Evaluation of Early Learning Network Implementation Phase II Report

Prepared for
The William Penn Foundation

Prepared by
The OMG Center for Collaborative Learning

September 2010

Early Learning Network Introduction

"The Early Learning Network (ELN) will give Pennsylvania a way to track the benefits of our investment in quality early learning opportunities through the most important indicator—our young children's healthy development, school readiness, and school success."

—OCDEL Annual Report

Context of ELN

Once ranked nearly last among states in its support of young children, over the past six years Pennsylvania has expedited and improved its efforts to provide a continuum of high-quality services for children. Governor Ed Rendell is committed to this effort, and under his leadership the Department of Public Welfare and Department of Education joined forces to create a jointly run Office of Child Development and Early Learning (OCDEL). OCDEL brings together the many early learning initiatives of the Commonwealth under one roof to maximize efficiencies and resources in support of Pennsylvania children.

Overview of ELN

The Early Learning Network (ELN) is an initiative of OCDEL. It is a comprehensive, unified data system for assessing individual-level child outcomes across multiple programs. The system is a web-based network that leverages existing data sources and new linkages to enable centralized collection and data sharing of child-based information, assessment, and early learning quality indicators. The goals of the system are to improve the effectiveness and availability of state early childhood programs and to provide longitudinal data about teachers and staff associated with those programs.

OCDEL and the Commonwealth of Pennsylvania partnered with several foundations, including the William Penn Foundation, to develop ELN. These foundations invested $3.5 million-$4 million to develop and implement the system. OCDEL hired the consulting firm Deloitte Consulting LLP (Deloitte) to design and build the data system. The system was rolled out to providers in waves, with the first data entry point for Pre-K Counts programs in February 2009. Since then, STARS 3 and 4, Head Start, and Accountability Block Grant providers have also begun participating in data collection.

ELN collects information at the child, teacher, and program levels. Data points include family demographics, child health status, and program attendance and enrollment. The system also collects child outcome data from the Work Sampling or Ounce assessment systems that are linked to ELN. By linking demographic, teacher, and program data to student outcomes, OCDEL hopes to be able to measure the value that its programs provide and for whom.

Overview of this evaluation

The evaluation of ELN implementation is intended to identify and share findings about the buy-in, implementation progress, and sustainability of ELN, while also informing implementation in an ongoing way. The William Penn Foundation and other stakeholders agreed that a third-party evaluation of the ELN implementation process was important since the level of investment is substantial. Another motivation for the evaluation is to prepare for a Pennsylvania gubernatorial transition in 2011.

Phase I of the evaluation began in January 2009. The focus of Phase I was to understand the vision for ELN and the early efforts to gain buy-in and implement the program at the provider level. The Phase I

report presented findings from the first seven months of ELN piloting and roll-out to Pre-K Counts providers between January and July of 2009. In June 2009, the William Penn Foundation awarded a grant to the OMG Center for Collaborative Learning (OMG) to support Phase II of the evaluation of ELN implementation. To provide real-time feedback and inform the implementation of ELN, OMG provided several interim deliverables to the Foundation and OCDEL. These include an interim report on Phase I in August 2009 and an informal presentation of Phase II findings to date in December 2009 and a memorandum in April 2010. This Phase II report presents findings from the past year of implementation, between August 2009 and August 2010.

The evaluation was mixed method and relied on several critical data collection points, including:

- Observations of ELN and Work Sampling trainings
- Observations of critical ELN meetings and events, including ELN Advisory Committee and ELN System Focus Groups
- Survey of providers regarding training and use of ELN
- Interviews with providers regarding buy-in and experience with ELN
- Interviews with field leaders regarding buy-in and sustainability
- Document review of ELN training and communication materials
- Document review of new report releases

Core evaluation questions
To assess the buy-in, implementation, and use of ELN, several key questions guided our evaluation design:

1. *Formative*: How are providers being prepared to implement the system?

2. *Formative*: How is ELN being incorporated into practice at early care and education centers? How is it being incorporated into practice at the state level for reporting and accountability?

3. *Summative*: What reports are available to providers and how are they being used?

To assess the potential for sustainability for ELN, an additional evaluation question guided our work:

4. *Formative*: How do key stakeholders describe the existing public and political will surrounding ELN?

Overview of this report
The purpose of this Phase II report is to provide findings related to buy-in and implementation status of current users of ELN. This report also addresses findings and considerations related to sustainability of the system. Part I focuses on system implementation, including provider training, capacity, use, and technical assistance. Part II focuses on current ELN reporting capabilities and the extent to which these reports are being used at the provider and policymaker levels. Part III is devoted to considerations related to sustainability and an analysis of the current public and political will behind ELN. Part IV provides recommendations for next steps and issues for the Foundation and OCDEL to consider moving forward.

Part I: Findings related to implementation

As a new technological requirement for OCDEL early childhood programs, ELN implementation included many supports for the field, including training, technical assistance, and other resources. Teachers, directors, and administrative staff from ELN-participating centers were invited to utilize these supports to facilitate implementation of the system. This section provides an overview of the supports that were available, the extent to which they were utilized, and their impact on the capacity of participating providers to use the ELN system. This section addresses the following evaluation questions:

- **How are providers being prepared to implement the system?**
- **How is ELN being incorporated into practice at early care and education centers?**

A. Technical Assistance and Support

OCDEL has leveraged partners to create multiple avenues for training and support

Technical support and capacity building are typically part of any major new data system implementation plan. However, given the historically underresourced nature of the early childhood field, OCDEL staff and other ELN stakeholders were particularly aware of the need to provide technical assistance to ELN users. To help assess the needs of the field and craft potential solutions, OCDEL and Deloitte leveraged existing resources (such as the Pennsylvania Regional Keys and PaTTAN) and created new sources of expertise (such as the ELN Advisory Committee and the ELN System Focus Groups).

The Pennsylvania Regional Keys are an OCDEL effort to provide coordinated support, community engagement, and professional development activities in all regions of the state. The Keys also manage local implementation of the STARS program. As such, the Keys were a major asset in rolling out technical assistance and supports to new ELN users. PaTTAN (Pennsylvania Training and Technical Assistance Network) is a network of professional supports that is funded through the Department of Education. PaTTAN was also well positioned to provide support to the ELN implementation because of its regionally based network of trainers who are charged with building local capacity to serve students with special needs. Both of these entities have deep expertise about the early childhood field in Pennsylvania and capacity building.

The ELN Advisory Committee was created with two primary goals: 1) to inform policymaking from the practitioners' perspective, and 2) to improve communications across stakeholder groups related to ELN. The group is chaired by Barbara Minzenburg who is a practitioner and user of ELN. The group has provided ongoing input to OCDEL throughout the implementation process, and 15 of its members were interviewed for this evaluation. ELN System Focus Groups were conceived of by the Advisory Committee and are now facilitated by Deloitte. The focus groups began meeting in early 2010 and are designed to provide clear communication channels between the system builders (Deloitte) and its end users (practitioners) about system issues.

These collaborators have helped identify and articulate the needs of the field, communicate to other practitioners about the progress of and vision for the system, and identify (and in some cases implement) strategies designed to build the capacity of the field to use ELN.

The provider community needs technical assistance and support on multiple levels, although technology does not appear to be as pressing a concern as stakeholders anticipated

Evidence suggests that at this stage of early implementation, there are three major areas where new users needed assistance. These included:
- Accessing and using the system
- Policy and program requirements
- Hardware, connectivity, and other infrastructure issues

According to provider interviews, the most prevalent challenges with accessing and using the system include: difficulty obtaining usernames and passwords; inability to re-access child demographic data once they have been entered; inability to remove children from the system; and challenges linking individual children to classrooms. These system issues created significant

> *"We are used to inputting data and such into web-based systems so that wasn't a problem. That was not our issue. The trainings were fine and communication was fine—it was really just the system glitches that really caused problems."*
> *-ECE Provider*

difficulties during the first round of data entry in December 2009. Recognizing the challenge to providers, OCDEL increased capacity at its help desk and advised providers to do their best to enter data if possible. Anecdotal evidence suggests that many of these system issues have been addressed by Deloitte over the past eight months. OMG's provider interviews may reflect a heightened sensitivity to system issues because they were conducted early in 2010. We speculate that if these interviews were conducted again in the fall, fewer providers would identify the same system issues.

Nonetheless, new reports continue to become available, modifications are being made to the system, and new personnel are being tasked with entering and reporting on ELN data. As a result, there is an ongoing need for technical assistance and support around accessing and navigating the ELN system. According to OMG's field leader interviews, the high level of staff turnover in the early childhood field is a key factor to consider in assessing the technical assistance and support needs of the provider community.

OMG's observations and provider interviews identified policy and program requirements as an area where providers need additional supports. Policy and program requirements include issues such as duplication of reporting requirements, clarity about which children need to be included in the system and when, and strategies for how to integrate data collection into provider practice.

Evidence suggests that this is particularly the case for providers who serve children through multiple funding sources, such a Head Start state and Head Start federal. For these types of providers, ELN introduces an additional reporting requirement and providers are struggling to successfully integrate the state- and federal-level reporting requirements to increase efficiencies rather than impose additional burdens. One field leader characterized the early childhood field as still struggling to find ways to effectively automate business processes. By supporting providers through additional technical assistance as they attempt to streamline their reporting requirements, OCDEL would build the capacity of the field and ease this particular pain point.

Providers have also struggled identifying internal systems and program-level practices that they can use to build ELN into their business culture. Providers reported that ELN is viewed as an additional hoop to jump through rather than an asset that can help them improve their practice. Providers expressed a desire for more coaching and greater clarity about *how* centers can implement the ELN requirements. This applies to both process questions (who enters data and when) and quality questions

(how to ensure that data are reliable and valid). One important point to note: observations and interviews indicate that due to their role (system builder) and perspective (external consultant separate from OCDEL), Deloitte is not well positioned to address many provider questions related to policy and program requirements.

Hardware, connectivity, and other infrastructure issues were identified as areas where the field needs technical assistance and other supports. OCDEL anticipated this challenge from early on in the implementation of ELN. However, because the system roll-out began with the most well-resourced providers (centers that met the requirements to participate in Pre-K Counts) and has expanded to include others that are similarly well resourced (relatively speaking), hardware and connectivity issues are not cited as often as the other two areas as needing support.

In the provider survey, few respondents noted concerns over the number of computers available at their sites. Early concerns were raised by stakeholders about possible data-entry obstacles in particular lack of computers and time available to enter data. However, current data do not support these concerns for this population of providers. Sixty-one percent of respondents indicated they had access to between 1-3 computers and 36% indicated they have access to four or more computers. Only 2% of respondents indicated they did not have a computer at their center. While this number is very low, it is certainly pause for concern when considering all of the online tools and data systems that are becoming mandated. Sixty-five percent of respondents indicated they are able to access a classroom or school computer to record information on children daily. An additional 11% are able to do so weekly. The other 24% enter the information either monthly or from home. If OCDEL expects teachers to be regularly inputting data and observations about their students, these numbers will need to increase.

In the provider interviews, those providers who did mention hardware, connectivity, and infrastructure as issues did not identify computers or Internet connection as the source of the problem. Rather, the issue was that they did not have their own internal IT departments to help with ELN troubleshooting. Please see Section C: Technical Assistance and Support Results: Provider Capacity and Practices for more information about the existing hardware resources of early care and education providers. It is important to note that OMG's evaluation only included current users of the ELN system; additional challenges with hardware and connectivity may surface when the system is rolled out to home-based care providers.

An overview of OCDEL's technical assistance and support strategies
OCDEL identified many of the issues that were raised in our evaluation through its own communication channels with providers, such as the ELN Advisory Committee. Throughout the course of ELN implementation, OCDEL has taken steps to prepare the field, provide troubleshooting support, and address issues as they arise on an ongoing basis. It has committed approximately $900,000 to ELN training and technical assistance.[1] Below is a summary of the types of ELN technical assistance and support that OCDEL and its partners currently provide to the field:

---

[1] Data Quality Campaign report.

	What	Why	When
Help Desk	OCDEL runs a telephone support help desk to provide live support to ELN users. The ELN help desk is reached via a toll-free telephone number and is staffed by OCDEL consultants. The help desk is best equipped to handle questions about data entry, accessing the system via usernames and passwords, and other technical issues. Any ELN user can call the help desk. There is also an automated password reset line that providers can call if they forget their passwords.	The help desk provides regular access to a live person who can assist a provider to work through the issue they are having with the system. The help desk also serves as an informal data collection point to help provide real-time feedback to other training and TA activities. For example, during one OMG training session observation, trainers were able to describe challenges that other providers had encountered to help new users avoid them.	The help desk is staffed by consultants during regular business hours, Monday through Friday. If providers call before or after business hours, they can leave a message to be returned the following day.
PA Keys Training	The Pennsylvania Regional Keys offer in-person trainings on Work Sampling and Ounce child assessments on a regular basis. Trainings are offered both on how to complete the assessments and how to enter them into the system. The training sessions are designed for teachers who are collecting and reporting child outcome data. These teachers are not required to attend but are required to satisfy a minimum amount of professional development hours.	The paper-and-pencil assessment training and the online training that focus on data entry are both designed to ensure that teachers understand why assessment is important and how it can be used in the classroom. The training is an excellent opportunity to build buy-in for the system among a critical stakeholder group.	PA Keys trainings are offered by each of the various regional Keys so their schedule varies. Upcoming times and locations for the WS/O trainings are posted on the Keys website. Based on OMG's observations, there is typically a wide variation in the level of knowledge and understanding of the participating providers.
PaTTAN Training	PaTTAN offers in-person training on how to access	The PaTTAN training model ensures that the	ELN/Pelican system trainings are offered

	What	Why	When
	and use the ELN/Pelican system. The training uses an online training software to mimic the experience of account set up and use. There is a core team of trainers who conduct these trainings across the state. PaTTAN has also begun utilizing a train-the-trainer model to increase its reach. Based on OMG's observations, some of these trainings include both Deloitte and OCDEL staff to ensure that participants can get answers to questions about both the system and policies and procedures.	quality and quantity of ELN/Pelican system-level trainings being offered across the state are consistent. The ELN/Pelican training provides a comprehensive introduction to the system. Based on OMG's observations however, these trainings are frequently underenrolled. In addition to providing training about the system itself, PaTTAN has created a tip sheet for directors to use when discussing ELN with parents.	throughout the year, although most are scheduled to coincide with major release dates. The trainings are designed for program-level directors or administrative staff and typically are a full day.
Online Resources	OCDEL has provided a series of online resources for providers to access to facilitate the implementation of ELN. Online resources include webinars for administrators who are entering data on children, an online help menu within ELN, and a series of online trainings, including the ELN simulation used for the PaTTAN training. CAPTIVATE is an online training program developed by Deloitte that allows users to simulate a data entry session. These resources can be accessed through the Pennsylvania Keys website or the PaTTAN	Because providers are scattered throughout the state and are typically with children during traditional business hours, online trainings provide a flexible means for additional support on ELN. Based on OMG's observations, the ELN webinars for administrators have been particularly valuable as they provide information about how to enter data on children as well as how to monitor teacher data entry.	Because these resources are online, they can be accessed whenever the user needs them. However, these are newer additions to the ELN training menu. OCDEL ramped up its online training offerings in response to high demand from providers.

	What	Why	When
	site. Resources on the PaTTAN site are divided by "Resources for Directors/Administrators" and "Resources for Teachers/Service Providers."		
Deloitte Site Visits	In response to requests from providers, Deloitte has conducted a small number of site visits to centers to provide one-on-one customized support. During these site visits, providers are able to practice navigating the ELN system using their own data, with Deloitte staff on hand to trouble shoot or show them additional capabilities of the system. Anecdotal evidence suggests that these site visits have been well received.	The ELN online training does give providers a chance to experiment with entering data through the CAPTIVATE training system. However, observations suggest that the scripted nature of this training program is better suited to a provider who is just being exposed to ELN data entry and navigation. For providers who are more advanced, this more customized training model appears to be effective.	These site visits have occurred on an ad hoc basis.

B.   Provider Preparation

Efforts continue to build capacity for ELN and broaden the provider network
OCDEL and the Pennsylvania Keys continue to sponsor training sessions in Work Sampling Online (WSO), Work Sampling with paper and pencil (WSS), and in this past year have added training sessions on the Early Learning Network (ELN) data collection system known as Pelican. The Work Sampling System provides a framework for observational assessment to systematically document children's skills, knowledge, behavior, and academic accomplishments in seven domains. The Work Sampling paper-and-pencil training teaches providers about the criteria and procedures, as well as other basic components of Work Sampling. The Work Sampling Online training teaches providers how to input the data they collect through observations into the online system, and how to generate reports based on that data. The Early Learning Network Pelican training provides program participants with the skills needed to use Pelican, and the skills needed to enter child outcomes data into Work Sampling and/or Ounce Online. The training is computer-based, allowing participants an opportunity to practice entering data into these systems. The sessions also describe data collection requirements, ideas for talking with families about ELN, and strategies for efficient data entry. The Pennsylvania Keys have

been offering trainings to staff from Accountability Block Grant Pre-Kindergarten programs, Head Start State Supplemental Assistance programs, Keystone STARS 3 and 4 child care centers, and Pennsylvania Pre-K Counts.

The Work Sampling Systems training opportunities include both a paper-and-pencil and an online version. Based on observations of both types of trainings, the paper-and-pencil training includes more on the content of the assessment tool and how to use the guidelines and checklists to assess children's developmental progress, and the online training includes information on how to use the tool online, including its reporting functions. OMG recommended in its last report that teachers be trained on both tools and that training ought to follow the trajectory of paper and pencil followed by online.

Attendance at Work Sampling paper-and-pencil trainings has risen
Attendance at paper-and-pencil trainings has increased since last year; 74% of respondents attended a training, compared with 64% in our first survey. Head Start organizations are slightly less likely to have attended a paper-and-pencil training (65%), compared to 75% of other types of centers. As a group, directors/assistant directors were almost three times more likely to have attended a paper-and-pencil training (68%) than teachers (23%). See Figure 1.

Figure 1

Who Attends Paper-and-Pencil Trainings
(n=142)
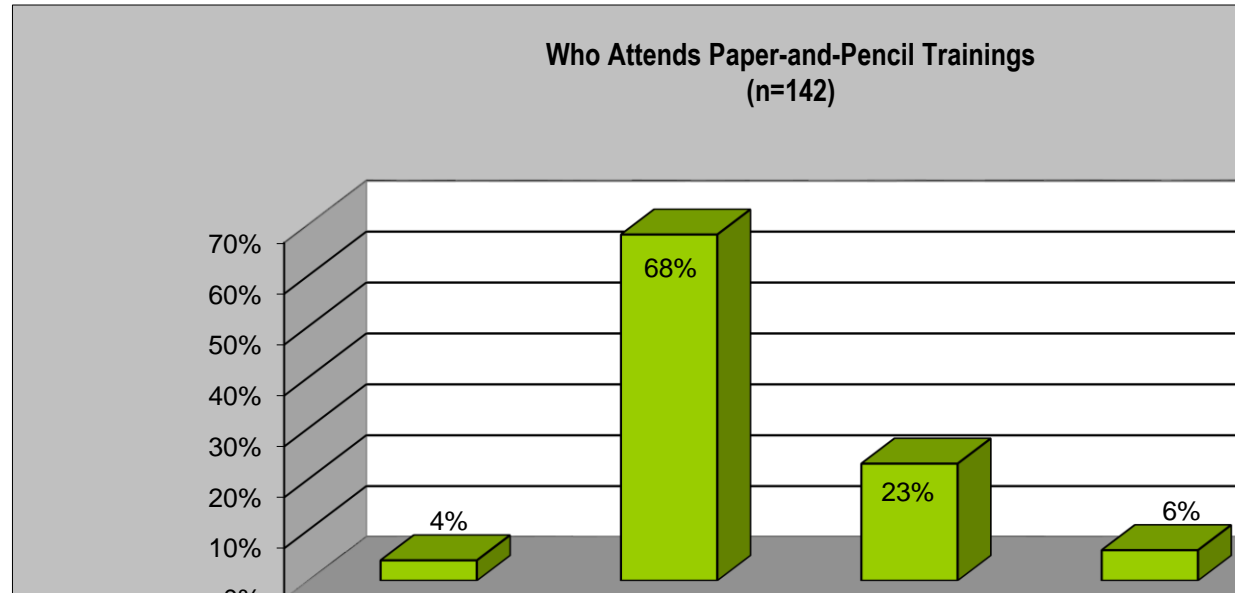
*The "n" differs in charts/graphs based on skip patterns attached to individual survey items.

The higher percentage of directors attending trainings suggests that the train-the-trainer model is being utilized as an option to teach staff how to use the Work Sampling System. Overall, 76% of providers indicated they attended training at a Regional Keys, whereas 16% attended at their own organization. There were few regional differences, however, respondents in the Northeast were slightly less likely to have attended training at the Regional Keys (64%) and relative to other geographic regions the Northeast indicated that approximately 31% of staff attended a training of WSS at their own organization. Regardless of the type of training they attended, 89% felt the training was useful. This is slightly lower than previous Pre-K respondents, where 95% of respondents indicated the training they attended was useful. Those in the Northeast were the least satisfied with the training and its ability to assess children, which may have to do with the fact that more training was conducted by their own organization than in other geographic regions.

Attendance at Work Sampling Online trainings has decreased; however, more providers are participating in face-to-face trainings

Fewer providers attended a Work Sampling Online training, compared to respondents from the 2009 survey: 74% of respondents attended a Work Sampling Online training, compared with 82% of the Pre-K Counts sample. Again, directors were slightly more likely to attend an online training (76%), compared with teachers (65%). Close to 30% of participants used a webinar for training; however, the majority (70%) of respondents participated in an on-site training in a computer lab. See Table 1 for more detail. When compared to the 2009 Pre-K Counts survey results, this is twice as many providers being trained in a computer lab and receiving face-to-face training with an on-site instructor.

Table 1: Type of WSO Training	Percent*	N
Webinar	29%	41/142
Training provided by a site admin/director at own organization	29%	41/142
In person in a computer lab	70%	100/142
Online conference call	16%	22/142
3-day trial	12%	17/142

*This survey item was a "check all that apply" so total percent does not equal 100%. The "n" differs in charts based on skip patterns attached to individual survey items.

When looking at the Northeast to see if this region continued to offer a number of trainings on-site, the numbers fall off and only about 11% of respondents indicated they received training at their own organization. The majority of respondents in every geographic region received on-site training in a computer lab.

Overall approximately 54% of respondents indicated they had gone back to their center and taught other staff how to input data into the Work Sampling Online system—the bulk of these cases (42%) were providers in director/assistant director positions returning to their center to train teachers. Those in the South-central region were the most likely to do so, with nearly 72% of those respondents indicating they went back and trained others. The Northeast was the least likely to do so, with only 41% of them going back and training colleagues. When staff return and train colleagues, they are most likely to train small groups of staff or individual employees. Forty-eight percent of respondents indicated they have returned to their centers and trained between 1-3 colleagues.

Satisfaction with the training providers received was slightly lower overall (74% indicating a good or better rating), compared to last year's respondents where 85% felt their experience with the Work Sampling Online training was good or better. There were no major differences between regions and how respondents rated their overall experience with the WSO training.

New users feel less proficient in using WSO

New users feel less equipped to enter data on children than Pre-K Counts respondents did. Seventy-three percent indicated they felt they received sufficient training on WSO to enter data effectively on children, compared with 93% of Pre-K Counts respondents

> *"The delay in being able to use the information provided at the training and the time period it took to get a username and password was too long. I forgot everything I had learned and needed a refresher course. It would have been nice to have more TA available throughout the process."*
> *-ECE Provider*

from the previous survey. Those in the Southwest were most likely to report issues, with 37% of respondents indicating the training was insufficient. The relatively high percentage (27%) of current respondents who indicated they felt less than proficient in using the Work Sampling Online system is surprising given that more are attending trainings in a computer lab. Some issues relating to the training that were noted in the open-ended comments and influenced provider feelings on proficiency related to individuals feeling rushed and needing more time to practice, inadequate information on transferring from Pelican to Work Sampling, and feeling the need for a refresher course because so much time passed between the course and actual use of the system.

Despite the large-scale, complex nature of ELN, new users are quickly being trained on the ELN system

Overall 70% of respondents indicated they attended training on the ELN system. Approximately 9% of respondents indicated they did not attend a training of the ELN but are entering data into the system. Almost half of these respondents were trained by someone defined as "other." Open-ended comments indicate that "other" nearly always meant individuals trained themselves. Seventy-one percent of respondents indicated the training was "good" or better, and 74% felt they received sufficient training to effectively enter data on children at their center. Those in the Central region were the most likely to indicate the training was "fair" or "poor," with 42% of those respondents indicating less satisfaction with the training.

Open-ended comments about ways to improve the training revealed that in some instances providers felt the training came too early and they would have liked more follow-up training. Also, it would have been helpful to have the technical problems dealt with in advance of training people on the system and provide more hands-on training using actual pieces of data from provider's own experiences.
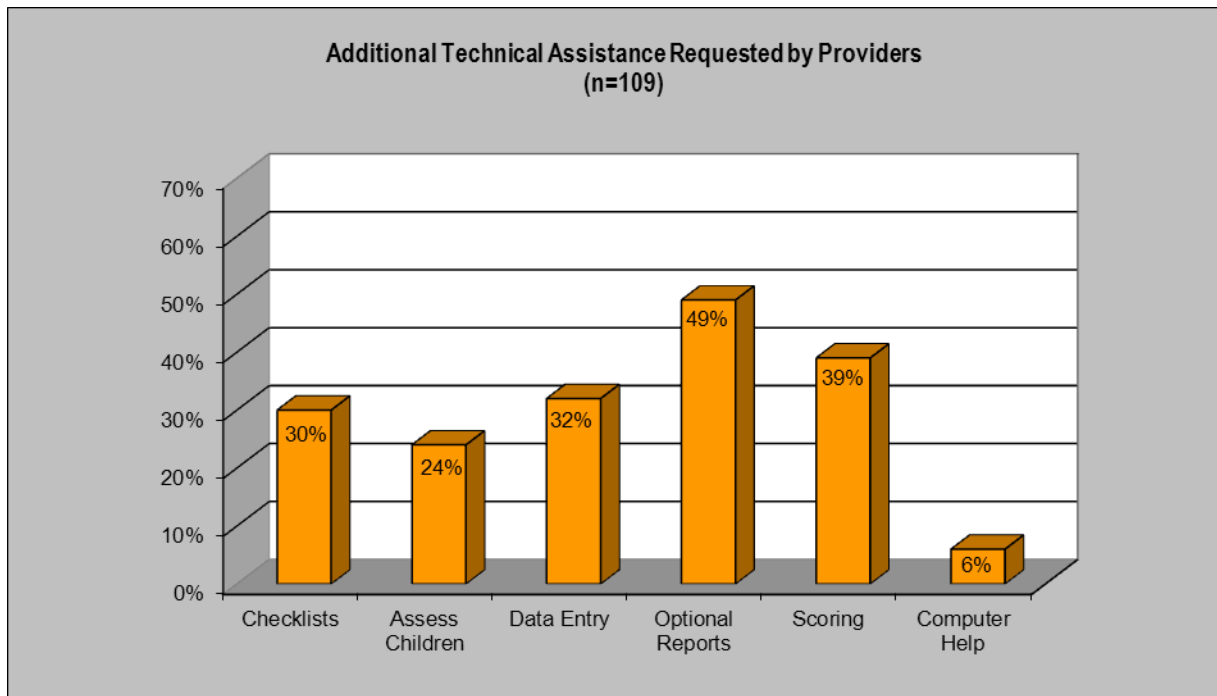
> *"Give us the passwords at the training and have us each bring our own data to enter into the system. That way we could have used our own information and gotten TA as we go related to our own experiences."*
> *-ECE Provider*

C.   Technical Assistance and Support Results: Provider Capacity and Practices

More technical assistance is needed for WSO users to feel comfortable using the system

As new users began entering data into WSO, they found that the training did not cover all that is possible with the system and required more technical support. For those respondents who indicated they asked for technical support, 43% rated the technical support they received as "good" or better, compared to 60% of 2009 Pre-K Counts survey respondents. Forty-nine percent of respondents indicated they would like additional training on the optional reports and another almost 40% would benefit from more training on how to score children's progress in each of the domain areas. See Figure 2 for details on where providers want more training.

Figure 2

Additional Technical Assistance Requested by Providers (n=109)

Checklists: 30%
Assess Children: 24%
Data Entry: 32%
Optional Reports: 49%
Scoring: 39%
Computer Help: 6%

*The "n" differs in charts/graphs based on skip patterns attached to individual survey items.

Data entry into the WSO system does not appear to be a serious burden for providers although quality of the data should be monitored

Despite a relatively high level of computer access, 45% of providers report recording information into the online system three times a year. An additional 21% enter the data monthly. In OMG's assessment, based on the design of the WSO system and its use of frequently updated observation data, these numbers are relatively low. Given the time constraints for this additional type of work, it appears that providers are finding a way to enter the data in a timely fashion. The majority of respondents (66%) take approximately 1-2 hours each time to enter this information. This is up slightly from last year's survey data, which indicated that 53% of respondents were taking approximately 1-2 hours to enter data. One item to note is that only 42% of providers are using the guidelines that accompany the checklist. Respondents with a Master's degree were the most likely to report "always" using the guidelines. Interestingly, respondents with a four-year college degree (11%) or a four-year college degree in early childhood education (23%) were the most likely to report never using the guidelines that accompany the checklist. Thus, the quality of the information inputted into the system may be an issue to watch given that providers are not regularly referring to the guidelines. Finding the time during the day to enter the data could be a challenge particularly for teachers. Fifty-five percent of respondents indicated that they enter data during the day; this is a marked improvement over last year's survey where only 32% were entering data during the day. However, nearly a third of the sample is still entering data on their own time outside of the regular school day. In OMG's assessment, in order

> *"The time it takes to enter all the data is a major issue particularly given competing demands and lack of additional funds to pay for staff time."*
> *-ECE Provider*

for this system to be sustainable, greater efforts will need to be made to incorporate time in the day for data entry. See Table 2.

Table 2: When do you enter WSO data into the system?	2009 Survey	2010 Survey
Before or after school	28%	14%
During the day	32%	55%
On my own time	40%	31%

Providers continue to use work sampling in the classroom and with parents

Overall providers reported high levels of use and satisfaction with the Work Sampling Online tool. Providers generally found the Work Sampling checklist to be at least "somewhat accurate" (61%) or "very accurate" (35%). In addition to the checklists, providers can use a variety of other WSO functions to help assess children's progress. Providers most commonly reported using the "portfolio" function (46%) and the "summary reports" (39%).

Providers are entering data into the ELN system but are not yet proficient given the technological system problems

Overall 71% of respondents indicated they are entering data into the ELN system. Despite the ambitious and complex nature of the ELN system and the tight timeframe, providers representing a variety of child care programs have been trained on the ELN system and are entering data. Interviews with providers suggest that despite these gains there are still many hurdles within the system particularly related to technological problems that are still being addressed. These issues have in some cases resulted in a delay in providers entering information or entering correct information.

> *"Hypothetically it is a great idea but it has just been kind of a mess. The first problem was that Pelican wasn't working and we had tons of issues with updating kids and then when it rolled over we had even more problems with every student being their own classroom. We enter data because we have to but we cannot incorporate any of it into our regular routine because the system just doesn't really work. The training was good but with a broken system what is the point?"*
> *-ECE Provider*

Those in the Southwest were the least likely to be entering data, with only 59% of those respondents indicating they are entering data. Those in the South-central region were the most likely to be entering data, with 92% of respondents indicating they are entering data. Open-ended comments and provider interviews revealed that some providers have been entering data into the system, but in efforts to bypass some of the trouble spots have entered information incorrectly. It is of paramount importance that the information inputted during this preliminary trial period be carefully examined and that data validation occurs.

The complexities of a new data system roll-out have created barriers for providers' access and data entry

Eighty percent of respondents indicated they have called the help desk at some point over the past year. In response to early implementation challenges such as an

> *"The help desk knows me like the back of my hand. Some of the problems have been resolved. They call and let me know or when I call them about something else they tell me it is being resolved or sometimes I go and realize it is working. The teachers I supervise are in a public school though— I work out of my home office and supervise teachers so I can make calls from my desk. It is easy for me but not so easy for them."*
> *-ECE Provider*

underresourced help desk and delayed distribution of usernames and passwords, OCDEL quickly ramped up supports for the field. Despite early anecdotal evidence that there were issues surrounding the assignment of usernames and passwords, 98% of respondents reported they now have both. All of the ELN screens caused some problems to users, but the most consistent issues surrounded the ELN Classroom and Child Screens, with 41% and 52%, respectively, indicating they had a problem using these screens. Provider interviews noted it would have been helpful if OCDEL could have done a pilot phase of the ELN screens in one or two counties and worked out all of the issues during that phase rather than roll it out statewide.

OCDEL continues to identify the challenges that providers are experiencing as they attempt to access and enter data in the ELN system. Many corrections and data fixes have already occurred to alleviate some of these problems. OCDEL has assured providers that additional fixes are being implemented daily and will continue until the system is working satisfactorily for all providers. Additionally, OCDEL has been holding online focus groups with providers to disseminate updates and fixes to the system, answer questions, and find out about any new problem areas.

Providers have a clear understanding of the benefits of ELN

The vast majority (86%) of providers indicated they understand the purpose of all the ELN data requirements. Furthermore, they have a clear understanding of how the ELN system will benefit their agency as a director/teacher/administrator (79%), benefit their individual school (79%), and the state government (90%). However, only 58% of providers believe it will be "very easy" or "easy" to incorporate the ELN system into their regular routine. Provider interviews suggest that the

> *"The purpose is to track students through the years. Getting them that number and documentation so we can track the tax dollars. I think that is the main purpose so we can see the supports they are getting and how they are doing. For teachers, they can create class groups based on their skills to see how teachers are doing and how kids are doing. It would help teachers understand where the gaps are so they can address that. I imagine we could talk to parents about their child's progress and be able to have this nice documentation to go with it."*
> *-ECE Provider*

current system still has too many issues that need to be worked out and thus are not yet implementing the ELN system into daily practice. The majority (72%) of providers have spoken with parents about the ELN or provided them with written materials. When asked about parental perceptions of ELN, providers indicated that parents mostly raised concerns around privacy and confidentiality. Parents were concerned about who would be able to access the data and had some very serious concerns about providing Social Security information. Parents also expressed concerns that it is an online system and that computer hackers could potentially break in access information on their children.

Part II: Findings related to reporting capabilities

Perhaps the most critical element of the ELN system is its reporting capabilities. Reports are automatically generated by the system and can be requested on an as-needed basis. To address privacy concerns, different reports are available depending on the level of access an ELN user has. This section describes the reports that are currently available in the system, how they are being used, and an overview of the types of additional reports that could further enhance the utility of ELN. This section answers the following evaluation question:

- **What reports are available to providers and how are they being used?**

Report Availability

Because of delays associated with the roll-out and challenges with the first two rounds of data entry, OCDEL and Deloitte pushed back the new report release until August 2010. The intent was to ensure that there was a significant enough amount of data in the system to run reports on and to prioritize their work on system corrections and expansion. In the interim, Deloitte and OCDEL generated regular reports internally to track the number of students, staff, and provider locations that have been added to the system. They also generated reports that count the number of student-level assessments that have been input. These reports provided high-level information about the quantity of data in the ELN system.

As a result of these delays, ELN reports were unavailable at the practitioner level for most of the duration of this phase of the evaluation. The August 21, 2010, system update release made six reports available to providers. In anticipation of the release of these reports, OCDEL and Deloitte provided updates via the ELN focus groups and conducted a demonstration of how to generate a report during the July 28th ELN Advisory Committee meeting. A list of the reports with brief descriptions of what information they contain and what format they are available in is provided below in Table 3.

Table 3

| Name of report	Description	Format
Location summary	Provides a high-level snapshot of a provider's location and the classrooms within that location	PDF and Excel
Data monitoring	Provides the ability to monitor assessment completion rates and data entry for child information and staff qualifications	PDF and Excel
Classroom attendance	Displays the classrooms that have not entered attendance	PDF
Classroom roster	Generates a list of all children enrolled in a location by classroom	PDF
Mailing labels	Generates mailing labels addressed to the parents/legal guardians of children enrolled in the location	PDF
Staff qualifications	Displays staff members by location and displays their information	PDF

Report Use

OMG was not able to collect data about use of ELN reports because the major data collection points associated with this evaluation (provider survey, provider interviews, field leader interviews) had all concluded prior to the release of new ELN reports. Nonetheless, we were able to collect information from providers and field leaders about how they are using the data that they do have access to. To some extent, use of current data reports can serve as a predictor of future use of ELN reports.

Providers are using data, despite delayed ELN reports
Although formal ELN reports were not available for the 2009-2010 school year, teachers were able to access their Work Sampling observation and assessment notes as well as summary reports generated by Work Sampling. Thirty-nine percent of providers included in our survey sample indicated that they used these reports. See Figure 3 for more information.

Figure 3

Providers Use of Optional Reports
(n=109)
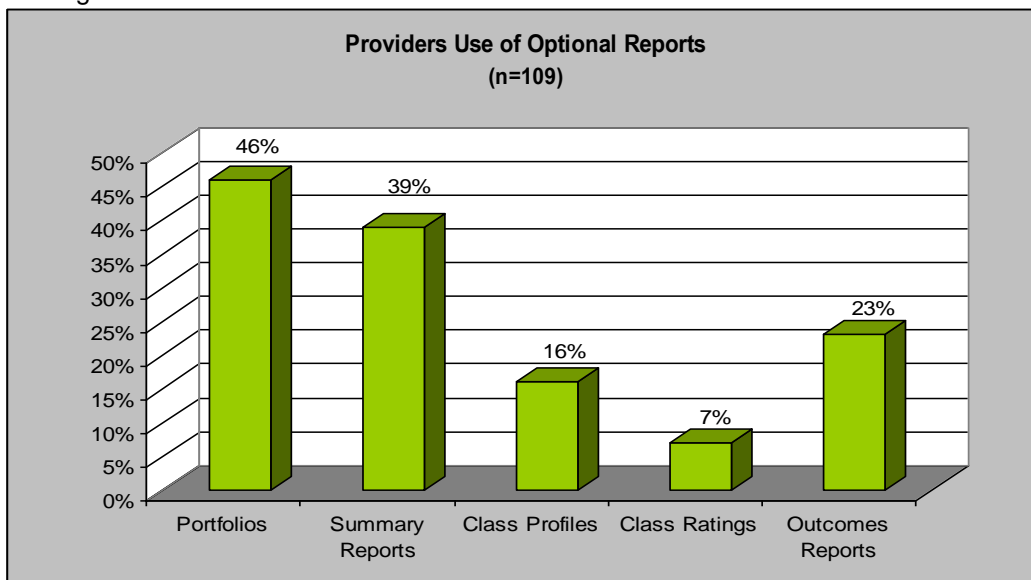
*The "n" differs in charts/graphs based on skip patterns attached to individual survey items.

It appears that these optional reports have been useful to providers. Respondents with a two-year Associate's degree or two-year degree in early childhood education were the most likely to be using the optional reports. The majority of providers indicated they were using the WSO system to help with children's individualized plans, classroom lesson plans, and talking with parents. See Figure 4 for more details. Parents as well have found the summary reports useful. Ninety-one percent of respondents indicated that parents have found the reports "helpful" or "very helpful."

Figure 4

Use of WSO Tools with Children, Parents, and in the Classroom (n=161)
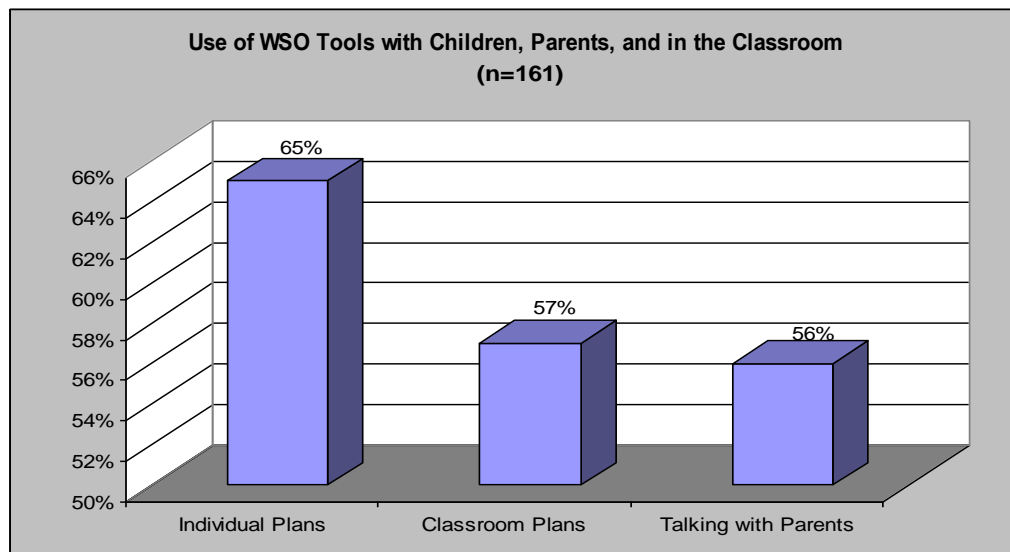
*The "n" differs in charts/graphs based on skip patterns attached to individual survey items.

Evidence from interviews suggests that some teachers have taken advantage of having a central location where they can access student-level observation and assessment records from throughout the year. Two providers who we interviewed stated that they used the notes they had entered into Work Sampling to speak with parents about their children's progress.

Directors and teachers have also relied on other data system reports, such as COPA (a Head Start data collection system), to provide information about their students and programs until more ELN reports are available. Two of the providers we spoke with currently use COPA for federal reporting purposes and to inform their work in an ongoing way. This anecdotal evidence is promising, as it indicates an appetite for data and understanding of how the information can be used.

OCDEL uses data reports to demonstrate program impact and to monitor and report on implementation
OCDEL and Deloitte continue to use aggregated data input reports to demonstrate progress on implementation. They are able to generate reports showing how many children, classes, staff, programs, and assessments to date have been entered into the system. These data provide them with real-time feedback about whether or not centers are really beginning to enter data, as well as concrete numbers to report to the field on the status of implementation.

During the budget impasse in 2009, OCDEL and other stakeholders used early student outcome data from Pre-K Counts to demonstrate the cost-effectiveness of the program. Field leaders cite this as a primary goal for ELN reports—that they can be used to demonstrate the value of investments in early childhood and to make the case for expansion of high-quality, effective programs. This early (and successful) usage of early childhood student outcome data to maintain state funding levels is a promising indicator of the ELN data system's ability to be used as an effective policy tool.

Pennsylvania early childhood researchers have multiple planned uses of ELN data
Twelve researchers convened in Harrisburg in July 2010 to discuss how they hoped to use the ELN data. Most of these researchers have participated in past early childhood initiatives in the state and have anticipated the data that would be available to them when ELN is fully functional. In an interview, one researcher described her work as policy-focused and articulated the same goal for the

analysis of ELN data: that it could be used to make the case for more substantial investments in effective early childhood programs. Specifically, one of these researchers—Steve Bagnato of the Children's Hospital of Pittsburgh—conducted the analysis of early student outcomes associated with Pre-K Counts that was used during budget negotiations.

Beyond cost-effectiveness analysis, the team of researchers hopes to advance specific, practical questions in the early childhood field. Some of these include:

- What family and child characteristics (e.g., education, income level, race, ethnicity, immigrant status, etc.) relate to the type, extent, and quality of care children experience?

- What factors influence the quality of care and children's developmental progress during early care and education, school readiness, and school performance? Does the type of care, extent of use of care, stability of care, provider characteristics (education, salary), quality of care as indexed by environmental rating scores, and STARS status influence these developmental outcomes?

- Which supports to early care and education facilities (e.g., TEACH, technical assistance, professional development, financial) are being requested, and which seem to contribute to meeting STARS standards?

- How are the standards, assistance, and supports being used, and what is their effect on the quality of care provided and on children's outcomes?

Report Needs

Providers expressed desire for practitioner-based reports, and articulated a range of ELN data reports that they would find useful

Initial communications, goal-setting, and planning related to ELN focused on how it could be used at the state level to assess programs and advocate for increased investment in the field. Interviews with providers reflected frustration with this initial focus and growing impatience about when provider-level reports would come available. Providers stated that they felt like they were "putting data into a black hole" and that they were entering data to fulfill state requirements, but not for their own purposes as of yet. One field leader OMG interviewed stated concern that without reports that are not only useful but also indispensible to practitioners, OCDEL would not be able to maintain the necessary level of buy-in for providers to enter quality data on a timely basis.

> "ELN was always seen as useful to the Commonwealth for decision-making and as a research tool. But as we learned more about data systems in other states, we learn more about the usefulness to providers and it has risen in importance. Feedback from providers also drove this…they put in data and should be able to get them out. That's critical to sustainability."
> -OCDEL staff member

Interviews with OCDEL leadership indicate that the agency is refocusing its efforts toward developing the usability and value of the system's reports for practitioners. ELN System Focus Groups and the ELN Advisory Committee have redoubled their efforts to act as messengers between OCDEL and the

field to identify what reports would be most helpful at the practitioner level. Some reports that providers expressed interest in include:

- Waitlists that provide data on who and how many children are waiting to be enrolled in a given program

- Cross-program student outcome reports that demonstrate where programs stack up against one another in terms of performance

- Reports that compare individual child progress against one another and against themselves

- Reports that contain practical, administrative data such as allergies and food preferences that can be easily and quickly generated by teachers

- Program-level reports that show the progress made by students within a given program that can be shared with parents who are considering what program would be best for their child

- Longitudinal reports that show how students from a program perform in kindergarten

- Reports that meet standards for other program reporting requirements, such as federal Head Start, so that programs can use one data system to generate all of their reports

- Reports that generate aggregate demographic data about the families that their program serves, so that a provider could say, for example, "60% of the children in our program have parents who finished high school"

Although providers could readily list examples of reports that would be useful to them, they also expressed concerns that OCDEL and Deloitte should focus on correcting system glitches before expanding the system to include new providers or new reports.

Policymakers' and researchers' use of ELN data reports relies on increasing the quality and quantity of data currently available in the system.
Evidence suggests that in order for the ELN data system to meet the needs of policymakers and researchers interested in assessing value-added of specific state-funded programs on entire cohorts of students, the quality and quantity of data currently in the ELN system will need to be increased and enhanced. While a large quantity of data has been entered into the system given all the challenges associated with implementation, there is more work to be done. As of April 2010, the following data had been entered into the system:
- 6,719 staff
- 173,000 assessments
- 755 provider locations
- 45,261 child enrollments

For comparison purposes, when fully implemented, ELN will have 252,000 child enrollment records.

Nonetheless, researchers in particular need more data for their analyses to be valid and reliable. In addition, interviewees across the board (providers, field leaders, and researchers) expressed concern about the quality and accuracy of data, especially assessment data, being entered into ELN.

Researchers have articulated the following needs for modifications to the system for reports and raw data to be valid:

- Substantial general data cleaning is needed, likely more than OCDEL's current budget can afford, before the data are suitable for analyses.

- Incentives to providers are needed to motivate them to collect and enter the data reliably and to support the continued existence of the database.

- Funds will be needed to conduct feasibility studies that will determine if proposed questions can be answered with the available data.

Although interviewees noted that these system improvements are critical for high-quality reports, they acknowledged that given the stage of implementation, significant progress has been made and improvements will need to be made on a gradual basis.

ELN Final Evaluation Report · The OMG Center for Collaborative Learning

21

Part III: Findings related to sustainability

ELN is an expensive and ambitious initiative that relies on the support and buy-in of many stakeholder groups to succeed. These include providers, parents, and perhaps most importantly, policymakers. For the past eight years, Pennsylvania has been led by a governor who is very supportive of the early childhood field. As the state prepares for a gubernatorial transition, sustainability is a key concern for supporters of ELN. The following section addresses the evaluation question:

- **How do key stakeholders describe the existing public and political will surrounding ELN?**

Buy-in

Stakeholders share a common vision for ELN and see its potential; however, system glitches may have caused a dip in buy-in particularly among the provider community

Evidence suggests that a common vision for ELN exists across the system. Teachers, directors, field leaders, and policymakers described similar goals for ELN that include demonstrating evidence of the benefits and pay-offs of investments in quality early care and education; enabling providers to identify what they are doing well and improve what they could be doing better; and linking the many databases that exist across the field into one central system.

"The purpose is to have everything together in one place—just improve all the systems and have them work together so maybe in the end we won't have to enter into all these different data systems. I think it could be useful for parents and teachers for tracking and monitoring and reporting as well."
-ECE Provider

Despite this common understanding of the vision for ELN and its potential benefits, interviews indicate that at all levels of the system there is concern about a decline in buy-in for ELN. According to interviews, this decline is a function of the system problems that persisted throughout 2009-2010. This decline in buy-in is particularly notable among the provider community. During interviews, providers described waning levels of buy-in and frustration with the system and how long repairs take. Furthermore, field leaders expressed concern that their provider constituencies were struggling to maintain a positive perspective on ELN and several of these leaders expressed their own misgivings about the system. Field leader concerns focus on system issues as well, and also include concerns about duplication of data systems, roll-out to home-based providers, and ability of providers to use data at the classroom and program levels.

While these concerns exist in the field, OMG's interviews indicate that providers and field leaders remain cautiously optimistic. They have high hopes for ELN in the long term. Many expressed the sentiment that given the level of dollars and time invested in the system, the field must continue to implement ELN. A critical corollary to that statement is that both field leaders and providers stated the importance of expediting system repairs and rolling out useful reports to current ELN users *before* expanding data entry to include new users. (Note: ELN is scheduled to roll-out to STARS 3 and 4 home-based and Nurse Family Partnership programs this fall.) Providers in particular noted that expediting system repairs would increase support among the provider community. During our data collection, providers reported that system repairs were taking several months, which generated additional frustration.

Certain segments of the provider community are particularly susceptible to waning buy-in. These appear to be those providers who have existing system and data reporting requirements that make ELN duplicative or redundant. For example, providers that are already using systems like COPA have more limited patience with the system challenges associated with ELN. Furthermore, Head Start providers in particular report having excessive data reporting requirements already and because ELN does not currently create reports that would replace these other requirements, their work is being duplicated.

> *"For HS providers, there were multiple questions and issues regarding the system on all levels. We had issues around the help desk and different screens—the system was a mess. They kept telling us 'oh, we will resolve that in 4 months.'"*
> *-ECE Provider*

Political Will

Currently there is not a strong, organized constituency that could be mobilized on behalf of ELN

According to our interviews with field leaders, ELN is lacking an active and organized advocacy base. Interviewees attribute this to the nascent stage of the system. According to interviewees, ELN has not yet directly benefited providers, parents have not yet seen evidence of its existence, the system is not yet fully linked to K-12 data for teachers and principals to utilize, and by and large many policymakers know little about the system and its potential benefits. Field leaders we spoke with emphasized the importance of cultivating a base of support that could mobilize to advocate for the system if it was in jeopardy. In OMG's assessment, this is one of the key factors driving OCDEL's push to make the system more usable and helpful for providers. By demonstrating the value of ELN to providers by giving them access to reports and analyses that they can use on a day-to-day basis, OCDEL is giving providers a reason to transition from passive system users to committed system advocates.

There is one exception, however. As noted in the previous section of this report, researchers across the state are extremely interested in the data that could be available through ELN. For many of these researchers, ELN provides the only viable means through which specific questions within the early childhood research agenda could be advanced. Many of these research questions could be supported through significant grant funding, were the data available. As such, many researchers have a vested professional stake in the ongoing support and successful implementation of ELN. Because they have so much to gain, the researchers are an internally motivated and well-connected advocacy group that OCDEL can rely on to support ELN. The letter developed by these researchers (see Appendix) is just one example of the potential ways that this community could be mobilized in support of ELN.

> *"To let [ELN] go at this point would mean we lose years of information and we can't do much without that kind of data to improve the system…"*
> *-Researcher*

Field leaders speculate that there are several factors that make ELN difficult to dismantle

According to leaders at OCDEL, even given the tight budget environment, it would be difficult or impossible for a new administration to halt implementation of ELN or dismantle the system. The first factor is the national attention that Pennsylvania has received around ELN. The data system was the subject of a case study completed by the Data Quality Campaign, titled "A Look at Pennsylvania's Early Childhood Data System." One interviewee also noted that at a recent national early childhood conference she attended, ELN was highlighted as an example of what is possible. OCDEL leadership

also frequently receive requests from other states to learn more about ELN in the interest of replication and learning from Pennsylvania's experience. PaTTAN trainers have built this talking point into their ELN trainings—they highlight the fact that Pennsylvania is being watched by many other states to see if it is able to successfully implement and use ELN.

The second major factor that would make it difficult for a new governor to cut support of ELN is the way the system is currently funded. ELN has been supported by a number of funding sources, including the state, the federal government, and major foundations. Because these dollars are tied to implementation of ELN, if a new governor decided not to proceed with the system, he or she would in effect be returning dollars to non-state coffers. As part of the obligation of federal funds, the Commonwealth has agreed to deliver a longitudinal data system that starts with Pre-K. Furthermore, OCDEL leaders stated that additional federal dollars would be committed through Race to the Top funding. (Note: At the time of this report, Pennsylvania was not one of the finalists to receive Race to the Top grants.)

Field leaders have identified several key activities that can help shore up ELN in preparation for a gubernatorial transition

Despite the lack of a diverse and well-organized advocacy base, leaders in the early childhood field see several critical opportunities that could be used to ensure the continued support of ELN under a new governor. The strategies that were identified through our field leader interviews are described below:

- **Encourage the role of Early Learning Investment Commission as an ELN advocate:** Interviewees noted that the Early Learning Investment Commission is well positioned to advocate on behalf of ELN. The Investment Commission was created by Governor Rendell in 2008 to increase public awareness, particularly among civic and business leaders, of the importance of early childhood care and education. Members of the commission are well networked and influential; by enlisting them as advocates for ELN, the system would have greater support.
- **Include ELN on the transition agenda:** Interviewees noted that it is critical that ELN be included in the transition agenda that OCDEL develops for the new administration. However, our interviews with OCDEL leadership were unclear and in some ways conflicting about the extent to which ELN was included in the transition work. Given the complexity of the system, inclusion of ELN in transition documentation will be critical.
- **Ask candidates about their positions:** The early childhood advocacy field in Pennsylvania has successfully increased the level of attention that many legislators devote to early childhood education. As part of OMG's research for the BUILD initiative, we found that early childhood advocates across the state were holding forums or attending other public events to publicly ask gubernatorial candidates their position on early childhood care and education investments and supports. Interviewees noted that a similar strategy would help ELN's sustainability by both making candidates aware of the system and giving them the opportunity to speak publicly in support of it.

Part IV: Recommendations

OMG began evaluating and documenting the implementation of the Early Learning Network in 2009. Throughout the duration of this engagement, we have attempted to provide real-time feedback and recommendations to OCDEL that it could use to improve implementation in an ongoing way. A summary of OMG's past recommendations and OCDEL's response to them is included below. We also include some additional recommendations for OCDEL to consider moving forward, although we will not report on the extent to which these are implemented.

Recommendations from 2009

- Stakeholders share OCDEL's vision for ELN, but they have concerns regarding system design and the field's capacity to implement it.
  OCDEL has dedicated two full-time staff to manage ELN implementation. These staff members provide technical support to the field through an email-based help desk. They address implementation and policy questions, and route technology questions to a toll-free phone number where Deloitte staff respond to system and computer questions. These two individuals also lead most of the ELN trainings across the state. The ELN Advisory Committee meets quarterly and is updated on ELN's progress. Issues are assigned to subcommittees that make recommendations for resolution. Status updates are also provided through OCDEL's website and email blasts, as well as reports to the Early Learning Council.

- A high-quality, accessible, and sequential training trajectory would increase the field's capacity to implement ELN.
  OCDEL has refined its Work Sampling and ELN training curriculum, especially the component on how Work Sampling and Pelican fit together with the overall ELN system. Trainings were offered periodically throughout the past six months; however, attendance has been below capacity and trainings were frequently cancelled or condensed. Although OCDEL does not yet have the capacity to estimate which providers have received training, evidence suggests that a large number of providers at STARS 3 and 4, Head Start, and Accountability Block Grant centers have not yet attended ELN or Work Sampling trainings.

Recommendations from Spring 2010

- About 1 in 10 ELN users indicated they trained themselves on the system. More investigation is needed on why this route is taken over attending an ELN training session and whether this training model is sufficient.
  Provider interviews indicate that there is a wide range of capacities in terms of system users. The formal ELN training is too simple for some users, and for others that work in rural counties the location is inconvenient. However, OCDEL has addressed this problem by developing an online training module and supporting tip sheets that providers can access at their convenience.

- A significant number of providers do not feel proficient using the Work Sampling tools. Follow-up sessions or online refresher courses ought to be provided to those indicating a need for greater proficiency.

This finding is based on our last provider survey, so we do not have further data. However, as noted previously, OCDEL has developed and launched an online training module that may address some of these concerns.

- OCDEL and Deloitte staff ought to continue scanning the data for accuracy and provide technical assistance on an as-needed basis through the help desk or Regional Keys when problems occur.
  To our knowledge, data quality, accuracy, and validity have not yet been addressed.

- OCDEL ought to continue hosting the focus group meetings in its effort to identify and resolve issues as ELN rolls out.
  OCDEL has continued to convene ELN focus group meetings. However, the meetings have become less and less interactive; providers are not participating as actively as OCDEL and Deloitte had hoped. Interviewees speculated that this was a function of providers' frustration with the duration of time it takes for system issues to be resolved.

Recommendations for the future

- Time should be built into the day for providers to enter data on children. This is particularly important for updating WSO data frequently.

- Training on ELN and actual use ought to occur as close together as possible, with supplemental online modules available and if necessary onsite technical assistance.

- OCDEL should implement data quality and validation procedures, in consultation with the early childhood research consortium.

- The ELN Advisory Committee should make efforts to prepare for a gubernatorial transition, by engaging the Early Learning Investment Commission, the research consortium, and other stakeholders as partners in making the case for ELN.

- OCDEL should develop a set of "201" training modules that teach providers how to use the reports generated through ELN to inform practice in an ongoing way.

- In OMG's assessment, OCDEL should focus its efforts on repairing system problems and developing and rolling out reports to existing users before expanding the system to include new users.

Appendix

This Appendix includes the following attachments:
- Interview Protocols (Provider, Policymaker)
- List of Interviewees
- Online Survey Instrument
- Statement on ELN by Pennsylvania Researchers
- Survey Sample and Survey Respondents