ample high quality resources available within the Enterprise of Education to assist the SEA with meeting the deliverables of this proposal. ODE also brings a fully developed and supported web-based portal and tool set, which will be integrated for school, district, and ESD use to collect and analyze formative data, and to host digital dashboards for every teacher and administrator in Oregon. These offerings are already live and being piloted. Training will begin this summer for initial roll out to early users. These tools are available at no cost to users, and maintenance costs are covered through separate state funding. In-kind: \$1 million portal from Microsoft; ODE \$10,000 for initial development.
- Responsibility for school improvement and assessment input will come from several key contributors: **Scott Robinson of Portland Public Schools** is directing the most advanced data-driven instruction model in the state, and his willingness to bring his commitment and learning to bear on development of a statewide model is invaluable to the success of our project. **Tony Alpert of ODE** brings deep and expansive knowledge of state and federal assessment requirements and process, and is ardently in support of this push to increase the collection of formative data elements, and to improve staff capacity to analyze this data and convert it to improved individual instruction. In-kind: \$10,000 in salary (5% of each person’s time in each of three years).
- Responsibility for research, evaluation and continuous improvement will be shared and coordinated between **Northwest Regional Education Lab**, **International Society for Education Technology**, and a **Project Evaluation** subcommittee of the EESC. In-kind: \$10,000 office support; grant: Year 1–\$105,000; Year 2–\$120,000; Year 3–\$150,000.

When primary field research has been collected and aggregated, it will be used by the Data Quality Work Group to develop final goals and objectives for the Oregon DATA Project. Once those objectives are established, evaluation metrics will be identified and recommended by DQWG with input from school districts and NWREL. This project cannot succeed on a statewide deployment if it is not intentionally devised as a flexible, responsive system. Therefore, implicit in the plan above and model below is that these contributors, at all levels and phases of project development and implementation, are committed to a highly collaborative, cooperative, and dynamic feedback process.

Oregon Department of Education

Figure 3: Management Model

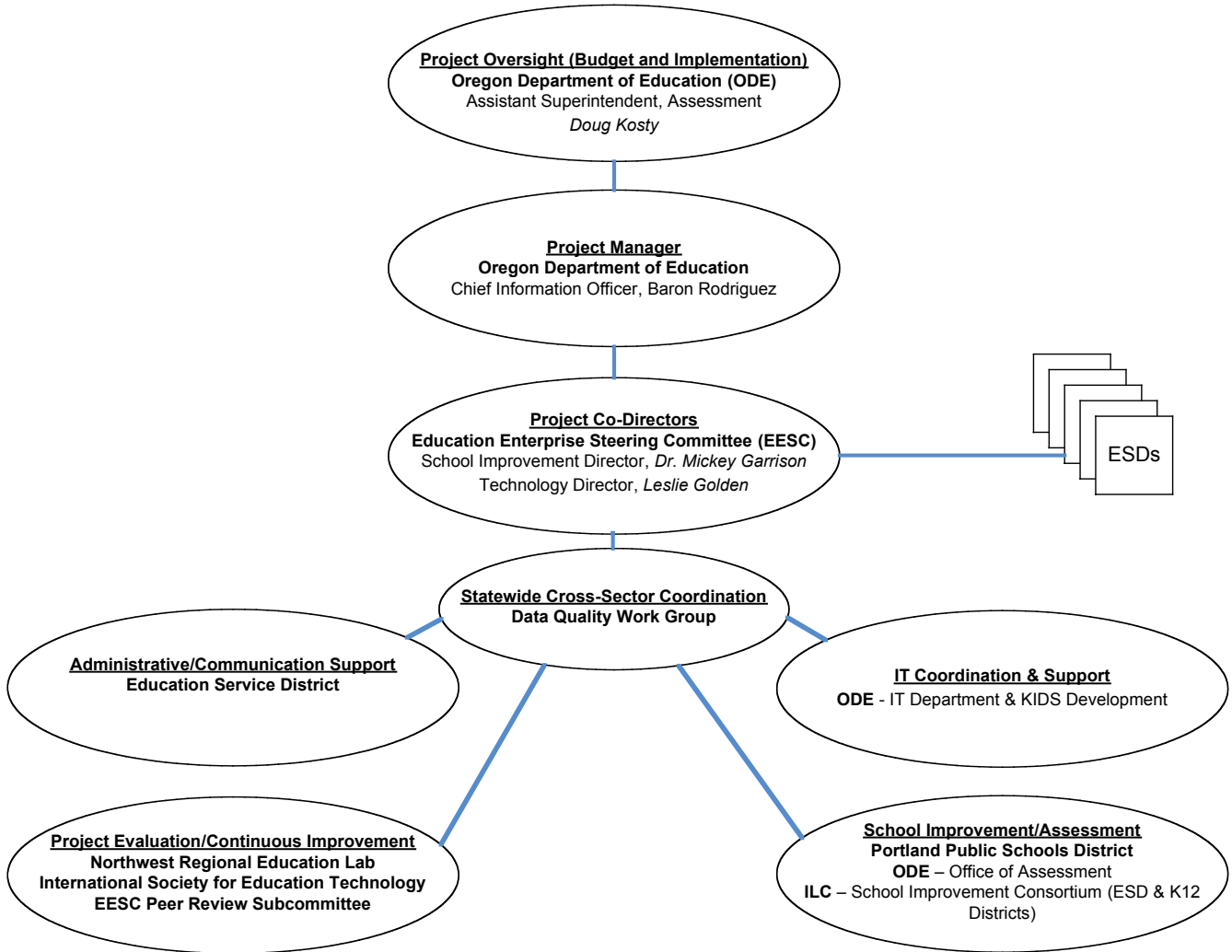


Figure 4: KIDS Phase II

