# North Carolina

Indicator 17:
State Systemic Improvement Plan (SSIP)

## Phase Three, Year Two

April 2nd, 2018

Public Schools of North Carolina
State Board of Education | Department of Public Instruction | EC Division

# Table of Contents

## Summary of Phase III



## Progress in Implementing the SSIP



## Data on Implementation and Outcomes



## Data Quality Issues



## Progress toward Achieving Intended Improvements



## Plans for Next Year

# Commonly Used Acronyms

| | |
|---|---|
| **CGR** | Cohort Graduation Rate |
| **CoT** | Continuum of Transitions |
| **DAC** | Director's Advisory Council |
| **ECD** | Exceptional Children Division |
| **ECATS** | Every Child Accountability Tracking System |
| **ESSA** | Every Student Succeeds Act |
| **IHE** | Institutes of Higher Education |
| **LEA** | Local Education Agency (this term is inclusive of charter schools) |
| **LEASA** | Local Education Agency Self-Assessment |
| **MTSS** | Multi-Tiered System of Support |
| **NCDPI** | North Carolina Department of Public Instruction |
| **NC SIP** | North Carolina State Improvement Project |
| **PBIS** | Positive Behavioral Interventions and Supports |
| **PDSA** | Plan, Do, Study, Act |
| **SCI** | Standards, Curriculum, and Instruction |
| **SDI** | Specially Designed Instruction |
| **SEA** | State Education Agency |
| **SEFEL** | Social Emotional Foundations for Early Learning |
| **SET** | School-Wide Evaluation Tool |
| **SIMR** | State Identified Measurable Result |
| **SIT** | State Implementation Team |
| **SPDG** | State Personnel Development Grant |
| **SSIP** | State Systemic Improvement Plan |
| **SWD** | Students with Disabilities |
| **TPOT** | Teaching Pyramid Observation Tool |

# Summary of Phase Three, Year Two

## Description of State Identified Measurable Result

The North Carolina State Identified Measurable Result (SIMR) is the five-year adjusted cohort graduation rate for students with disabilities. The baseline percentage was determined by using the ratio of youth with Individualized Education Programs (IEPs) graduating with a regular high school diploma in 2013-14, or earlier, to all youths with IEPs entering ninth grade in 2009-10 for the first time. The cohort is "adjusted" by adding any students who transferred into the cohort and by subtracting any students who transferred out, emigrated to another county, or died during the years covered by the rate.

Table 1

*Progress toward SIMR Targets*

| **FFY** | **2013** |
|---|---|
| Five-Year Adjusted Cohort Graduation Rate for Students with Disabilities | 67.82% |

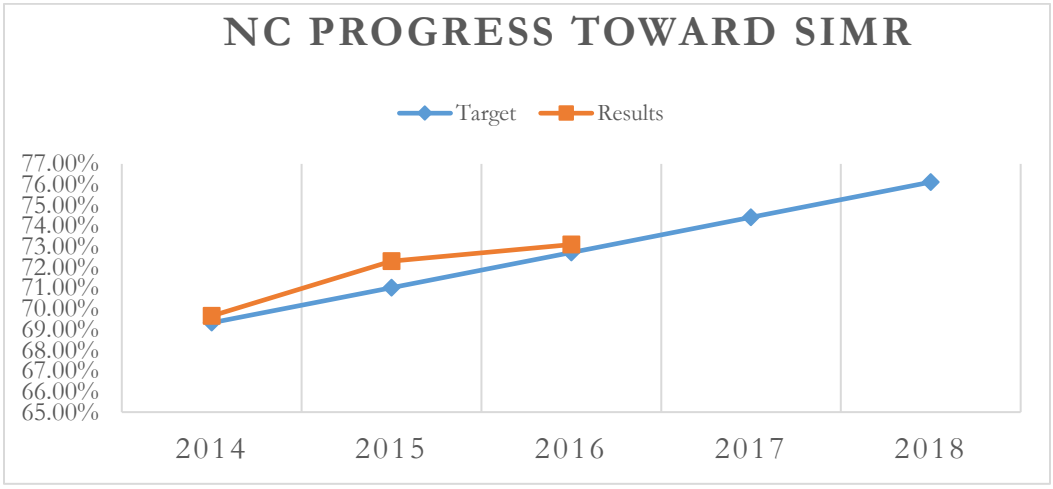
Table 2

*FFY 2013 – FFY 2018 Targets and Results*

| **FFY** | **2014** | **2015** | **2016** | **2017** | **2018** |
|---|---|---|---|---|---|
| Target | 69.32% | 71.02% | 72.72% | 74.42% | 76.12% |
| Results | 69.65% | 72.3% | 73.10% | | |

Figure 1

*FFY 2013 – FFY 2018 Targets and Results Graph*



## Students with Disabilities and Non-Disabled Students

In Phase One, SIMR targets were determined from longitudinal trends and forecasting of graduation rates for students with disabilities and all students. At the time, the SIMR targets were predicted to close graduation gaps between students with disabilities and their non-disabled peers. To assess progress related to the closing of this gap, Table 3 and Figure 2 display the five-year adjusted cohort graduation rates for students with disabilities and non-disabled students from FFY 2013 to FFY 2016.

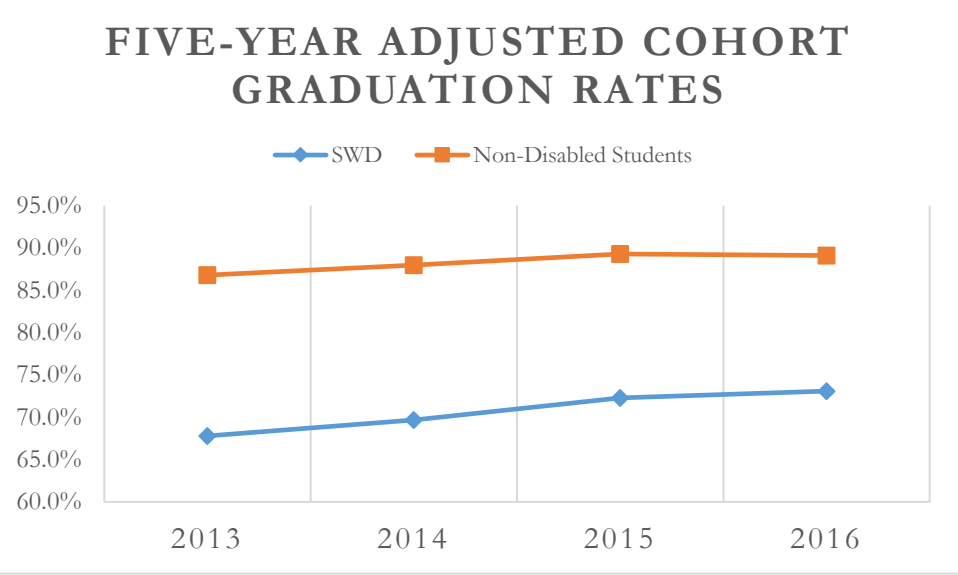
Table 3

*Five-Year Adjusted Cohort Graduation Rates for Students with Disabilities and Non-Disabled Students*

| **FFY** | **2013 (Baseline)** | **2014** | **2015** | **2016** |
|---|---|---|---|---|
| Non-Disabled Students | 86.80% | 88.00% | 89.30% | 89.10% |
| Students with Disabilities | 67.82% | 69.65% | 72.30% | 73.10% |
| **Difference** | **18.98** | **18.35** | **17.00** | **16.00** |

Figure 2

*Five-Year Adjusted Cohort Graduation Rates for Students with Disabilities and Non-Disabled Students*




From the baseline year of 2013 to the present, there has been modest narrowing of the five-year adjusted cohort graduation between students with disabilities and non-disabled students. From FFY 2013 through FFY 2015, students with disabilities and non-disabled students both showed annual increases, however, increases for students with disabilities were slightly larger. From FFY 2015 to FFY 2016, non-disabled students experienced a slight decrease in five-year adjusted cohort graduation rates while students with

disabilities experienced a slight increase. From the baseline year of FFY 2013 to FFY 2016, the gap between five-year adjusted cohort graduation rates for students with disabilities and non-disabled students has decreased by 15.7%. More detail concerning the meaning and relative size of these changes is described in the "Progress Toward Achieving Intended Outcomes" section of this report.

## Theory of action and logic model

Conceptually, the theory of action has remained consistent and guides implementation, including communication and evaluation, of SSIP activities. The theory of action is based on conclusions from Phase One indicating that root cause analysis for an outcome as complex as graduation must occur at the local level (for an in-depth narrative explanation of the theory of action, please see the Phase Three, Year One report). To briefly summarize, Local Education Agencies (LEAs) must be equipped with skills, tools, and resources to identify local root cause(s) associated with lower graduation rates for students with disabilities, systematically select and communicate these interventions to the NC Department of Public Instruction (NCDPI), who must then align infrastructure and provision of comprehensive professional development and technical assistance to support implementation in local contexts. The primary process and tool driving the theory of action is the LEA Self-Assessment (LEASA) and Improvement Planning Process. During the current year, stage-based analysis suggests that North Carolina is progressing from the "awkward" stage of initial implementation, to a stage of fully integrating the LEASA and Improvement Planning Process into common practitioner and organizational practices and policies, at the Local Education Agency (LEA) and State Education Agency (SEA) levels. For example, submission of the LEASA was included in the most recent *NC Policies Governing Services for Students with Disabilities*. Furthermore, the Exceptional Children Division's alignment of professional learning to LEASA submissions (and identified local root causes) now occurs through a formalized review process. This process includes systematic linking of LEA need to a catalog of NCDPI supported professional learning, gap analysis to inform creation of new professional learning, and development and implementation of a tiered Professional Learning Plan at the state level. These established practices can now be replicated and communicated on an annual basis with adjustments made through feedback from stakeholders within Plan, Do, Study, Act (PDSA) improvement cycles.

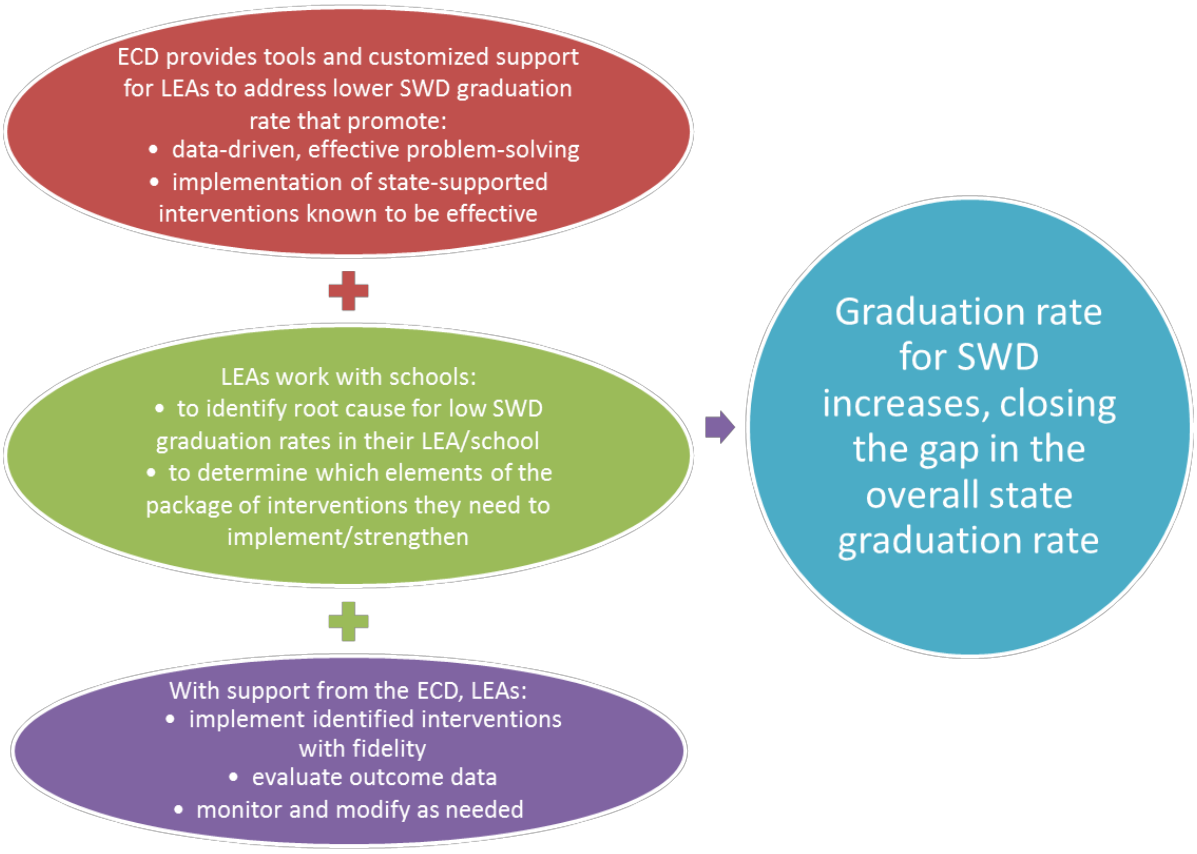
During the current year, North Carolina has also worked to more closely align evaluation activities to the theory of action. Two years of data now exist from LEASA submissions, which provide evidence for how LEAs are identifying and communicating root cause, their general capacity for implementation, and how SSIP interventions are resulting in changes at the systems (that support educators), practices (that support students), and outcomes levels. These data serve as important indicators of the first two ovals (red and

green) represented in the graphical depiction of the theory of action below (see Figure 3). Modifications to the LEASA during FFY 2016 also allowed evaluation to more closely link SSIP activities to outputs and outcomes by explicitly requiring LEAs to identify priority areas (within academics, behavior, and transition). Finally, availability of the LEASA data over the current year resulted in opportunities to evaluate the measurement characteristics of the tool itself and the reliability of NCDPI's review process.

The third oval (purple) is predominantly measured through data sources that are aligned to implementation of the State Personnel Development Grant (SPDG), Positive Behavior Intervention and Support (PBIS), Social Emotional Foundations of Early Learning (SEFEL), and Continuum of Transition (CoT) activities. These represent predominant state supported evidence-based practices that LEAs select and implement based on the LEASA and Improvement Planning process. These state-supported interventions are aligned to local root causes associated with academics, behavior, and transition, respectively.

Figure 3

*Graphical Depiction of the NC SSIP Theory of Action*



While the theory of action provides a series of broad "if-then" statements that lead to the SIMR, the NC SSIP Logic Model (Figure 4) provides more refined detail on how the NCDPI is implementing the SSIP and how those activities are linked to increased graduation rates for students with disabilities through a series of inputs, strategies, outputs, and outcomes. The logic model has been modified slightly from Phase Three, Year One to improve clarity and to reflect additional outputs and outcomes that have been identified. Following the logic model, Table 4 describes the data sources and measurement strategies aligned to each component of the logic model.

The NC SSIP Logic Model is organized in the following fashion:

**ROW ONE: Coherent Improvement Strategy**

The first row of the logic model represents the coherent improvement strategy that involves the LEASA and Improvement Planning process. As indicated, this has historically and continues to be supported through comprehensive tiered professional development and technical assistance. Based on LEA's identification of root cause, there is systematic selection and implementation of NCDPI supported interventions within academic, behavioral, or transition domains. Through enhanced local problem solving and improvement planning and aligned DPI infrastructure and professional development, LEAs increase capacity to implement evidence-based interventions described in the following three rows of the logic model. The primary metrics for evaluating these changes are derived from the LEASA and include summarized data from the submissions and from the NCDPI review process.

**ROW TWO: Academic Supports**

The second row of the logic model represents the primary academic supports that are leveraged through the SSIP activities. The State Personnel Development Grant (SPDG) supported Reading Research to Classroom Practice (RRtCP, formerly Reading Foundations) and Foundations of Mathematics (FoM) professional development courses support the implementation of evidence-based practices that correspond to improved outcomes for students with persistent problems with reading and mathematics. According to the logic model, based on participation in these courses and job-embedded follow up, teachers improve their knowledge, skills, dispositions, and behaviors related to reading and mathematics instruction and improve the fidelity in which they deliver evidence-based practices. Subsequently, the impact on students is observed through improved proficiency on summative assessments. The impact of these courses is

measured through pre-post assessments of knowledge and skills, fidelity observations of evidence-based programs, and student proficiency on the North Carolina End-of-Grade (EOG) assessments.

**ROW THREE: Behavior Supports**

The third row of the logic model represents the primary behavioral-emotional supports that are leveraged through SSIP activities. Positive Behavior Intervention and Support (PBIS) and Social and Emotional Foundations for Early Learning (SEFEL) are comprised of school-wide preventive and responsive practices delivered within core, supplemental, and intensive levels of support. According to the logic model, as a result of local training and coaching schools build systems supportive of PBIS and SEFEL implementation and increase the fidelity in which they implement these evidence-based practices for behavior. The subsequent impact on students is increased attendance and decreased disciplinary events (including short- and long-term suspensions). The primary metrics for evaluation include the School-Wide Evaluation Tool (SET), the Teaching Pyramid Observation Tool (TPOT), attendance, and disciplinary data.

**ROW FOUR: Transition Supports**

The fourth row of the logic model represents the Continuum of Transition (CoT) supports that are leveraged through SSIP activities. This includes the provision of professional development for a transition tool kit and web-based resources to be used for middle and high school transitions. In addition, specific professional development on promising practice self-determination activities (Bell Ringers) has occurred within the context of usability testing in four LEAs across the state. According to the logic model, professional development with online transition resources and activities result in improved transition, assessment planning, and student self-determination. The primary strategies for evaluation include the AIR Self-Determination Scale and Indicators 7, 8, 12, 13, and 14.

Figure 4

*NC SSIP Logic Model*

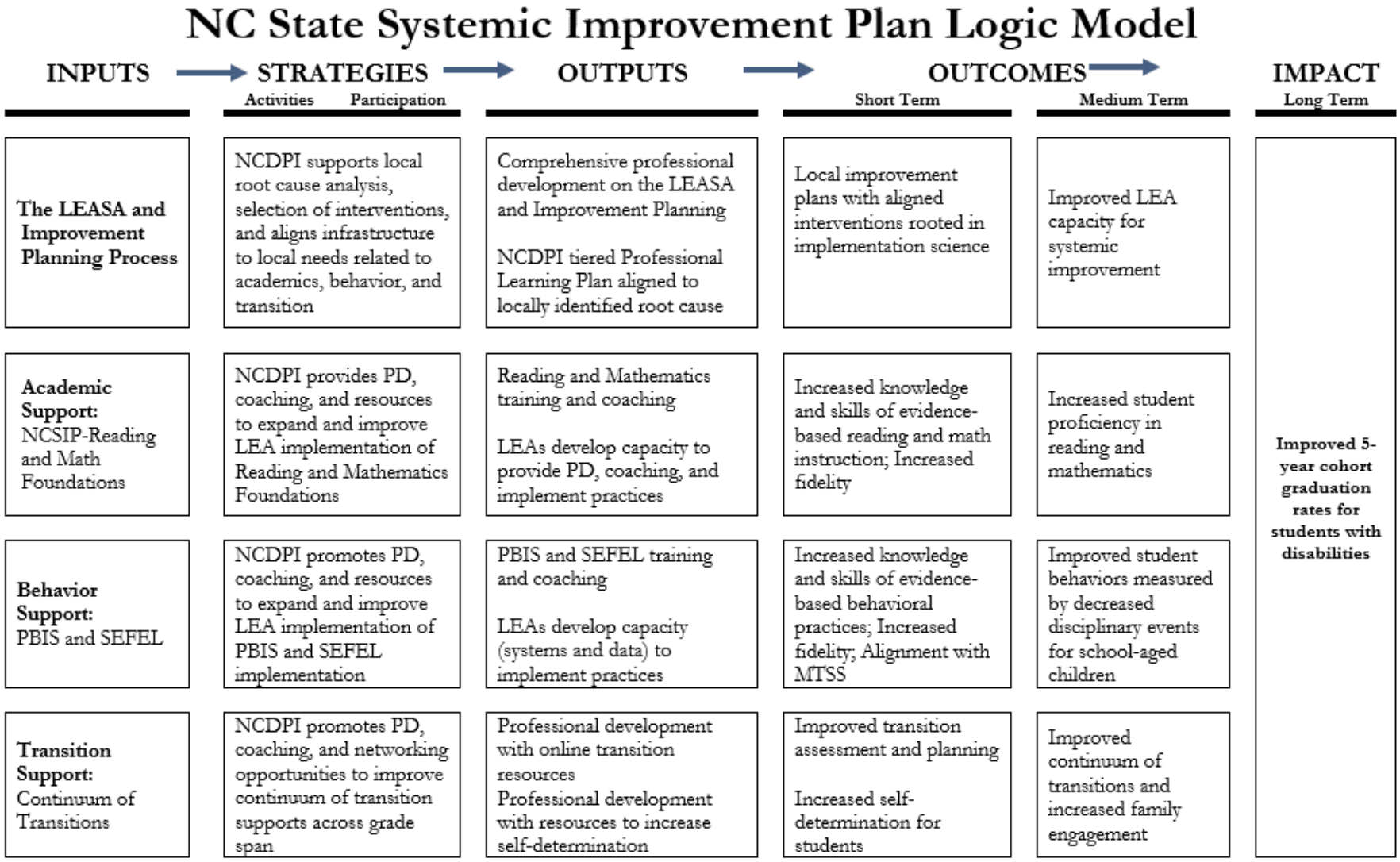


Table 4

*Goals, Evaluation Questions, and Evaluation Strategies*

| Goals | Strategies / Activities | Outputs | Summative Evaluation Strategies | Summative Evaluation Questions |
|---|---|---|---|---|
| **1. Increase capacity for problem solving and effective implementation** | • LEA Self-Assessment and Improvement Planning<br>• NCDPI Professional Learning Catalog | • Comprehensive professional development on the LEASA and Improvement Planning<br>• NCDPI tiered Professional Learning Plan aligned to LEA root cause and implementation plans | • Policy changes to support LEASA and Improvement Planning<br>• Increased LEASA ratings<br>• Increased ratings on NCDPI reviews of submitted LEASAs | • To what extent are LEAs better able to engage in systematic problem identification and implementation using local data? |
| **2. Increase student performance in reading and math** | • Professional Development<br>  ○ Math/Reading Foundations<br>  ○ Coaching Practices<br>  ○ Effective Leadership | • Increased Math / Reading Content Knowledge<br>• Increased fidelity observation scores in use of research-based instructional practices | • Increased academic proficiency on End of Grade tests | • To what extent do students exhibit an increase in academic achievement because of shorter-term outcomes being achieved (e.g. better teacher content knowledge, increased fidelity)? |
| **3. Decrease student behavioral issues, including absenteeism and suspensions** | • PBIS<br>  ○ Increase NC saturation / fidelity<br>• SEFEL<br>  ○ Increase saturation / fidelity to early childhood communities | • Increase in % of schools meeting PBIS implementation criteria<br>• Increase in school-level PBIS fidelity ratings (SET)<br>• Increase in % of schools meeting Teaching Pyramid Observation Tool (TPOT) | • Decreased suspensions<br>• Increased attendance | • To what extent has the incidence of student suspensions decreased and attendance increased (across time)? |
| **4. Improve continuum of transitions and student self-determination** | • Develop Transition Toolkit<br>• Transition network<br>  ○ Representatives from across NC | • Informed students/parents about next-level academic expectations<br>• Community of practice sharing transition resources and strategies<br>• Self-Determination Activities | • Increased Indicators 7, 11, 12, 13, 14<br>• Increase AIR Self-Determination scores<br>• Increase in student / family engagement – Indicator 8 | • To what extent have LEA Indicator 7, 11, 12, 13, 14 levels increased?<br>• To what extent have levels of student / parent engagement, measured by Indicator 8, increased (across time)? |

## Coherent Improvement Strategies

The coherent improvement strategy at the foundation of the NC SSIP is the LEA Self-Assessment (LEASA) and Improvement Planning process. All LEAs (including charter schools) are required to complete the comprehensive self-assessment annually and update their improvement plan based on a Plan, Do, Study, Act improvement (PDSA) cycle. Broadly, the LEASA and Improvement Planning process serves several key purposes yielding value to both LEAs and the State Education Agency (SEA).

Specific to LEAs, the LEASA and Improvement Planning process enhances an ability to:

- identify root cause(s) associated with the SIMR
- select aligned evidence-based practices that are supported by NCDPI and demonstrate a contextual fit
- engage in a deliberate process of active implementation (including PDSA improvement cycles)

At the SEA level, analysis of LEASA data enhances an ability to:

- align SEA infrastructure to local need
- develop and implement an aligned, tiered, regionally supported framework of professional development and technical assistance (delivered through a tiered Professional Learning Plan)
- engage in annual gap analysis of the tiered Professional Learning Plan
- engage in systematic improvement cycles (Plan, Do, Study, Act)

Consequently, the intent of this coherent improvement strategy is to maximize the benefit of the implementation of the specific evidence-based practices described in the next section.

## Specific Evidence-Based Practices Implemented to Date

The coherent improvement strategy maximizes benefit by enhancing LEA ability to select and implement evidence-based practices that are aligned to their identified root causes associated with the SIMR. Moreover, NCDPI's LEASA review process and subsequent alignment of infrastructure and delivery of an annual tiered Professional Learning Plan supports implementation drivers at the local level (e.g., systems interventions, selection, training, and coaching). This section briefly highlights broad details of each evidence-based practice. Key implementation activities (including outputs) that have occurred since the 2017 Phase III, Year One report are included in the "*Intended outputs that have been accomplished as a result off the implementation activities*" section of the report.

## Academics: The North Carolina State Improvement Project

The North Carolina State Improvement Project (NC SIP) offers comprehensive professional learning for evidence-based practices for reading and mathematics. Due to evidence of effectiveness and general capacity at the SEA and LEA levels, NC SIP has been the primary evidence-based practice to support LEAs that identified academics as the root cause impacting the SIMR. NC SIP is supported by the State Personnel Development Grant (SPDG) and includes professional development and systematic regionally-based coaching related to reading, mathematics, effective leadership, and a continuum of coaching. Throughout the SSIP process, the SSIP and SPDG planning teams have collaborated (with overlapping membership) to ensure the work of the SPDG was leveraged to impact the SIMR.

## Behavior: Positive Behavior Intervention and Support (PBIS)

**S**tate-wide support for PBIS implementation has been the primary evidence-based practice to support LEAS that identified behavior as the root cause impacting the SIMR. Notably, PBIS has recently merged with the Integrated Academics and Behavior Supports (IABS) division, which is the division that supports Multi-Tiered System of Support (MTSS) implementation. This integration occurred to leverage state-wide implementation frameworks installed through MTSS and enhance general and special education collaboration to promote core (for all students), supplemental, and tiered behavioral-emotional supports. Thus, academic and behavioral supports are now being implemented under a single framework for MTSS at the SEA and LEA levels.

## Behavior: NC Social Emotional Foundations for Early Learning (SEFEL)

The NC SEFEL project has also been an evidence-based practice to support districts that identified behavior as the root cause impacting the SIMR. The Pyramid Model for Supporting Social Emotional Competence in Infants and Young Children is a positive behavioral intervention and support framework early educators can use to promote young children's emotional and social development and prevent and address challenging behavior. Pyramid teaching practices provide teachers with strategies to intentionally build positive relationships with and among children. They do this by creating supportive learning environments and teaching children to understand and express their emotions and use problem solving skills. As such, the preschool pyramid model aligns with school age Positive Behavior Intervention and Supports (PBIS) and the Multi-Tiered System of Support (MTSS) initiatives in NC. The preschool pyramid

model is made of three tiers of intervention practices: universal promotion for all children, secondary preventions to address the intervention needs for children at risk of social emotional delays, and tertiary interventions needed for children with persistent challenges.

### Transition: Development of a Continuum of Transitions Support

A team of stakeholders has been engaged with the development and implementation of practices to support a continuum of transitions (from pre-k through high school). To date, the team has developed and provided professional learning support for a transition tool kit to be used for middle and high school transitions, developed a tool to assist schools in the documentation of transition activities and selection of evidence-based transition practices across all grade levels, and developed training and resources for promising practice activities associated with the development of self-determination.

## Brief Overview of Evaluation Activities, Measures, and Outcomes

The second year of evaluation activities has continued to focus on the review and summary analysis of data aligned with the logic model and summative evaluation questions represented by Figure 4 and Table 4 above. In partnership with the Center for Educational Measurement and Evaluation (CEME) at the University of North Carolina at Charlotte (UNCC), the primary evaluation methodology includes examining and understanding longitudinal trends in data, aligned with the evaluation questions. Examining longitudinal changes associated with SSIP implementation was deemed the strongest evaluation method because statewide implementation of the SSIP precluded the possibility of a comparison group-based design. For evaluation of the SSIP, the focus has been on monitoring the change (improvement) of outputs and outcomes for LEAs across time, particularly focused on trends prior to and following implementation of SSIP activities.

When examining the analysis of longitudinal data, there are several key features to note that serve to elucidate the association between SSIP activities and changes to outputs and outcomes in the logic model.

- **Significance of change from baseline**: indicates whether there was a statistically significant change in scores prior to and after the state-wide implementation of SSIP activities (i.e., changes from 2014-15 to 2015-16 and from 2014-15 to 2016-17).

- **Significance of Cohort 1 indicator:** The Cohort 1 indicator included data from eight LEAs that began the LEASA and improvement process approximately 12 months prior to the rest of the state (the selection process for Cohort 1 sites is described in the Phase Two report). The data were analyzed in a fashion to determine the difference between 2014-15 (end of baseline) and 2016-17 data for Cohort 1 sites and the rest of the state (i.e., to answer the question, "Did Cohort 1 sites experience a different impact from the 2014-15 to 2016-17 school years as associated with longer duration of SSIP implementation?"). Theoretically, changes in outputs and short-term outcomes that were the result of SSIP activities would be seen in Cohort 1 sites prior to non-Cohort 1 sites.
- **Priority Subgroup Analysis:** When possible, additional analyses were conducted for outputs and outcomes for academics and behavior for only those LEAs who identified that area as a priority on their LEASA (a new component added to the LEASA during FFY 2016). These analyses were conducted to help determine whether prioritizing one of these intervention areas had differential impact on implementation of the associated NCDPI supported intervention. Note, however, that LEAs formally identified these priorities during the Spring of 2017 and the FFY 2016 outcome data would reflect implementation of activities that predominantly occurred prior to this point in time.

In addition to statistical significance, effect sizes are also included to provide valuable information concerning the interpretation of the longitudinal change. Throughout the report, the odds ratio and Cohen's d are reported to estimate practical significance and the relative size of the effect. For interpretation purposes, an odds ratio close to 1 indicates little practical significance or change. For example, an odds ratio of 1.10 means the likelihood of meeting some criteria (i.e., graduation) is only 1.10 times more likely at one point in time compared to another. In addition, the Cohen's d effect size demonstrates the size of the change relative to the amount of variation in the sample. A Cohen's d of .2 is generally accepted as a "small" effect, .5 as a "medium" effect, and .8 as a "large" effect. Thus, effect sizes should always be interpreted with statistical significance to ascertain the practical significance of the change. In the current initial stages of implementation, effect sizes in the expected direction are expected to be present, but small.

## Highlights of changes to implementation and improvement strategies

There have not been large-scale changes to the implementation and improvement strategies during Phase Three, Year Two of the NC SSIP. Rather, processes and tools to communicate and efficiently engage in the activities have been refined to become established and embedded practices over the current year. Notably,

these practices and tools have been predominantly aligned to the activities described in the "Plans for Next Year" section of the Phase Three, Year One report. Highlights of these refined and embedded practices include:

- Development of a replicable process and timeline for LEASA submission, review, NCDPI infrastructure alignment, and development of a tiered Professional Learning Plan
- Identification of technical features of the LEASA
- Identification of LEASA Review Tool items with demonstrable inter-rater reliability (a tool with which NCDPI staff review LEASA submissions)
- Creation of a catalog of all professional learning activities offered by the NCDPI EC Division that is aligned to academics / behavior / transition and each Core Element of the LEASA
- Development and dissemination of a Professional Learning Calendar and Tool that allows LEAs to link their LEASA priorities and Improvement Plan to professional learning offered by the NCDPI EC division
- Creation of new professional learning identified in a systematic gap analysis (including cross-state collaboration to define systems and practice level critical components of Specially Designed Instruction within a Multi-Tiered System of Support).

Details concerning each of these highlighted areas are included in the "*Intended outputs that have been accomplished as a result of the implementation activities*" section of this report.

# Progress in Implementing the SSIP

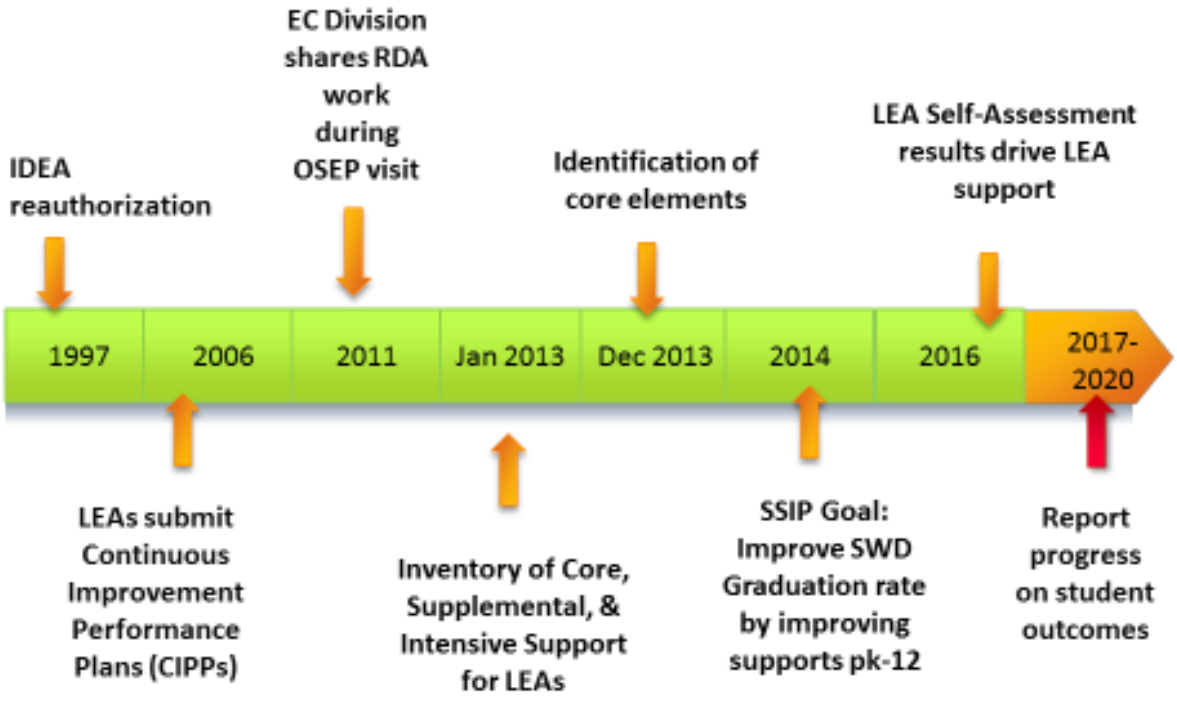
## Description of the State's SSIP implementation progress

### Description of the extent to which the State has carried out its planned activities with fidelity

The broad timeline for the SSIP implementation developed during Phase Two, which has been followed, is included in Figure 5 below.

Figure 5

*Evolution of NCDPI Results Driven Accountability and the NC SSIP*




Implementation activities since the last report have included a more fluent completion of the LEA Self-Assessment (LEASA) submission, analysis, infrastructure alignment, and development of a tiered Professional Learning Plan. Over the course of the 2016-17 and 2017-18 school years, NCDPI staff continued to support districts in their completion of the LEASA and Improvement Planning process through training during quarterly regional meetings, a March Institute training and "drop in" coaching session, virtual resources embedded within the tool itself, and ongoing technical assistance.

For the 2016-17 school year, LEASAs were due for submission by May 22nd, 2017. This date was adjusted to occur prior to the June 30th submission date in 2016. The justification was to more quickly develop and communicate a tiered Professional Learning Plan to LEAs and allow for purposeful planning for participating in NCDPI supported professional development during the 2017-18 school year. By the beginning of review, 96% of submissions from LEAs (traditional and charter schools) were received (278 out of 290). NCDPI review and analysis of the LEASAs were completed by June 21st, 2017, with each submitted LEASA being reviewed by three NCDPI staff. The ECD's response to the LEASA analysis, including processes and tools for infrastructure alignment and development of a tiered system of professional learning and technical assistance, is described below.

## Intended outputs that have been accomplished as a result off the implementation activities

The intended outputs that have occurred since the Phase Three, Year One report are described below. The outputs follow the logic model and are organized in terms of the LEASA and Improvement Planning process, Academics, Behavior, and Transition. Notably, from an evaluation perspective, activities reported on in the Phase Three, Year One report occurred prior to FFY 2016 outcomes described in this report. The activities described below will have occurred prior to FFY 2017 outcomes that will be described in the 2019 Phase Three, Year Three report.

## Outputs related to the LEASA and Improvement Planning Process

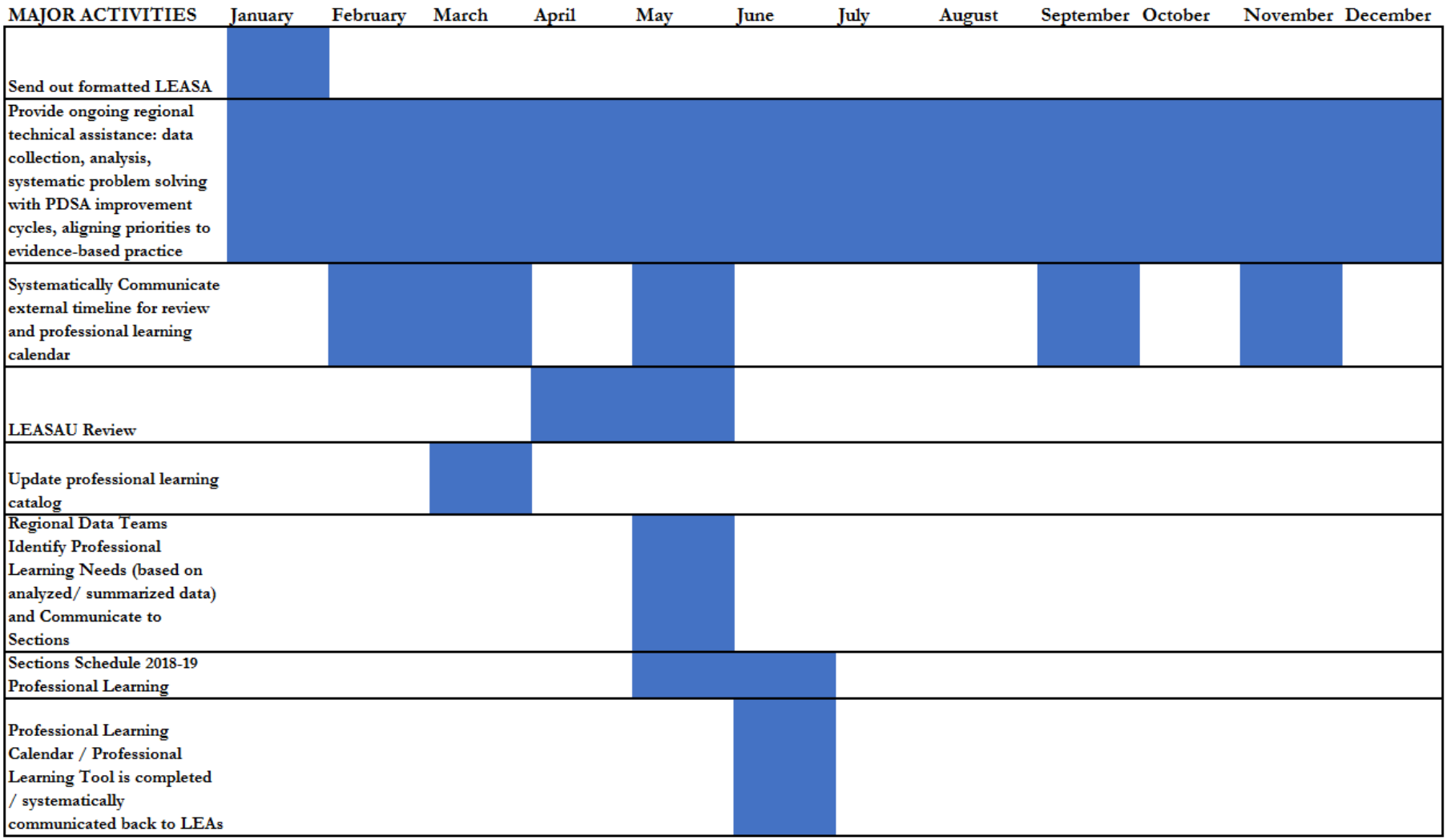
### Development of a replicable timeline for LEASA submission, review, NCDPI infrastructure alignment, and development of a tiered Professional Learning Plan

During FFY 2016 a systematic process for LEASA submission, review, NCDPI infrastructure alignment, and development of a tiered Professional Learning Plan was solidified. This process (with associated tools) is being replicated during the current year (FFY 2017) and includes: sending the LEASA to LEAs, delivering professional learning on the LEASA and Improvement Planning process (including frameworks of implementation science), communicating to LEAs within a systematic plan (e.g., key messages, dates, and formats), updating the professional learning catalog, NCDPI staff reviewing LEASA submissions, analyzing and visualizing LEASA data, regional data teams aligning professional learning needs to the Professional Learning Plan, identifying professional learning gaps, finalizing the Professional Learning Plan (e.g., confirming dates and locations of professional development), and communicating the plan in the form of a

Professional Learning Calendar and Professional Learning Tool. This process can be seen in the Gantt Chart below (Figure 6).

Figure 6

*LEASA Gantt Chart Timeline*



**Identification of Technical Features of the LEASA**

During the current year, analysis of the LEASA was conducted to estimate the validity of the tool. The tool contains 18 items that are distributed within four "Core Elements". A factor analysis of the LEASA ratings obtained in 2016-17 yielded four principal components that explained 60% of the variance across the items. Items loaded most heavily within their core elements (with exception of two items) with estimates ranging from .46 to .87. In addition, a set of obtained scores on the LEASA showed a modest Pearson correlation to five-year adjusted cohort graduation rates for students with disabilities ($r = .30$, $n = 76$, $p = .01$). These data provided some support for the measurement features of the LEASA, in addition to the intended purposes of root cause identification and improvement planning.

**Identification of LEASA Review Tool items with demonstrable inter-rater reliability (a tool with which NCDPI staff review LEASA submissions)**

To ensure reliable LEASA review data from NCDPI staff, the review tool was analyzed for inter-rater reliability. To complete this analysis, 74 NCDPI staff members completed a review of one submitted LEASA. After this review, the joint probability of agreement was analyzed for each item of the review tool. Only items that obtained a joint probability of 80% or greater were maintained in the final tool (i.e., at least 80% of the 74 staff members made the same rating on the item). In addition, inter-item correlation matrices were analyzed within each section of the review tool and any items that did not reach a significant correlation with items in the same section were discarded. The reliability of this tool is critically important because it serves a predominant function in aligning LEASA data to the professional learning of the ECD.

**Creation of a catalog of all professional learning activities offered by the NCDPI EC Division that is aligned to academics / behavior / transition and each critical component of the LEASA**

To facilitate the alignment of the NCDPI Professional Learning Plan to the root causes and improvement strategies identified in the LEASAs, the ECD engaged in a professional learning inventory resulting in a "Professional Learning Catalog". The inventory process involved each section of the ECD documenting all professional learning that could currently be supported, along with critical features including the format (e.g., face-to-face, virtual, or blended), intended educator and student outcomes, core elements of the LEASA it supported, evaluation methodology, and presence of job-embedded follow up.

There were several intended purposes to cataloging the professional learning of the division that included:

- Internal assessment of redundancy and gaps in professional learning
- Internal assessment of evidence-based professional learning practices
- Facilitating alignment of LEASA data to professional learning (e.g., allowing LEAs and reviewers an opportunity to make a direct link from root cause to professional learning supported by NCDPI)
- External communication of the ECDs professional learning

Broad analyses of the catalog allowed for a summarization of the ECD's capacity to provide professional learning and use of evidence-based practices related to evaluation, fidelity monitoring, and job-embedded follow-up. Figures 7 – 12 summarize the catalog regarding: the type of professional learning (professional development or technical assistance), the tier of support (universal, tailored or customized), alignment to each Core Element of the LEASA, presence of pre-post evaluation, presence of fidelity tools, and presence of job-embedded follow-up, respectively. ECD definitions concerning professional development, technical assistance, universal support, tailored support, and customized support can be found in the Phase Three, Year One report. Notably, these data address current *capacity* to provide professional learning.

Figure 7

*Percent of professional learning classified as professional development or technical assistance*

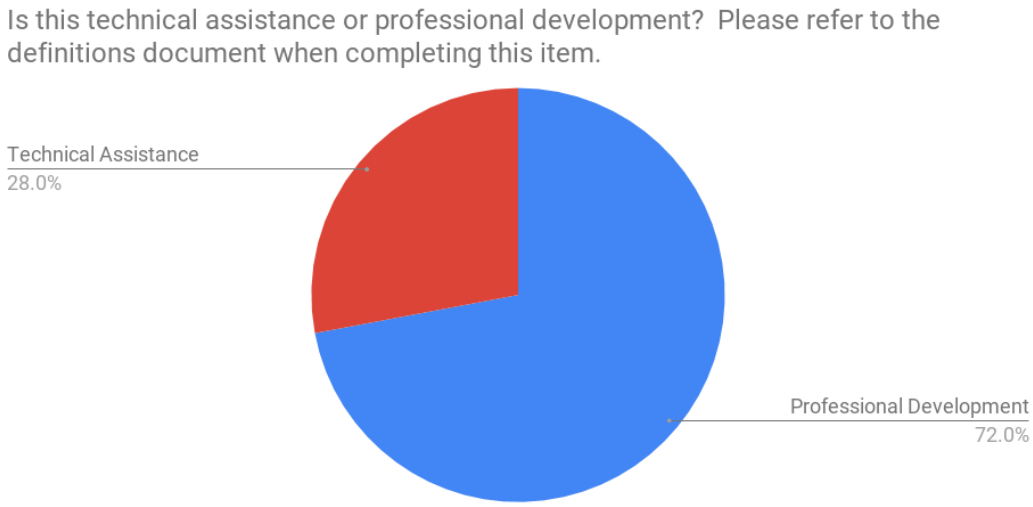


Figure 8

*Percent of professional learning at each tier*

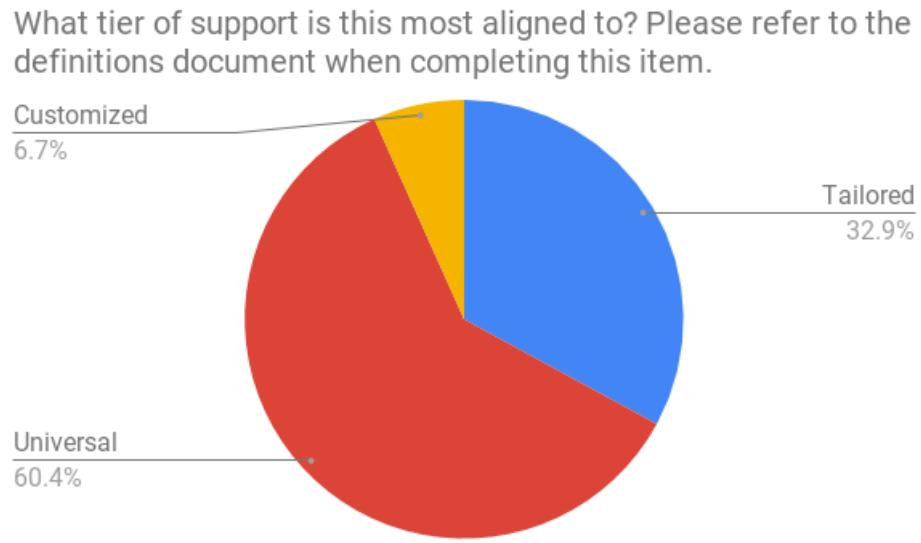



Figure 9

*Count of professional learning per Core Element*

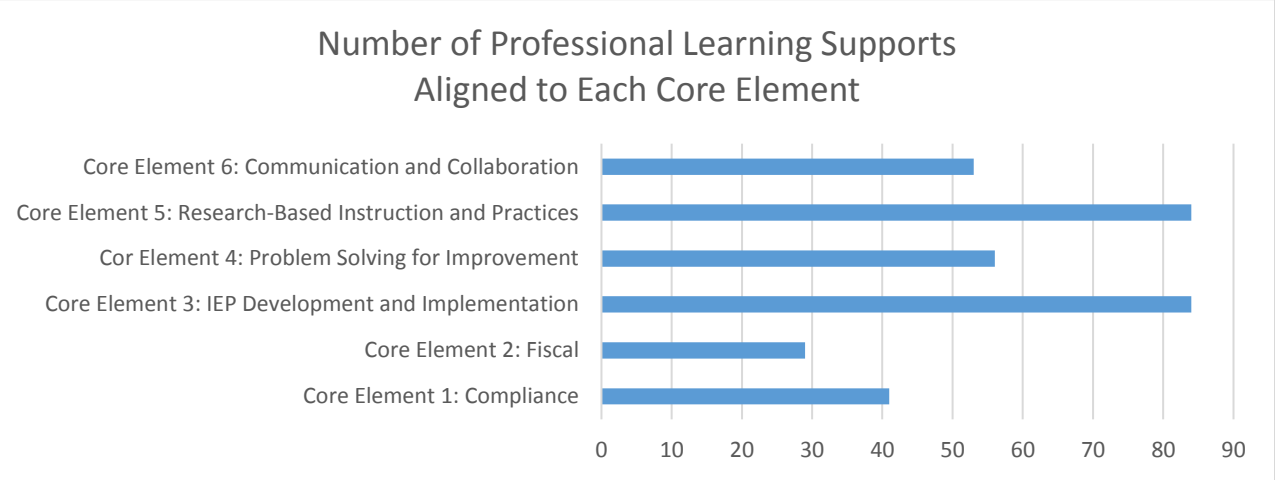


Figure 10

*Percent of professional learning with pre-post evaluation*

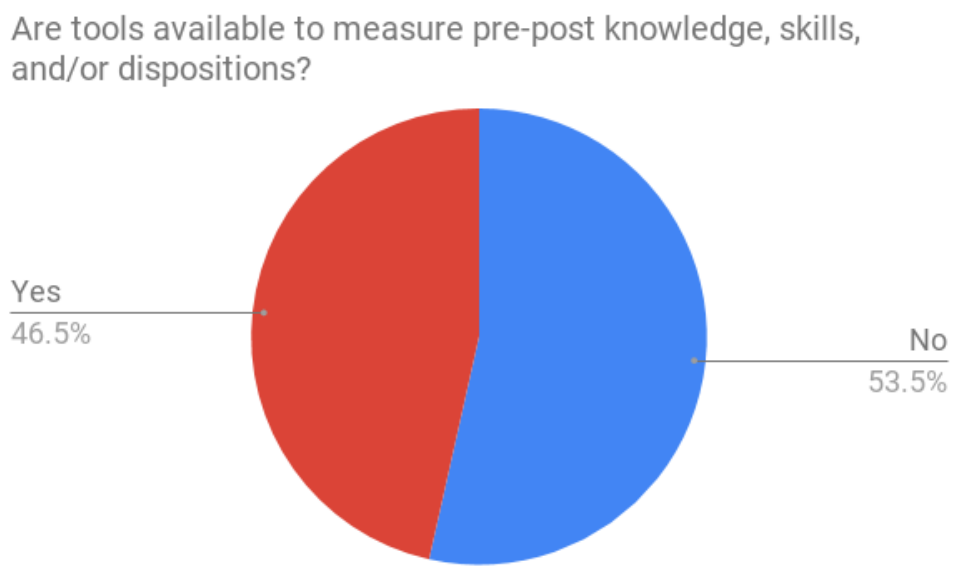



Figure 11

*Percent of professional learning with available fidelity tools*

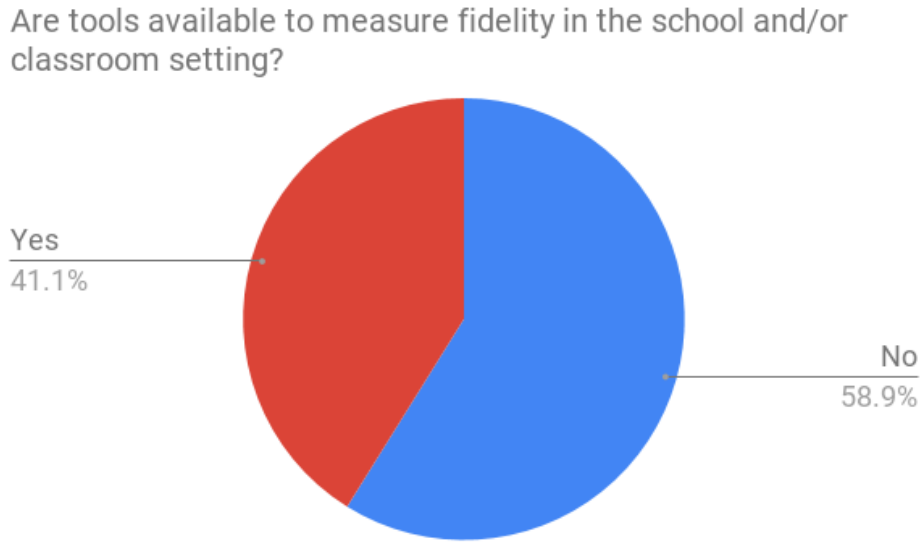
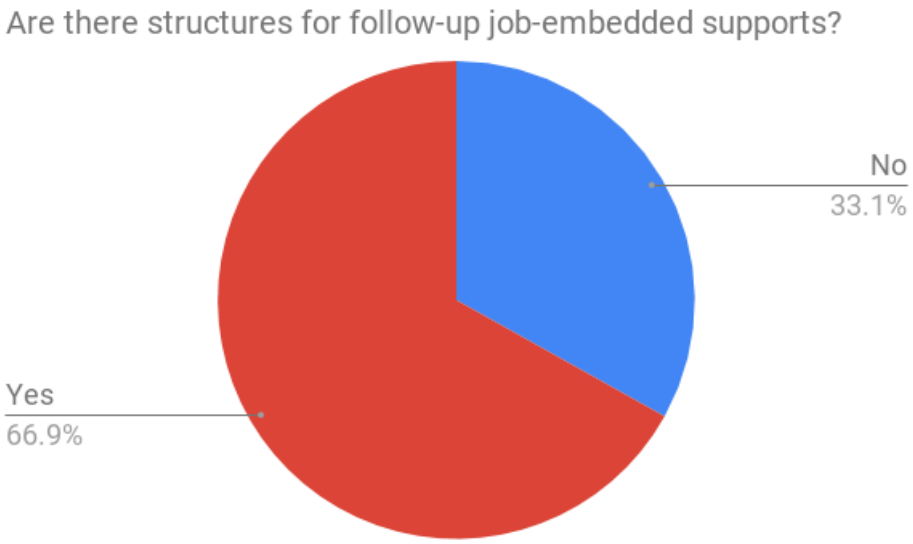


Figure 12

*Percent of professional learning with follow-up job-embedded supports*




As a result of sharing these analyses with stakeholders, the following recommendations were discussed to further enhance alignment and effectiveness of all professional learning provided by the ECD. These recommendations will be implemented FFY 2018 and include:

- Streamline professional learning data collection across registration, evaluation, and tracking (e.g., number of participants, alignment to LEASA core elements, types of follow-up) within a single platform
- Develop a common evaluation tool to be used with customization for each professional learning session
- Inventory, align, and develop fidelity tools to evaluate impact of identified professional learning
- Further embed coaching supports into professional learning

**Development and dissemination of a Professional Learning Calendar and Tool that allows LEAs to link their LEASA priorities and Improvement Plan to professional learning offered by the NCDPI EC division**

During FFY 2016, the ECD consolidated communication of professional learning to a single searchable calendar located on the division's webpage. Furthermore, an online google tool was created in which districts can input the Core Elements from the LEASA they identified as priorities and all professional development, locations, and registration options are populated. Districts can find the details of each professional learning session based on the information contained in the Professional Learning Catalog that is directly linked in the tool. This tool is housed in a password protected central communication hub at the request of LEA Exceptional Children directors. Thus, directors are now aware of the professional learning activities teachers in the LEA are registering for and can ensure alignment with the LEASA Improvement Plan. The consolidation of the communication of the ECD's Professional Learning Plan to a single calendar and tool converged multiple communication methods that previously required multiple calendar searches and registration processes to access professional learning offered by NCDPI. The consolidation and associated processes allow for the state to systematically align professional learning to the local and regional needs of LEAs and subsequently, for LEAs to ensure the professional learning teachers are engaged with is aligned to their local root cause and Improvement Plans.

**Creation of new professional learning identified in a systematic gap analysis**

As indicated in the Phase Three, Year One report, a common universal need expressed by LEAs centered around the delivery of Specially-Designed Instruction (SDI) within a Multi-Tiered System of Support (MTSS). Consequently, the apparent gap in the ECD's Professional Learning Catalog led to the formation of a multi-disciplinary team to develop new professional learning. This team includes members from the ECD, Integrated Academic and Behavior Supports, and Standards, Curriculum, and Instruction (SCI) divisions at the NCDPI. In addition, the team regularly reports to a leadership team of directors of each division.

The implementation of the professional learning will begin over 2018-19 within the context of active frameworks established through MTSS. For example, the district leadership and implementation teams for MTSS are playing important roles in the: determination of readiness, selection of an LEA professional learning team to provide training and coaching support, selection of schools to act as transformation sites, communication to stakeholders, and alignment of systems (e.g., professional learning calendars, school

schedules, communities of practice). Concurrently, the school and district teams will be supported through regional teams that are largely comprised of NCDPI staff who serve the corresponding region. These regional teams are supported by the state-level team forming cascading structures and feedback loops that will be established through regularly occurring regional face-to-face meetings. The delivery of the professional learning will be flexible in nature, providing LEAs the resources to deliver through face-to-face, blended, or virtual means. In addition, structured "just-in-time" communication packages are provided to the LEA district implementation team to deliver to school-based administrators where teachers will be implementing the practices contained within the professional learning (e.g., information on analyzing school level Least Restrictive Environment data, the role of special education in total school improvement, and developing schedules and routines that promote general and special education communication and collaboration).

The content of the modules was established through a systematic professional learning theory of action and is currently in the process of final review (including internal and external vetting). The theory of action resulted in five modules that reach audiences including district and school level administration, general education teachers, special education teachers, and related service providers. An overview of the main content areas of each of the modules is included in a webinar designed for the receipt of stakeholder feedback. Stakeholder feedback and alignment to local need has been a consistent feature in the development of this professional learning. In addition to 73% of LEAs in MTSS cohorts 1 and 2 (those who were deemed most ready to implement the professional learning) providing survey feedback to the webinar linked above, 29 LEA stakeholders (representing 14 LEAs) attended a full day "fine tuning" in which stakeholders provided critical feedback related to the content and delivery methodology of the professional learning.

Finally, NCDPI has also partnered with the National Center for Systemic Improvement (NCSI) to operationally define Specially Designed Instruction. Bringing in multiple states who have expressed interest in similar work, it has evolved into the development of two Practice Profiles (at the "systems" and "practices" levels). Practice profiles are a tool developed by the State Implementation and Scaling of Evidence-Based Practices (SISEP) center to make innovations knowable, teachable, doable, and assessable. At this point in time, the systems level workgroup (the workgroup NCDPI participates in) has generated critical components to support the development of infrastructure that supports educators in their implementation of SDI to improve outcomes for students with disabilities. The team is now in the process of defining developmental variations of each of these components to states and districts as they develop

common language and practices to communicate, train, coach, and evaluate the delivery of Specially Designed Instruction within an MTSS. Based on current timelines, these tools are planned to be completed by August 2018.

## Academics: The North Carolina State Improvement Project (NC SIP)

The comprehensive professional learning for reading and mathematics instruction offered through The North Carolina State Improvement Project (NC SIP) has continued to be the primary evidence-based practice to support districts that identify academics as the root cause impacting the SIMR. The implementation of this model has continued to include four major components since the Phase Three, Year Two report:

- Building capacity at the state level
- Working with districts to ensure they have the leadership and organizational capacity to implement and support district and building innovations
- Providing professional learning and coaching to teachers and administrators on effective instruction
- Working with Institutes of Higher Education (IHEs) to align NC SIP courses in pre-service and administrator courses

In terms of building capacity at the state level, 12 NCDPI staff, 16 LEA-based regional coaches for literacy, and 12 LEA-based regional coaches for mathematics have continued to build skills related to a continuum of coaching to support transer of training, including bug-in-ear "e-coaching". Consequently, face-to-face training on a continuum of coaching activities has been developed to support the online coaching modules. Thus far in FFY 2017, 35 participants who serve in coaching roles at the LEA level have engaged in the professional development, which has included ongoing "coaching of the coaches". These 35 individuals now serve critical roles within their district to ensure that participants of the Reading Research to Classroom Practice and Foundations of Mathematics courses are supported through job embedded follow-up that spans observations of models of best practice, individual coaching on specific evidence-based practices, and group coaching to overcome common problems of practice.

In congruence with the SSIP work, NC SIP has systematically supported implementation science frameworks in the Professional Learning Plan. Focusing on an audience of district-level administrators, the *All Leaders Understand, Support, and Collaborate to Provide Evidence-Based Instruction* has been provided to 241 individuals, focusing on the use of organizational, leadership, and competency drivers to support implementation of evidence-based practices for reading and mathematics. While this professional

development is aligned to the academic work, it is also designed to support skills sets that enhance implementation of any evidence-based practice.

The project has also continued to build capacity to provide the five-day reading and mathematics professional development courses to LEAs targeting academics as a root cause. During the current year, 1025 LEA staff have attended Reading Research to Classroom Practice and 518 have attended Foundations of Mathematics. This capacity to support the courses has been enhanced through regional coaches described above and the 8 "Best Practice" and 1 "Demonstration" sites that have a responsibility to support the professional development regionally, offering seats to districts with identified need.

Finally, the integration of the reading and mathematics courses described above into the pre-service coursework at Institutes of Higher Education has expanded from four colleges and universities to eight. This is a particularly strategic step in building capacity for implementation of evidence-based practices across the state, as higher proportions of newly entering teachers will have baseline knowledge and skills for teaching students with persistent reading and mathematics problems. In addition, these IHEs are working intentionally to pair student teachers to individuals who have been through the reading and math courses to further promote the transfer of skills into the classroom setting. Currently, Fayetteville State University, Greensboro College, NC Agricultural and Technical State University, North Carolina State University, University of North Carolina Charlotte, University of North Carolina Pembroke, and Western Carolina are offering the courses or have staff working on the credentials to offer the course.

## Behavior: Positive Behavioral Interventions and Supports (PBIS)

Over the course of the current year, the Exceptional Children Division (ECD) and the Integrated Academic and Behavioral Systems (IABS) division have worked collaboratively to align NCDPI infrastructure to support tiered, evidence-based practices for behavior within a Multi-Tiered System of Support (MTSS) framework. Consequently, six ECD staff who supported PBIS joined IABS in January 2018 to more closely align and integrate the work. Broadly, this transition fosters general and special collaboration, focusing on both preventative core supports and responsive supplemental and intensive practices. Over the course of the current year, NCDPI staff have continued to provide comprehensive professional learning modules to LEAs that that are aligned to universal (484 LEA participants), supplemental (369 LEA participants), and intensive (106 participants) behavioral supports. Additional professional learning has occurred within the Professional Learning Plan for Team-Initiated Problem

Solving (TIPS), classroom management, Functional Behavioral Assessments (FBAs), Behavioral Intervention Plans (BIPs), and school-based mental health.

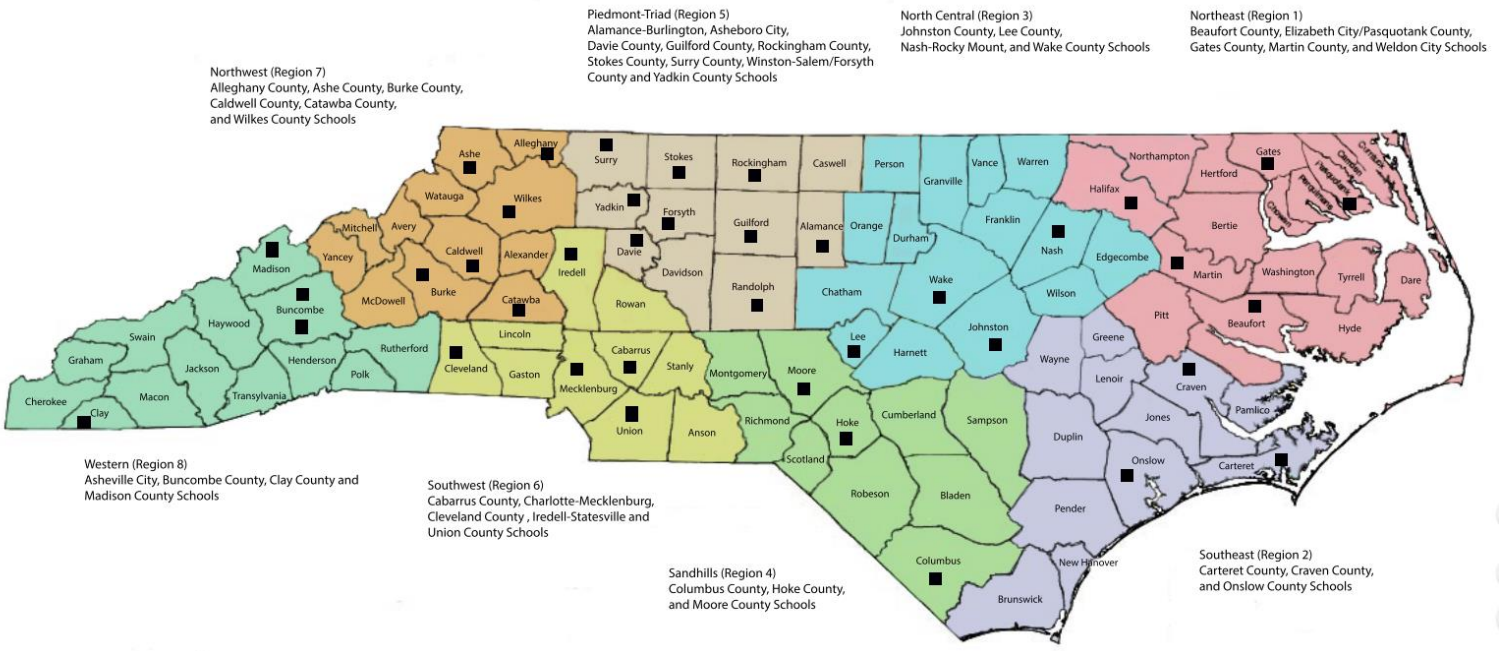
Additionally, current planning is taking place to integrate these professional learning offerings within MTSS professional development modules that focus on establishing readiness and defining core instruction and building a system of interventions (e.g., standard treatment protocol and intensive intervention for non-responders). In addition to the integration of professional development, this transition will allow for alignment of other state, regional, district, and school systems related to leadership, implementation teams, data sources, and problem-solving activities where there was previously duplication and language inconsistencies.

## Behavior: NC Social Emotional Foundations for Early Learning (SEFEL)

As of January 2018, there are now 39 LEAs in the Targeted Preschool Pyramid Project, at various stages of implementation (see Figure 13 below). As new LEAs agree to enter the project, they ensure that they will identify a leadership team that will develop an implementation plan, evaluate that plan using a practice profile, implement a program assessment tool, and report data on the implementation process to the NC OEL. As indicated in the implementation plan, designated LEA coaches provide support to classroom teachers to implement the practices with fidelity. Coaches receive a series of trainings from the NC ELN on the coaching process, and must reach fidelity in administering the teacher fidelity measure, the TPOT. Coaches utilize an on-line coaching log, which allows the NC OEL to capture data on the teacher's fidelity on the TPOT and provides coaches with feedback upon which teaching practices they are coaching.

Figure 13

*SEFEL Implementation Sites as of January 2018*




The scaling of this work over time can be seen in Table 5 below. In the 2015-16 school year, there were 27 out of 115 traditional LEAs enrolled in the project (23%); in 2016-17, participation grew to 30% (34 out of 115 LEAs). In the 2017-18 school year, this amount grew to 39 out of 115 LEAs (34%).

Table 5

*Percent of Traditional LEAs in Preschool Pyramid Project*

| **Time frame** | **7/1/12-6/30/13** | **7/ 1/13-6/30/14** | **7/1/14-6/30/15** | **7/1/15 -6/30/16** | **7/1/16-6/30/17** | **7/1/1-7 6/30/18** |
|---|---|---|---|---|---|---|
| Total Number | 14 | 27 | 29 | 27 | 34 | 39 |
| Percent | 12% | 23% | 25% | 23% | 30% | 34% |

## Transition: Development of a Continuum of Transitions Support

The most recent Continuum of Transitions (CoT) work has been informed by two sessions seeking stakeholder input. During these meetings, stakeholders identified needs related to a general dearth of resources related to supporting transitions within elementary grades, collecting and documenting data across grade spans, and intervening to positively impact self-determination. Based on this feedback, the CoT workgroup (a workgroup of the SSIP stakeholder team) created an initial professional development session that included the following components:

- A review of the research around post school outcomes for SWD, which included postsecondary education and employment outcomes (WHY)
- An implementation plan (beginning with usability testing) for a promising practice of self-determination "Bell Ringer" activities, which included identifying a diverse group of LEAs across the state as participants (WHO)
- The specific steps of administering the AIR Self-Determination Assessment (which served as pre-post measures) and implementing the "Bell Ringer" self-determination activities (HOW)

In addition to these training components, materials were shared that included "Bell Ringer" PowerPoints, with reviewed, scripted self-reflection questions.

For the usability testing of the activities, four initial sites were identified that represented geographic and demographic diversity, as well as a willingness to use the measures across grades. Prior to delivering the "Bell Ringer" lessons, teachers involved in the pilot completed the AIR Self-Determination Assessment for each of the students participating in the activities to gather pre-intervention data. Pilot teachers then implemented the Bell Ringer activities (teachers were asked to complete the activities on a consistent basis, no less than two sessions per week for a full nine weeks). During the activities, students engaged in a discussion around a statement related to self-awareness, disability awareness, and / or self-directed IEPs. Students were asked to consider the statement and respond with their thoughts about how the statements applied to them individually (Did they understand that skill? Did they demonstrate that skill? Did they need to develop that skill?). After nine weeks of providing "Bell Ringers", teachers again completed the AIR Self-Determination Assessments to gather post-intervention data.

The usability testing revealed several findings that will guide implementation of this promising practice next year. First, the effect of the intervention appeared to be larger for elementary students *paired t*(143)=

11.41, $p < .01$, $d = .95$ than middle and high school students *paired* $t = 2.35(85)$, $p = .02$, $d = .25$. Additionally, while there were standardized approaches to delivering the intervention activities (e.g., a minimum of 2 sessions per week for 9 weeks), there was a wide range of sessions (i.e., dosage) that were delivered across the classrooms (M = 21.31, SD = 10.24). This is particularly salient because when controlling for the pre-test scores, the number of sessions accounted for significant variance in the post-test scores (i.e., dosage impacted outcome). Thus, the team will need to consider how to ensure teachers have the right contexts in place (e.g., schedules, planning time, caseloads) to ensure minimal dosages of the intervention are delivered

In addition to the usability testing of self-determination activities, the following resources were created for LEAs to use for transition planning (1) a Continuum of Transition Tool for documenting student transition activity through their school experience, (2) a transition wiki-page, (3) a recommended CoT Plan, (4) links to a multitude of transition activities for all grade levels, and (5) a Guiding Questions Tool that is aligned with the state SSIP goals.

Finally, in partnership with the National Technical Assistance Center on Transition the team has started conversations concerning the alignment of evidence-based transition practices to the LEASA. This alignment tool is intended to help schools and teachers identify the practices that are most closely aligned to their root causes and improvement plans.

# Stakeholder involvement in SSIP implementation

## How stakeholders have been informed of the ongoing implementation of SSIP

## How stakeholders have had a voice and been involved in decision-making regarding the ongoing evaluation of the SSIP

### The SSIP external team

External stakeholders serve on SSIP workgroups and attend quarterly external SSIP meetings. The purpose of the quarterly external meetings is to construct broad implementation frameworks, macro-planning (big picture / systems level decisions), share evaluation findings, pose specific decision points for formal analysis by the team, and provide general feedback on implementation. For example, one external stakeholder meeting shared the results of the Professional Learning Catalog summary, the LEASA review

analysis, and the Professional Learning Plan and focused on the refinement of the process based on the data. Large-scale decisions are typically reserved for these external meetings and are made using a modified consensus process of decision making (i.e., can everyone live with and publicly support the decision). The external stakeholder team is diverse and includes members from across NCDPI, LEA leadership, parent representatives, IHE representatives, and technical assistance centers. The SSIP internal team meets monthly with a general focus on details and management of the large-scale frameworks and decisions made by the external team.

**The Exceptional Children Division**

The SSIP team has created a Google Folder that houses the notes and decisions made for each SSIP meeting that is made available to NCDPI staff. In addition, brief recorded videos have now been created after meetings to highlight the key points of the meeting and implications for NCDPI staff and other stakeholders. This communication is made prior to monthly division and regional team meetings so staff can review and reflect on the content prior to opportunities to provided structured feedback (in the form of facilitated processes) during division and regional data team meetings. Furthermore, the videos link to a survey where stakeholders can provide feedback related to questions, considerations, and potential contributions to the SSIP work.

**Informing the State Education Agency**

Within the broader SEA, stakeholders are primarily involved with SSIP through the State Implementation Team (SIT). The SIT is comprised of representation from across the agency, LEAs, and institutes of higher education (IHEs). Over the course of the current year, the SIT has provided professional development and coaching to NCDPI staff related to active implementation frameworks. Thus far, professional development and coaching sessions have focused on usable interventions, including the systematic selection process (i.e., the Hexagon Tool) and operationalizing of interventions through a Practice Profile. Consequently, the following divisions have created a practice profile for an initiative they are currently implementing: Standards, Curriculum and Instruction (SCI), Career and Technical Education (CTE), K-3 Literacy, Digital Teaching and Learning (DTL), Instructional Technology (IT), Accountability, and Virtual Public Schools (VPS), Online Professional Learning (OPL), and Exceptional Children (EC). Over the course of this professional learning, the LEASA was used as a model for both the development and use of a practice profile. This has resulted in a common framework for operationalizing work that is evolving into alignment for how the agency communicates (internally and externally), trains, coaches, and

evaluates work. In addition, work groups on the SIT collaboratively remove barriers, define relationships between agency projects, align the work of the agency, create common language and practices for agency staff, and provide support for LEAs through development of agency-wide infrastructure. The SIT meetings have provided multiple opportunities for SEA staff to describe overlapping work associated with the SSIP and construct intentional alignment. Examples since the Phase Three, Year One report include SSIP alignment with SDI to MTSS implementation and initial discussion about the development of a single district improvement plan that synthesizes data sources across multiple domains (e.g., EC, MTSS, Title One, and School Improvement).

**Informing LEAs**

The implementation of the SSIP continues to be regularly shared with LEAs during regional and statewide meetings and through their representatives on the Director's Advisory Council (DAC). DAC representatives are EC directors and coordinators who have been nominated and elected by their peers. Over the course of the current year, the ECD has worked closely with DAC to change the format of the quarterly Regional Directors' and Coordinators' Meetings. Through structured processes at these meetings, DAC representatives gather information about topics, including those that related to SSIP implementation, that LEA stakeholders find most salient and time sensitive. After gathering those data, DAC meets with ECD staff to construct an agenda for the subsequent meeting. This occurs through a structured process that results in statewide delivery of "just-in-time" communication, professional development, or systematic opportunities to engage around a problem of practice. In addition to these agenda items that are delivered consistently across the state, regional data teams work with their respective DAC representatives to address agenda items specific to their region. It is the intent of this process to result in more responsive communication and content that is aligned to both statewide and regional needs.

# Data on Implementation and Outcomes

## How the state monitored and measured outputs to assess the effectiveness of the implementation plan

### How evaluation measures align with the theory of action

Figures 3 and 4 above provide an over-arching depiction of the updated theory of action and logic model, respectively. The logic model displays the presumed associations between the strategies / activities, the resulting outputs and the short, intermediate and long-term outcomes. Currently, the outputs and short-term outcomes in the logic model serve as the most relevant metrics to monitor for change to ensure the strategies / activities are having the intended impact at the system level. The intermediate outcomes serve as direct impact measures presumed to occur as the results of changes in the short-term outcomes. The basis of the theory of action is grounded in the ability of the SSIP to positively impact the intermediate outcomes that, ultimately, will increase the ability of students with disabilities to graduate within five years. The alignment of specific evaluation measures to the relevant outputs and outcomes is included in Figure 5. A detailed description of data sources for each measure is included below. As indicated in the logic model, many of the outputs and short-term outcomes are related to measures of implementation and / or fidelity that would be early indicators of successful implementation of the evidence-based practices. Medium and long-term measures are related to student outcomes that would be expected following sustained implementation.

### Data sources for each key measure

**State-Identified Measurable Result:**

- **Five-year Adjusted Cohort Graduation Rate for SWD:** is determined by using the ratio of youth with Individualized Education Programs (IEPs) graduating with a regular high school diploma to all youths with IEPs entering ninth grade for the first time five years prior. The cohort is "adjusted" by adding any students who transferred into the cohort and by subtracting any students who transferred out, emigrated to another county, or died during the years covered by the rate.

**Coherent Improvement Strategy: Problem Solving & Effective Implementation**

- **LEASA Practice Profile**: these data provide evidence of LEAs' ability to implement Core Elements of comprehensive special education services for students with disabilities. The data from the practice profile will assist the ECD in determining which LEAs need specific types of supports,

how much support they will need, and how support has resulted in change in their capacity over time.

- **LEASA Improvement Plans**: the NCDPI review data from the LEASA Improvement Plans provide evidence of LEAs' ability to problem solve to target interventions aligned to local root cause. In addition, the review data elucidate the presence or absence of key components of successful implementation plans.

**Academics: NCSIP Reading & Math Foundations**

- **Fidelity Observations**: these LEA-level data provide evidence of teachers' (aggregated to the LEA level) adherence to the evidence-based Reading / Math instructional model selected by the LEA. Teachers who have taken the Foundations and instructional model course receive at least one fidelity observation by a trained observer who has attained inter-rater reliability. These fidelity checks are developed and validated by the developer / publisher of the evidence-based programs.
- **Student proficiency data:** include NC End-of-Grade tests.

**Behavior: PBIS & SEFEL**

- **School-Wide Evaluation Tool (SET**): this measure is designed to assess and evaluate features of school-wide behavioral supports including definition of expectations, teaching of behavioral expectations, system for responding to behavioral violations, etc. Schools are rated 0-100 on each of the components and averaged to yield an overall SET score.
- **Teaching Pyramid Observation Tool:** is a fidelity measure of teachers' use of SEFEL strategies
- **Discipline Data:** include a common metric for In-school (ISS), Out-of-School (OSS), and Long-Term Out-of-School suspension data.

**Transitions: Support for a Continuum of Transitions**

- **Office of Special Education Programs (OSEP) SPP / APR Indicator data:** a number of indicators to monitor various outcomes.
    - **Indicator 7:** the percent of preschool children aged 3 to 5 with IEPs who demonstrate improvement in positive social-emotional skills, acquisition and use of knowledge and skills (including early language / communication and early literacy), and the use of appropriate behaviors to meet their needs.

- **Indicator 8**: measures the percentage of parents with a child receiving special education services who report that schools facilitated parent involvement as a means of improving services and results for children with disabilities.
- **Indicator 11**: measures the percentage of students being referred that receive timely (within 90 days) evaluations and placement for special education services.
- **Indicator 12**: measures the percentage of students referred by Part C / Early Childhood Intervention prior to age 3 who are found eligible for Part B / District Special Education Services and who have an IEP (Individualized Education Program) developed and implemented by their 3rd birthday.
- **Indicator 13**: measures the percent of youth with IEPs aged 16 and above that have an IEP that includes appropriate measurable postsecondary goals that are annually updated and based upon an age appropriate transition assessment, transition services, including courses of study, that will reasonably enable the student to meet those postsecondary goals, and annual IEP goals related to the student's transition service needs.
- **Indicator 14:** measures the percent of youth who are no longer in secondary school, and were:
    - enrolled in higher education within one year of leaving high school
    - enrolled in higher education or competitively employed within one year of leaving high school
    - enrolled in higher education or in some other postsecondary education or training program; or competitively employed or in some other employment within one year of leaving high school

## Description of baseline data for key measures

As indicated in the Phase Three, Year One report, the extant performance data for each of the key measures (typically occurring prior to SSIP implementation) was reviewed as a basis for future comparisons. These data are summarized in that report, but are also included here for ease of access and comparison. Baseline levels for key outcome indicators are summarized below (please note, this report does not represent an exhaustive review of all the analyses conducted and reviewed by the SSIP team. This report reflects key measures, aligned to the logic model, that inform judgements about the current progress and success of SSIP implementation). Also of note, as new measurement tools have

been implemented into the evaluation plan, new baselines have been established due to the lack of pre-existing data. These baseline data should be interpreted as occurring within the context of ongoing implementation.

## State-Identified Measurable Result: Cohort Graduation Rate

- **Five-year Cohort Graduation Rates (CGR**): baseline data for five-year adjusted cohort graduation were summarized by demographic subgroups across the 2012-13, 2013-14 and 2014-15 school years. Rates and trends were similar across years for different racial groups (e.g., Black Students 78.7, 81.1, 83.4; White Students 86.3, 87.7, 88.5). During the baseline period, over half of all schools with a SWD subgroup increased their five-year CGR, 8.3% remained the same, and 41.7% declined.

## LEA Self-Assessment

- **Practice Profile Ratings:** these data were summarized across LEAs for total score, score per Core Element, and score across items related to systems, practices, and outcomes for 2015-16 and 2016-17. Ratings for the LEASA were first submitted in 2015-16.
- **LEA Self-Assessment Review Data:** the current review tool was first utilized during the 2016-17 school year. The review data describe the presence or absence of key implementation criteria within the improvement plan.

## Academics: NCSIP Reading and Math Foundations

- **Fidelity of Reading and Mathematics Instruction:** baseline data for fidelity of implementation of evidence-based reading and mathematics practices were summarized across the 2012-13, 2013-14, and 2014-15 school years. The average change of percent of teachers achieving minimum criteria on the fidelity assessment was examined. The examination revealed an overall increase across time. Math and reading fidelity percentages showed considerable variation across LEAs.
- **Academic Performance:** baseline data for academic performance were summarized across the 2012-13, 2013-14, and 2014-15 school years. Proficiency rates of key demographic subgroups were examined on EOGs. Across reading and mathematics content area assessments, similar trends and gaps were evident for each of the three years, with White students exhibiting the highest performance and SWD and LEP students exhibiting the lowest performance.

## Behavior: Positive Behavioral Interventions and Supports (PBIS)

- **School-Wide Evaluation Tool (SET):** baseline data for fidelity of PBIS implementation as measured by the SET were summarized across the 2012-13, 2013-14, and 2014-15 school years. The distribution of scores was negatively skewed (indicating a high proportion of high scores), with nearly equal mean scores across baseline years.
- **Discipline Data:** baseline data for the overall rates of In-School Suspensions (ISS), Out of School Suspension (OSS), and Long-Term Out of School Suspension (LT OSS) were summarized across the 2012-13, 2013-14, and 2014-15 school years. Overall, ISS and OSS rates declined over the baseline period.

## Behavior: Social and Emotional Foundations for Early Learning (SEFEL)

- **SEFEL Fidelity (TPOT):** baseline data for the fidelity of SEFEL implementation as measured by the TPOT were summarized across the 2012-13, 2013-14, and 2014-15 school years. The median rates of teachers reaching TPOT fidelity increased from Fall to Spring each year, but declined from 2012-13 to 2013-14, with approximately similar values in 2013-14 to 2014-15. Broadly, however, LEAs were relatively successful in supporting their teachers attain TPOT fidelity during the baseline period.

## Transition Outcomes

- **Indicator 7:** baseline Child Outcome Summary Form (COSF) data were summarized across the 2012-13, 2013-14, and 2014-15 school years. The COSF data yield the percent of preschool children aged 3 to 5 with IEPs who demonstrated improvement in outcomes related to positive social-emotional skills, acquisition and use of knowledge and skills (including early language / communication and early literacy), and the use of appropriate behaviors to meet their needs. Within each of these three outcomes are two different metrics and accompanying targets, outlined as follows:
    1. Of those children who entered or exited the program below age expectations in the Outcome, the percent who substantially increased their rate of growth by the time they exited the program.
    2. The percent of children who were functioning within age expectations in the Outcome by the time they exited the program.

For the 2012-13 school year, NC did not meet the established targets for both metrics for any Indicator 7 outcomes. New baselines were established for the 2013-14 school year. For the 2014-15 school year, NC met targets for both metrics within Outcome C. Across baseline years, considerable variability existed among LEA level measures.

- **Indicator 8:** baseline data summarized the counts of the Indicator 8 target attainment status for 2013-14 and 2014-15. The target percentage for North Carolina in both years was 50.0% (at the SEA level during baseline, the mean rates were 46.0% in 2013-14 and 43.8% in 2014-15). In 2013-14, 31.6% of LEAs with available data attained a percentage of parents greater than the 50.0%, while 31.0% had a percentage greater than 50.0% in 2014-15.
- **Indicator 11:** baseline data were summarized for the percentage of students being referred that receive timely (within 90 days) evaluations and placement for special education services across the 2012-13, 2013-14, and 2014-15 school years. For the baseline school years, indicator 11 decreased slightly from 93.3% in 2012-13 to 92.5% in 2014-15. Across baseline years, considerable variability existed among LEA level measures.

- **Indicator 12:** baseline data were summarized for the percentage of students referred by Part C / Early Childhood Intervention prior to age 3 who were found eligible for Part B / District Special Education Services and who had an IEP (Individualized Education Program) developed and implemented by their 3rd birthday during the 2012-13, 2013-14, and 2014-15 school years. During the baseline period, NC consistently failed to meet the 100% target, but, was consistently above 97%.

- **Indicator 13:** baseline data summarized the counts of the Indicator 13 target attainment status for 2013-14 and 2014-15. The target percentage for North Carolina in both years was 100.0% (at the SEA level, the rates were 85.1% in 2013-14 and 88.4% in 2014-15. In 2013-14, 6.5% of LEAs with available data attained a percentage of youth aged 16 and above with an IEP that meets the secondary transition requirements target while 10.5% had a percentage greater than 100.0% in 2014-15.

- **Indicator 14:** baseline data summarized the counts of the Indicator 14 target attainment status (for Targets A, B, and C) for 2013-14 and 2014-15. The target percentages for North Carolina were >= 39.5% (target A), >= 62.5% (target B) and >= 73.5% (target C). At the NC SEA level, the rates were 30.0%, 54.0% and 69%, respectively, for targets A, B and C in 2013-14 and 31.9%, 61.1% and 72.7%, respectively, for targets A, B and C in 2014-15.

## Data collection procedures and associated timelines

Data collection procedures and timelines remained consistent to those described in the Phase Three, Year One report. NCDPI adopted PowerSchool as the primary Student Information System (SIS) several years ago. A number of databases / procedures were leveraged for the SSIP evaluation. Once compiled, necessary data were shared with the Center for Education Measurement and Evaluation at the University of North Carolina-Charlotte for analysis.

These databases and data procedures utilized are described below:

- **Powerschool**: is the primary Student Information System (SIS). Several of the data points necessary for tracking and reporting on the implementation and impact of the SSIP project are collected from all NC LEAs through this system. As a result, data for a particular school year for all LEAs are provided in a standardized format in the following fall.
- **LEASA**: are submitted annually via Excel. Data are then aggregated for analysis purposes.
- **Common Education Data Analysis and Reporting System (CEDARS)** is an Oracle based data warehouse that provides standardized discipline data that can be accessed over the life of the project.
- **The NC SIP data base:** is a data based specific to the North Carolina State Improvement Project. The NC SIP fidelity data are collected through electronic forms submitted through the NC SIP data base over the course of the year. At any time, the data that can be exported from the database.
- **The Data Management System (DMS)**: is a database specific to PBIS which has specific annual data collection and submission guidelines.
- **SEFEL Data:** were provided by the project lead in Excel format. Data are collected throughout the year and available as requested.
- **Indicator Data:** are collected by separate managers within NCDPI. Though these data are also presented in a standardized format, the timeliness of their collection and summarization vary.

## Sampling procedures

No probabilistic sampling procedures are planned for the evaluation of SSIP. Data that are already being collected and readily available are being used, thus, available longitudinal data for all LEAs will be captured.

## Planned data comparisons

The primary research design for the evaluation of the SSIP is longitudinal, meaning the primary comparisons to be made will involve LEA performance on various metrics across time (most notably, prior to and following SSIP implementation). Thus, the primary analyses will involve examining how much change occurs from the initial SSIP implementation year and subsequent years. Data are also organized by participating cohorts to facilitate comparisons of growth among LEAs from SSIP Cohort 1 and the rest of the state. In addition, comparisons of growth will be made between Cohort 1 and all other LEAs to determine if similar (or dissimilar) amounts of change are occurring in LEAs where shorter duration of SSIP participation have occurred. Predominantly, this cohort indicator allows analysis of the association between time of implementation and changes on various outputs and outcomes. During the current year, analyses have also occurred across specific priorities contained within the LEASA Improvement Plan. Thus, this analysis allows for determination of whether districts who focus SSIP implementation in a specific priority area see different changes over time with related outputs and outcomes. To note, the priorities were identified in the spring of 2017 and are indicative of implementation activities occurring during the current 2017-18 academic year (and thus, would not heavily influence FFY 2016 outcomes).

## How data management and data analysis procedures allow for assessment of progress toward achieving intended improvement

The data management process has allowed for reliable access to data that are associated with various outputs and outcomes in the SSIP logic model. In addition, these data are collected and available at regular intervals that allow for longitudinal analysis over time. As alluded to in the Planned Data Comparison section, longitudinal analyses have been the primary method for determining whether the strategies of the SSIP are having an impact on short, intermediate, and long-term outcomes. The use of several years of data representing the time *before* SSIP installation has increased the statistical power (i.e., likelihood) of being able to detect statistically significant change in metrics. However, as noted previously, effect sizes are reported when possible to describe practical impact (i.e., sometimes the relatively large sample sizes yield statistically significant results with little practical meaning).

## How the State has demonstrated progress and made modifications to the SSIP as necessary

### How the state has reviewed key data that provide evidence regarding progress toward achieving intended improvement to infrastructure and the SIMR

For the current year, longitudinal analysis is expected to yield consistent trends in outputs (including fidelity data) and short-term outcomes as many LEAs transition into initial implementation of their improvement plans and NCDPI better aligns infrastructure and professional learning. Small effect sizes associated with outcomes are still expected in this stage of implementation. Implementation science literature suggests three to five years are typically required to achieve intended outcomes, if active implementation frameworks are intentionally adhered to. Thus, based on the current stage of implementation, focus areas of the evaluation data for the application of improvement cycles is predominantly occurring as it relates to outputs and short-term outcomes.

### Evidence of change to baseline data for key measures

The longitudinal analysis is organized in relation to the SIMR, the LEA Self-Assessment and Improvement Process, and the domains of academics, behavior, and transition. As described previously, the longitudinal analysis indicates whether the change from baseline (from 2014-15 to 2015-16 and from 2014-15 to 2016-17) was statistically significant and whether participation in Cohort 1 is associated with a different change from baseline as compared to the rest of the state (i.e., to answer the question "did Cohort 1 sites experience a different impact from the 2014-15 to 2015-16 school years as associated with longer duration of SSIP implementation?). This year, additional analysis is also conducted to ascertain the association between LEAs who focused on a specific priority area and related outputs and outcomes (e.g., do districts who focused on behavior interventions see significant increases in PBIS implementation fidelity and significant decreases in disciplinary events?).

## Graduation

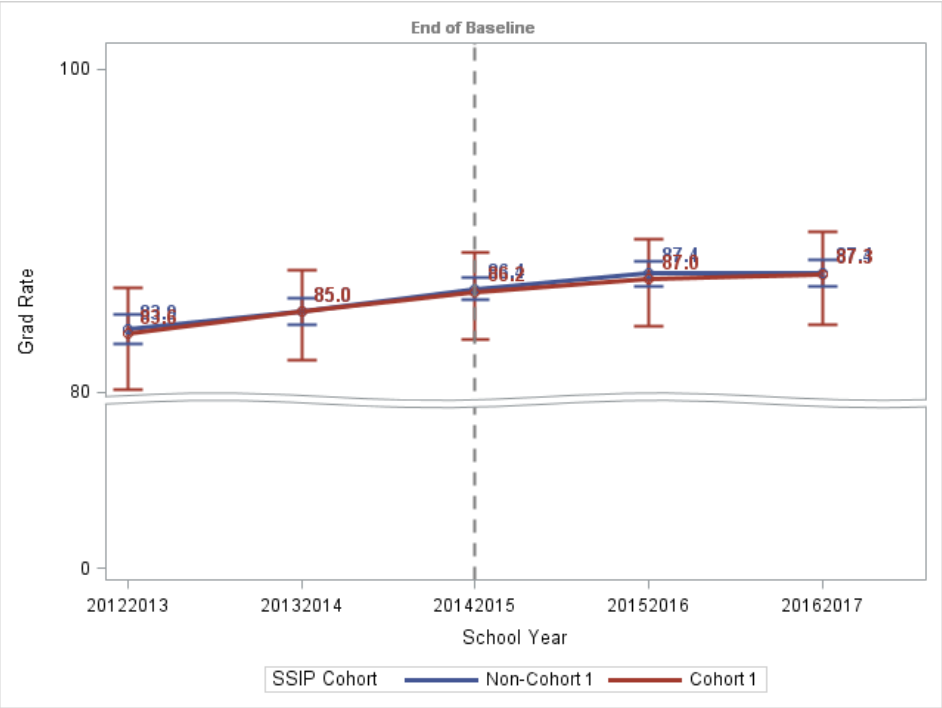
### What is the longitudinal trend in five-year cohort graduation for <u>all students</u> in North Carolina?

First, the LEA-level five-year adjusted CGR rates for all students (e.g., inclusive of all subgroups) were examined. Figure 14 shows a steady increase in the rates of all students from 2012-13 to 2015-16 with a leveling off in the 2016-17 school year supporting a significant cubic effect for time ($p < .001$; $d = .004$, a very small practical effect size). The final model also supported random intercepts and slopes allowing each LEA their own trajectory and change across time, but a non-significant main effect for the Cohort 1 indicator ($p = .844$). Despite the lack of a significant main effect or interaction term for the Cohort 1 indicator, these effects were included to model the difference in rates from 2014-15 to 2015-16 and 2015-16 to 2016-17 as an indication of impact of the SSIP model. For both the Cohort 1 and non-Cohort 1 groups, the change from baseline (from 2014-15 to 2015-16) was marginally non-significant ($p = .086$, odds ratio=1.01, $d = .05$ and $p = .070$, odds ratio=1.07, $d = .04$, respectively). Looking at the change from 2015-16 to 2016-17, both the Cohort 1and non-Cohort 1 groups achieved significant differences ($p = .005$, odds ratio=1.01, $d = .002$ and $p = .026$, odds ratio=1.03, $d = .014$, respectively). We also examined the change between baseline (2014-15) and the most recent year's data (2016-17). The non-Cohort 1 group difference was statistically significant ($p = .019$, odds ratio=1.09, $d = .05$) and the Cohort 1 group was marginally significant ($p = .053$, odds ratio=1.11, $d = .05$). Overall, the odds ratios near one suggest that mean graduation rates were relatively equal over time. Note also the comparably larger confidence interval around each time point for the Cohort 1 LEAs, due to the smaller sample size. This trend will hold true for the remaining graphs as well, representing a greater range of possible estimate values given the increased estimation error associated with a smaller sample.

To answer the question above, the change in five-year adjusted CGR from baseline (2014-15) to 2016-17 did not differ among Cohort 1 LEAs when compared to the rest of the state. For both Cohort 1 and non-Cohort 1 groups, the change from 2015-16 to 2016-17 and baseline (2014-15) to 2016-17 was significant (or marginally significant). However, this change was of little practical importance. This model broadly suggests the while the overall five-year adjusted CGR (for all students) has been steadily increasing since 2012-13, it saw a leveling off in 2016-17.

Figure 14

*Mean five-year CGR Rates for all students, across time for NC LEAs*




## What is the longitudinal trend in five-year cohort graduation for students with disabilities in North Carolina?

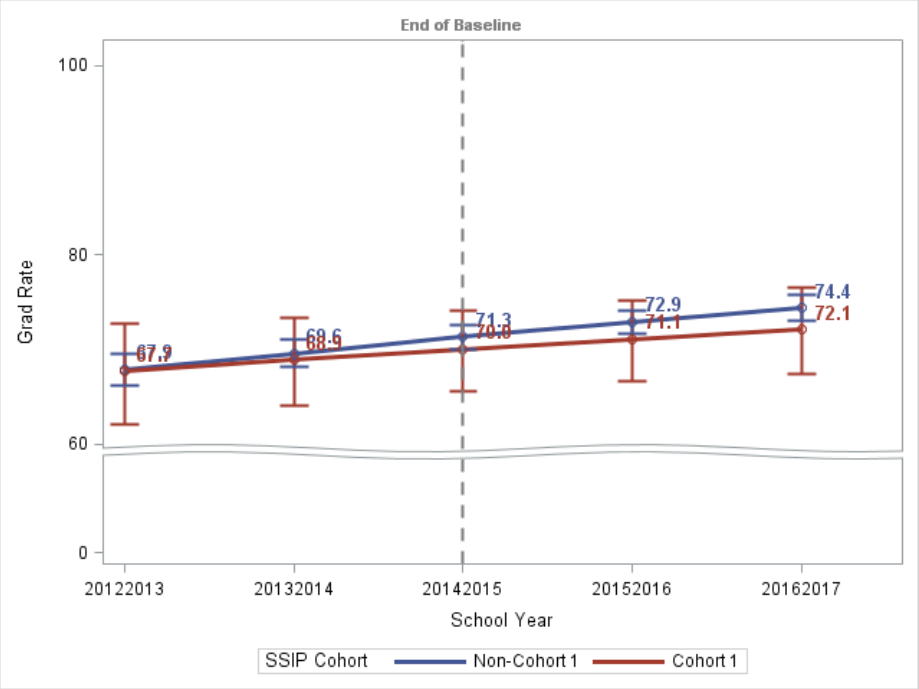
A similar analysis was conducted focusing just on the students with disabilities (SWD) subgroup. Figure 15 shows a similar, steady increase in the 5-year CGR of SWD students from 2012-13 to 2016-17, however, the data supported a significant linear (as opposed to cubic for all students above) effect for time ($p < .001$; $d = .052$, a small practical effect size). In addition, the final model supported random intercepts and slopes allowing each LEA their own trajectory and change across time, but a non-significant main effect for the Cohort 1 indicator ($p = .948$). Despite the lack of a significant main effect or interaction term for the Cohort 1 indicator, these effects were included to model the difference in rates from 2014-15 to 2016-17 as an indication of impact of the SSIP model. For both groups the change past baseline (from 2014-15 to 2015-16) and between 2015-16 and 2016-17 were the same due to the inclusion of a single, linear effect of time. The time effect was significant ($p = .001$, odds ratio=1.08, $d = .04$) while the Cohort 1 effect was non-significant ($p = .07$, odds ratio=1.05, $d = .03$, respectively). We also examined the change between baseline (2014-15) and the most recent year's data (2016-17). The non-Cohort 1 group difference was statistically

significant ($p$ =.000, odds ratio=1.17, $d$ = .09) and the Cohort 1 group was non-significant ($p$ =.074, odds ratio=1.11, $d$ = .06). The odds ratios near one suggest that mean graduation rates were relatively equal. Overall, for SWD students, the 5-year CGR has been steadily increasing since 2012-13, a pattern consistent through the most recent 2016-17 data.

To answer the question above, this model suggests that five-year adjusted CGR for students with disabilities (SWD) in North Carolina has been consistently increasing from 2012-13 to 2016-17. While all students saw somewhat of a leveling off in the 2016-17 school year (hence the cubic effect), SWD continued the positive trend (a linear effect). For Cohort 1, the change from baseline (2014-15) to 2016-17 was non-significant, while the change for non-Cohort 1 was significant. However, it should be noted these were small practical effects and the small sample size of Cohort 1 results in less statistical power.

Figure 15

*Mean five-year CGR Rates for SWD, across time for NC LEAs*




In addition to the analysis above, Table 6 provides a summary of the change in CGR rates from 2015-16 to 2016-17 for SWD by SSIP cohort. If the 2016-17 CGR was less than the 2015-16 CGR by more than the "No Change" caliper (currently .1*$SD_{change}$ in percentage points; roughly a small effect size as defined by Cohen's *d*), then the change was labelled a decrease. If the 2016-17 CGR rate was greater than 2015-16 by more than the caliper, the change was labelled an increase. Any change falling within the caliper was

denoted "No Change". As can be seen below, Cohort 1 had less LEAs that experienced a decrease in CGR and more that saw an increase relative to Non-Cohort 1 sites.

Table 6

*Change in CGR rates from 2015-16 to 2016-17 for SWD by SSIP cohort*

| | Group | | | | | | | | | | | | All | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Non-Cohort 1 | | | | | | Cohort 1 | | | | | | | | | | | |
| | CRG Rate Change | | | | | | CGR Rate Change | | | | | | CGR Rate Change | | | | | |
| | Decrease | | No Change | | Increase | | Decrease | | No Change | | Increase | | Decrease | | No Change | | Increase | |
| | n | % | n | % | n | % | n | % | n | % | n | % | n | % | n | % | n | % |
| SWD | 48 | 43.64 | 15 | 13.64 | 47 | 42.73 | 2 | 25 | 1 | 12.5 | 5 | 62.5 | 50 | 42.37 | 16 | 13.56 | 52 | 44.07 |

## LEA Self-Assessment

### What is the longitudinal trend in the total scores obtained by LEAs on the LEASA?

Figures 16 and 17 show the distributions of total scores of LEASA ratings for LEAs from 2015-16 and 2016-17, respectively. The distributions are relatively normal and show an increase in mean total score from 2015-16 (M=19.38, SD=6.74) to 2016-17 (M=22.74, SD=6.36). A paired-sample t-test revealed a significant difference between total score means obtained in 2015-16 and 2016-17, *paired t*(189) = 12.50, $p$ = <.000, $d$ = .91.

Figure 16

*Distribution of 2015-16 LEASA Total Scores*

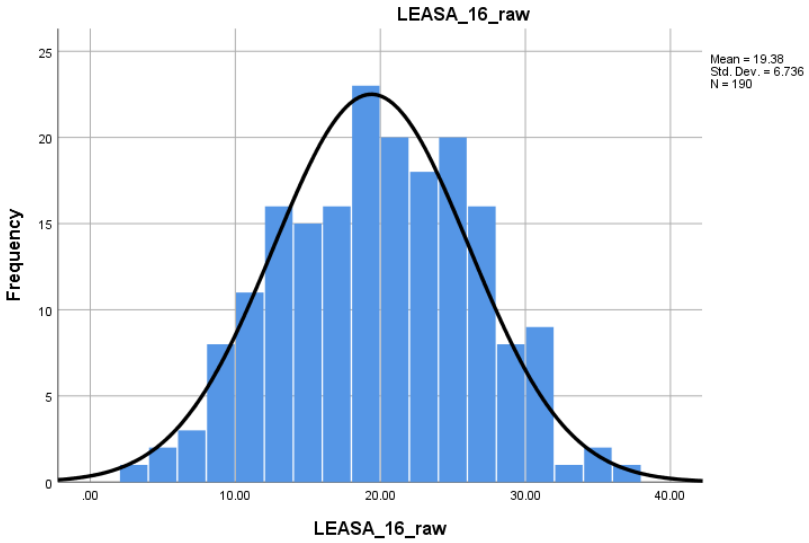
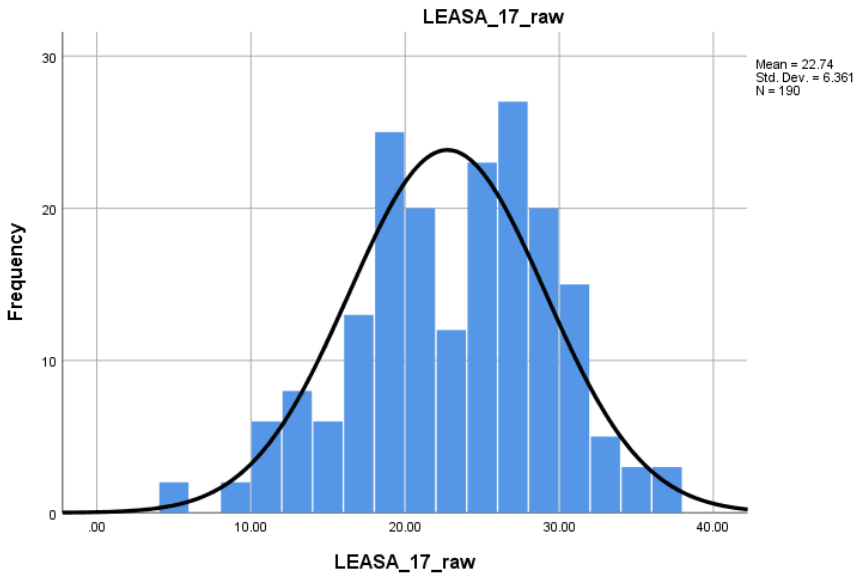



Figure 17

*Distribution of 2016-17 LEASA Total Scores*




To answer the question above, districts demonstrated higher mean total scores on the LEASA in 2016-17 when compared to 2015-16. This means that LEAs rated themselves higher across critical components that reflect capacity to deliver comprehensive special education services that promote graduation for

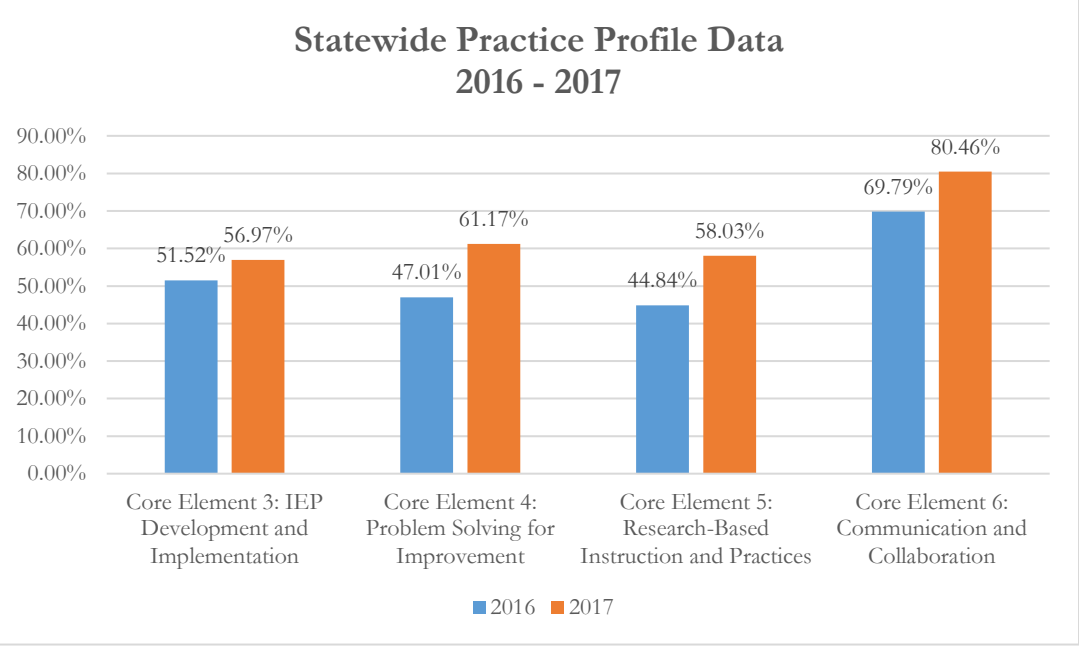
students with disabilities. In addition, it yields some indication that LEAs are increasing their general capacity to problem solve and implement evidence-based based practices.

## What is the longitudinal trend in the core element scores obtained by LEAs on the LEASA?

Descriptive statistics were obtained state-wide for the Core Elements included in the practice profile of the LEASA. Figure 18 below shows the mean percentage of total points obtained by LEAs in Core Elements 3-6 of the LEASA. To answer the question above, generally, LEAs had higher mean self-ratings in each core element in 2017 as compared to 2016. The largest gains were seen in core elements 4 and 5, which represented the domains with the lowest mean self-ratings in 2016. Notably, the two lowest individual item means (and the only ones that fell below a 1, indicating meeting a developmental variation of implementation) were related to student outcomes in Core Element 3 (3.1 for SWD meeting academic proficiency standards and 3.2 for SWDs making progress toward IEP goals), which would be the last to experience change relative to the NC SSIP logic model.

Figure 18

*Statewide Practice Profile Data 2016 – 2017*

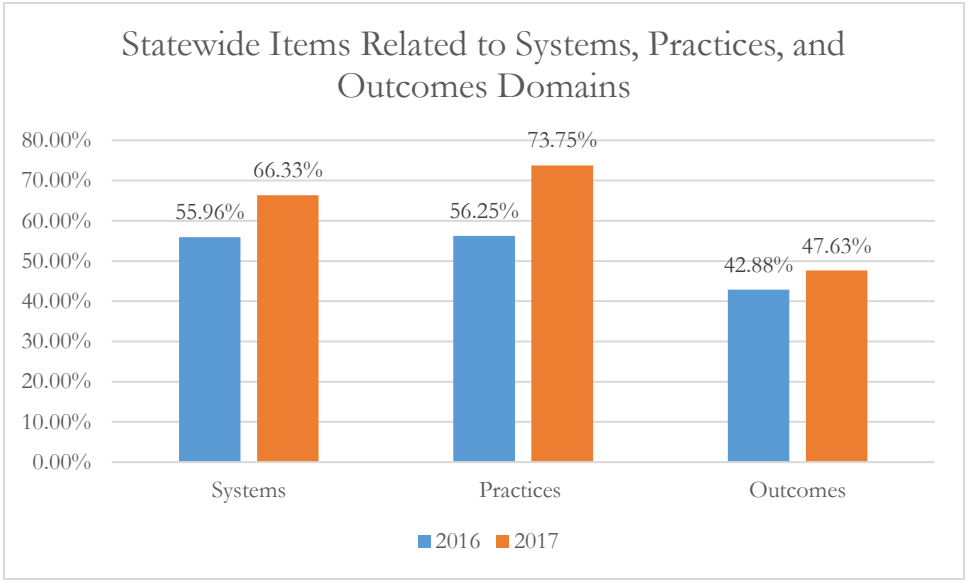


## What is the longitudinal trend in LEASA items related to systems, practices, and outcomes?

During FFY 2016, the SSIP team classified individual LEASA items by systems (supports put in place that impact teachers), practices (supports put in place that impact students), and outcomes. Following this classification, the ECD provided professional learning on how the LEASA could be used for implementation planning within the systems and practices domains to impact outcomes. Based on the NC SSIP logic model, changes in systems (e.g., systematic use of data for problem solving, developing communication plans and protocols, etc.) and practices (e.g., implementing IEPs with a high level of fidelity, using progress monitoring data for instructional decision making) would be impacted by the SSIP work prior to outcomes. Thus, as seen in Figure 19, the data from the LEASA submission were also analyzed across these three domains for 2016 and 2017. As can be seen, all three domains increased from 2016 to 2017. The practices domain saw the largest increase, followed by the systems domain, followed by the outcomes domain and is consistent with the NC SSIP logic model.

Figure 19

*Statewide Items Related to Systems, Practices, and Outcomes Domains*



## Are LEAs integrating key elements into their improvement plans?

The NCDPI LEASA Review Tool is used by NCDPI to perform three reviews per submitted LEASA. Through the process, the LEA's Improvement Plan is aligned to professional learning provided by NCDPI and the plan is reviewed for the presence of key implementation criteria that are associated with successful implementation. The criteria included in the Review Tool were those found to be reliably measured, and thus, are not intended to be an exhaustive list of important implementation criteria. The review yielded data on the presence of the following in the improvement plans submitted by all LEAs:

- The training or adult skills required to implement the plan
- A measure or method for monitoring fidelity
- A detailed description of progress toward goals
- The identification of priorities based on formal data analysis

Table 7

*Presence of Key Implementation Criteria in LEASA Improvement Plans*

| | **Strong Evidence** | **Some Evidence** | **Minimal Evidence** |
|---|---|---|---|
| **Training or Adult Skills** | 70.70% | 22.80% | 6.60% |
| **Monitoring Fidelity** | 62.10% | 29.30% | 8.60% |
| **Progress Toward Goal** | 70.70% | 22.80% | 6.60% |
| **Priority Identification** | 64.60% | 24.40% | 11.10% |

Based on this analysis, most LEAs demonstrated at least some evidence of including these key implementation criteria in their improvement plans. However, the SSIP teams' review of the data also lead to two primary conclusions about the professional learning provided to LEAs on the LEASA and Improvement Planning process. First, it is critical that NCDPI identify or develop appropriate fidelity measures to accompany the evidence-practices being trained on and ensure LEAs are equipped to administer, analyze, and respond to their use. These data converge with the analysis of the professional learning catalog indicating that too few professional learning offerings include access to a fidelity tool. As indicated previously in this report, agency work on developing practice profiles is one way in which this work has begun, as practice profiles have the potential to be modified and validated as fidelity instruments.

Second, using LEASA data to identify key priorities through an integrated and focused improvement plan has been a consistent topic of professional learning over the current year.

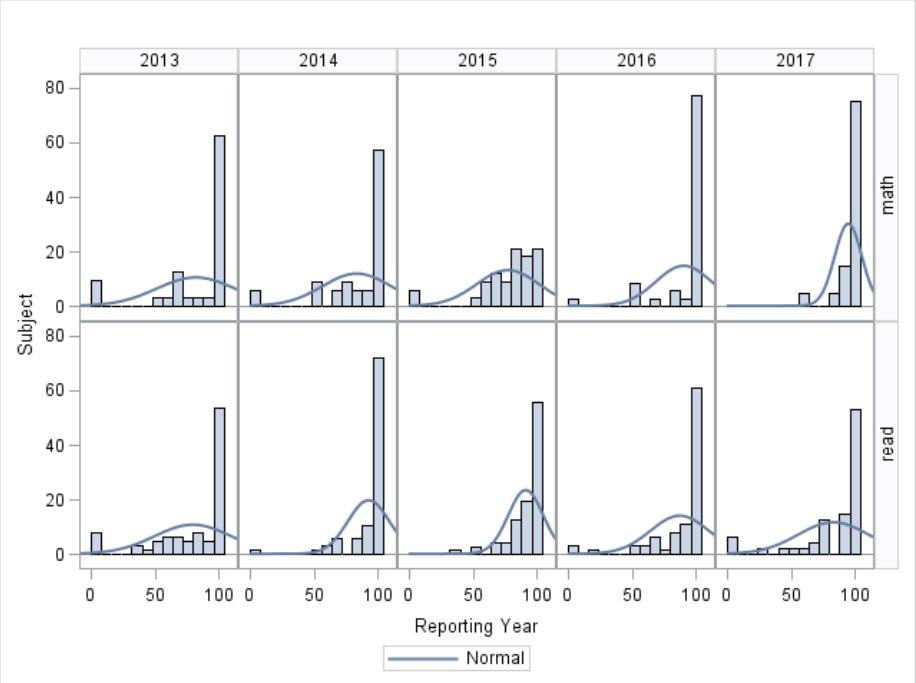
## Academics: NC SIP Reading and Math Foundations

## What is the longitudinal trend in the rate of teachers meeting fidelity criteria for model reading and mathematics instruction?

NCSIP Teachers completing the Reading / Math Foundations training and implementing a reading / math model program are to be observed annually (fidelity observation process documentation). Based on the ratings assigned, LEA level data are available detailing the percent of teachers achieving fidelity. Figure 20 displays the distribution of the percent of teachers attaining fidelity in math and reading across LEAs for 2012-13 through 2016-17. The data are somewhat negatively skewed (indicating a high proportion of high scores), however, some variability among LEAs does exist. Thus, to answer the question above, a large proportion of LEAs tend to have a high proportion of teachers meet criteria for fidelity after participating in Foundations training (and this has remained steady over time).

Figure 20

*Distributions of percent of teaching attaining fidelity*



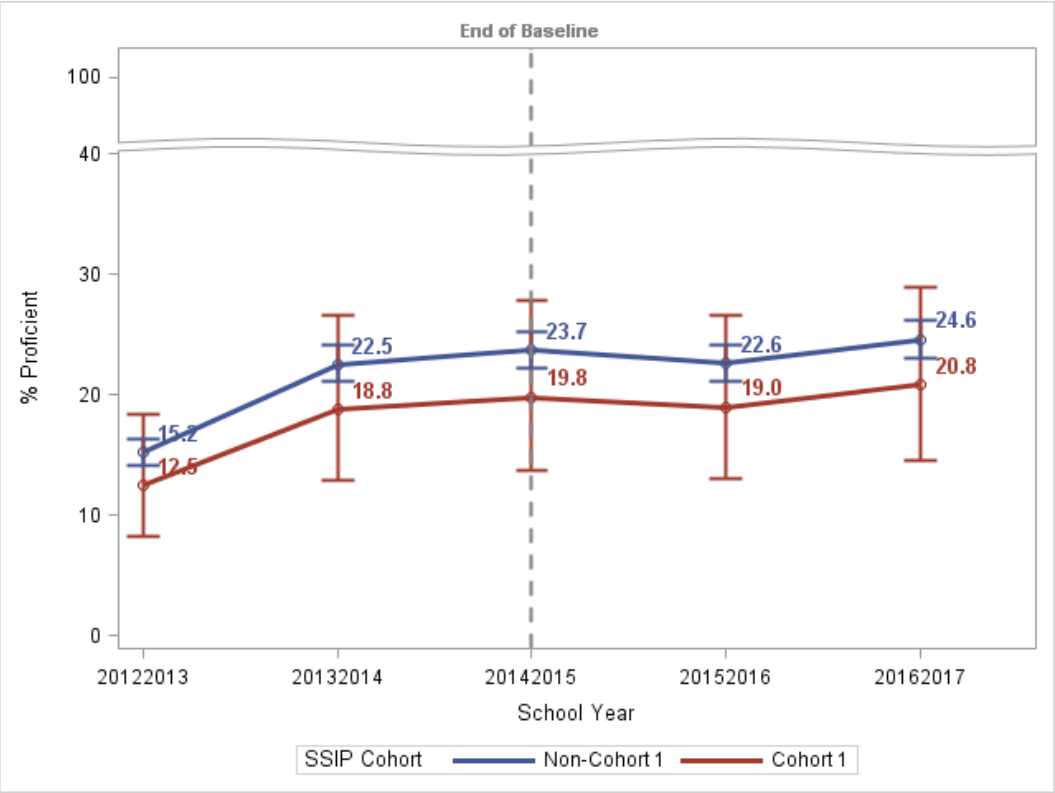
## What is the longitudinal trend in students with disabilities' proficiency in reading and mathematics?

Concerning reading proficiency in grades 3-8, Figure 21 shows a dramatic increase in the proficiency of SWD students from 2012-13 to 2013-14 (the shift was significant for both the Cohort 1 LEAs and the non-Cohort 1 LEAs). However, from 2013-14 forward the mean rate of proficiency remained relatively unchanged. The final model supported by the data included a cubic effect for time, random intercepts and slopes allowing each LEA their own trajectory and change across time, but a non-significant main effect for the Cohort 1 indicator ($p$ = .36). Despite the lack of a significant main effect or interaction term for the Cohort 1 indicator, these effects were included to model the difference in rates from 2014-15 to 2015-16 and 2015-16 to 2016-17 as an indication of impact of the SSIP model. For both the Cohort 1 and non-Cohort 1 groups, the change from baseline to 2015-16 was significant ($p$ = .000, odds ratio=0.942, $d$ = .03 and $p$ = .004, odds ratio=0.945, $d$ = .03, respectively). The odds ratios less than one suggest that mean rate of proficiency was relatively equal, but slightly lower in 2015-16 compared to 2014-15. Similar results were found when comparing 2016-17 to 2015-16 data, though positive odds ratios were obtained ($p$ = .000, odds ratio=1.123, $d$ = .06 and $p$ = .000, odds ratio=1.119, $d$ = .06, respectively). Finally, the change between baseline and 2016-17 was examined. The change for both the Cohort 1 and non-Cohort 1 groups was significant ($p$ = .000, odds ratio=1.06, $d$ = .03 and $p$ = .000, odds ratio=1.05, $d$ = .03, respectively).

To answer the question above, there was a large increase in proficiency from 2012-12 to 2013-14 which has since stabilized. Cohort 1 sites did not experience a different impact on reading proficiency for SWD from 2014-15 (end of baseline) to 2016-17 as compared to the rest of the state. Both Cohort 1 and non-Cohort 1 groups saw statistically significant increases in 2016-17 when compared to baseline (2014-15). However, the small effect sizes indicate a small practical impact. Overall, these data indicate a somewhat stagnant longitudinal trend in reading proficiency and warrant a more intense focus on literacy as a root cause impacting the SIMR.

Figure 21

*Mean estimated SWD reading proficiency rates across time for NC LEAs*

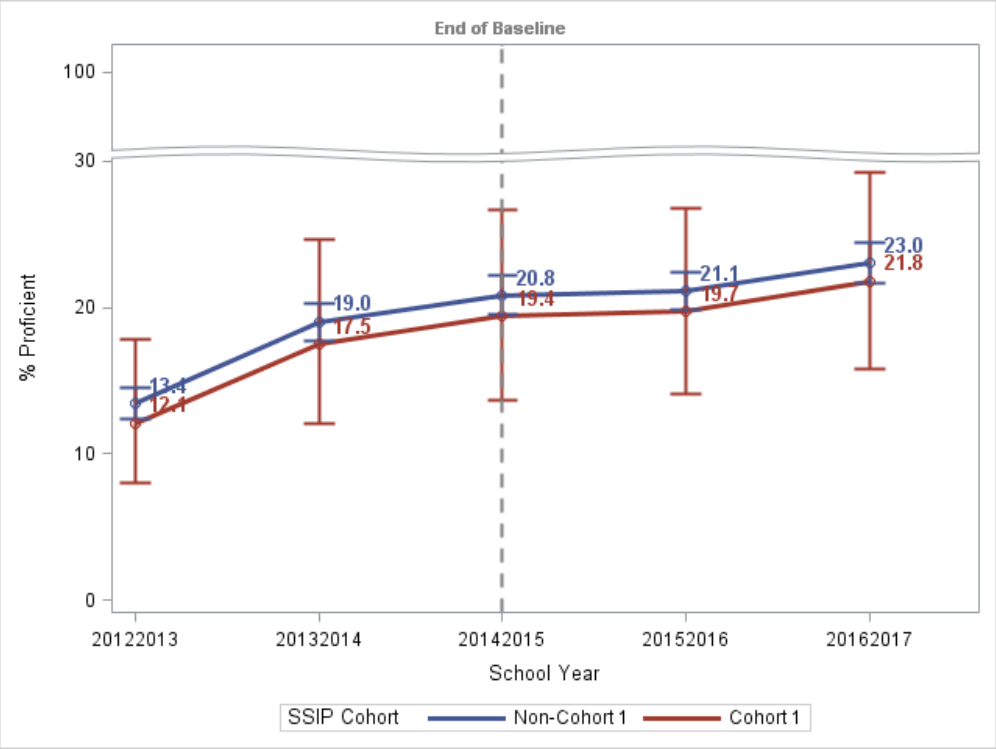



For mathematics, Figure 22 shows from baseline (2014-15) to 2015-16 the amount of change for both groups was smaller relative to other comparisons. The final model supported by the data included a cubic effect for time, random intercepts and slopes allowing each LEA their own trajectory and change across time, but a non-significant main effect for the SSIP Cohort indicator ($p$ = .612). Despite the lack of a significant main effect or interaction term for the SSIP Cohort indicator, these effects were included to model the difference in rates from 2014-15 to 2015-16 and 2015-16 to 2016-17 as an indication of impact of the SSIP model. For the Cohort 1 group the change from baseline to 2015-16 was non-significant ($p$ = .426, odds ratio=1.02, $d$ = .01) as it was for the non-Cohort 1 group ($p$ = .075, odds ratio=1.02 or Cohen's $d$ = .009). When comparing 2016-17 to 2015-16 results, both the Cohort 1 and non-Cohort 1 groups reached significance ($p$ = .001, odds ratio=1.13 or Cohen's $d$ = .07; $p$ = .001, odds ratio=1.12 or Cohen's $d$ = .06, respectively). Finally, we compared the 2016-17 data to baseline, with again both groups reaching significance ($p$ = .003, odds ratio=1.16 or Cohen's $d$ = .08; $p$ = .001, odds ratio=1.14 or Cohen's $d$ = .07, respectively).

To answer the question above, there has been a small positive trend in proficiency rates in mathematics. Cohort 1 sites did not experience a different impact on mathematics proficiency for SWD from 2014-15 (end of baseline) to 2016-17 as compared to the rest of the state. However, both Cohort 1 and non-Cohort 1 groups saw statistically significant increases in 2016-17 when compared to 2015-16 and the end of baseline in 2014-15. Again, as with reading, the small effect sizes indicate a small practical impact.

Figure 22

*Mean estimated SWD math proficiency rates across time for NC LEAs*




Finally, to obtain a better understanding of how individual LEAs are performing, Table 8 below provides a summary of the change in school percent proficiency rates from 2015-16 to 2016-17 by reading and mathematics. If the 2016-17 percent proficient was less than the 2015-16 percent proficient by more than the "No Change" caliper (currently .1*$SD_{change}$ in percentage points; roughly a small effect size as defined by Cohen's d), then the change was labelled a decrease. If the 2016-17 percent proficient was greater than 2015-16 by more than the caliper, the change was labelled an increase. Any change falling within the caliper was denoted "No Change". As can be seen, for both reading and mathematics, substantially more districts experienced increases in school percent proficiency rates as compared to no change or decreases.

Table 8

*Change in Percent Proficiency Rates from 2015-16 to 2016-17*

| | % Proficency Change | | | | | |
|---|---|---|---|---|---|---|
| | Decrease | | No Change | | Increase | |
| | n | % | n | % | n | % |
| Reading | 80 | 27.3 | 72 | 24.57 | 141 | 48.12 |
| Mathematics | 81 | 27.65 | 63 | 21.5 | 149 | 50.85 |

## What is the longitudinal trend in students with disabilities' proficiency in reading and mathematics whose LEA indicated academics as a priority on the LEASA and Improvement Plan?

To better isolate the impact of SSIP implementation, similar longitudinal analysis was completed for only LEAs that selected academics as a priority area in the LEASA and Improvement Plan. At the current time, these analyses did not yield substantially different findings for proficiency rates or longitudinal changes in reading and mathematics proficiency in grades 3-8 compared to those with all LEAs represented. However, this indicator and priority focus was identified in the spring of 2017, continued to be trained on in FFY 2017, and a larger impact would be expected in following years evaluation reports. These data will be important to follow, because as outputs and short term-outcomes are met, this metric will help isolate the impact of SSIP related activities on student outcomes.

## What is the longitudinal trend in the relationship between the rate of teachers meeting fidelity criteria and student performance?

To elucidate the relationship between fidelity and student proficiency, the percentage of teachers achieving fidelity for LEAs was merged with the percent of students proficient on the NC standardized assessments. Once merged, correlational analyses were conducted to determine whether a relationship exists between an LEA's percentage of teachers achieving fidelity in reading and math and the percent of students attaining proficiency. Figure 21 provides two panels (one for the SWD subgroup, the other for all students) showing the correlation between the percent of teachers achieving fidelity and the percent proficient across time for the elementary school level.

To answer the question above, the graphs overall show relatively small correlations (i.e., less than .3) but also display separate patterns for reading and math. For SWD, the correlations in both reading and math declined from 2012-13 to 2013-14 and increased in 2014-15. However, the correlation for math increased dramatically in 2015-16 while reading leveled off again, with correlations dipping lower in 2016-17. A similar pattern can be seen for all students and math and reading. Thus, overall, there currently appears to be modest positive associations between fidelity and outcomes.

From an evaluation perspective, it is important that fidelity data are associated with student outcomes. At the current time, this association is roughly estimated above, and seems to have a modest positive correlation. Note, however, that the ability to achieve particularly high correlations is suppressed by the skewed NCSIP fidelity data (i.e., the skewed data limits the amount of variability among LEAs, which is necessary to yield a range of correlation values). Thus, a different system of measurement yielding more variability of normally distributed ranges of LEA performance might yield larger correlations (and will be considered for future evaluation). In addition, in the future, student proficiency data can be matched specifically to teachers to more closely estimate the association between teachers meeting fidelity and student outcomes.

Figure 23

*Correlations Between Percentage of Teachers Meeting Fidelity and Percent of Student Proficiency*

## Behavior: Positive Behavioral Supports and Interventions

## What is the longitudinal trend in fidelity of school-wide implementation of PBIS?

The School-wide Evaluation Tool (SET) is designed to assess and evaluate the features of school-wide behavioral support, including:

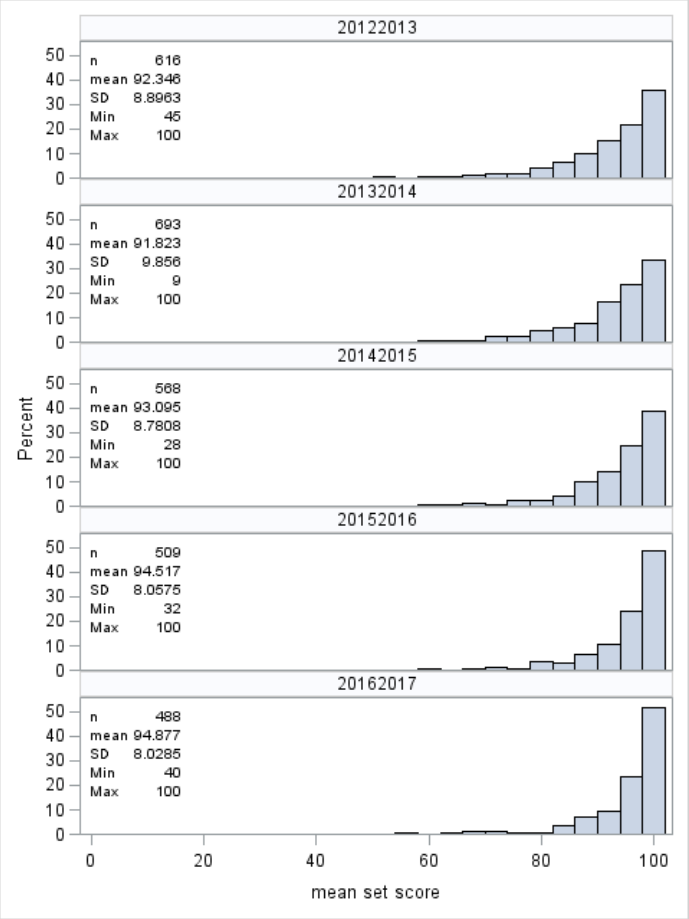
1. Definition of Expectations
2. Teaching of Behavioral Expectations
3. On-Going System for Rewarding Behavioral Expectations
4. System for Responding to Behavioral Violations
5. Monitoring & Decision-Making
6. Management
7. District-Level Support

Each school receives a score of 0 to 100 on each of the components defined above, and an overall mean of those scores is calculated representing the school's overall SET score. Figure 24 below displays the distribution of LEA-level SET scores for the 2012-13 through 2016-17 school years (average across all schools in an LEA). In all years, scores are negatively skewed, with nearly equal mean scores.

To answer the question above, the SET data have consistently demonstrated a negatively skewed distribution with a small range of high mean scores. This suggests that districts who receive PBIS professional learning support implement with a high degree of fidelity at the total school level. Broadly, this lends credence to the selection of PBIS as an evidence-based practice to support LEAs that identify behavior as a root cause. In the SSIP logic model, fidelity of PBIS implementation is a precursor to increased student behavioral outcomes and ultimately, graduation.

Figure 24

*Distribution of NC Schools Overall Mean SET Scores by School Year*



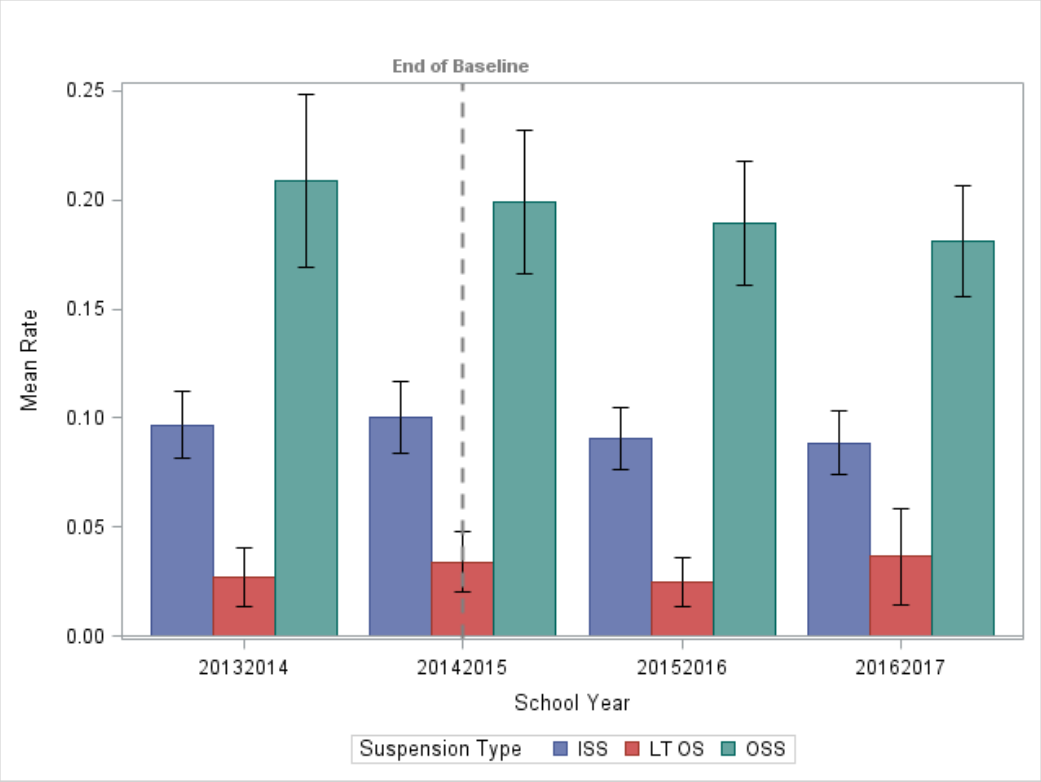

## What is the longitudinal trend in behavioral outcomes for students in North Carolina?

Figure 25 below displays the rates for each type of behavioral measure for the four school years (2013-14 to 2016-17), where rates were calculated as the LEA-level number of days of each behavioral outcome divided by the total days of student enrollment for the LEA. This provides a standardized measure across LEAs of different sizes, but also yields rates less than 1% (because the majority of students enrolled are not suspended; and those that are suspended only serve suspensions for a small portion of their total days enrolled).

To answer the question above, the graph reveals two main findings, including (a) the overall rates of In-School Suspension (ISS), Out-of-School Suspension (OSS), and Long-Term Out-of-School Suspension (LT OSS) are relatively low and (b) ISS and OSS rates declined slightly across time.

Figure 25

*Mean LEA rates of suspension type across the 2013-14 to 2016-17 school years*




## What is the longitudinal trend in behavioral outcomes whose LEA indicated behavior as a priority on the LEASA and Improvement Plan?

For OSS, the longitudinal trends for similar for LEAs focused on behavior relative to all other LEAs. However, those focused on behavior exhibited rates .03 to .06 points higher than Cohort 1 LEAs and .14 to .17 points higher than non-Cohort 1 LEAs. Similarly, the ISS rates for LEAs focused on behavior were .02 to .05 points lower than Cohort 1 LEAs and .08 to .10 points higher than non-Cohort 1 LEAs. These results provide some indication that LEAs reporting a focus on behavior identified an accurate root cause, as they appear to be exhibiting suspension rates above most LEAs in the state.

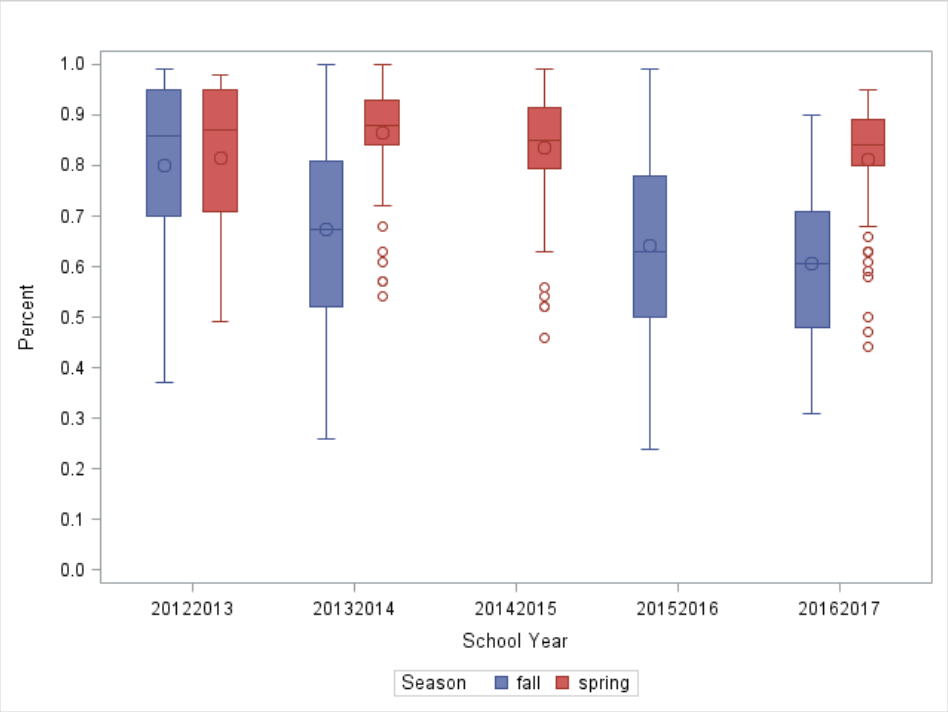
## Behavior: Social Emotional Foundations for Early Learning (SEFEL)

**What is the longitudinal trend in the distribution of teachers' fidelity for implementing SEFEL?**

Figure 26 shows the distribution of TPOT percentage scores earned by teachers in district-wide implementation LEAs across the Fall and Spring of the 2012-13 through the 2016-17 school year. The circle within each box represents the mean TPOT score (scaled as a percentage), the line across the boxes represents the median percentage. In general, the distributions are skewed, suggesting the median may be a more appropriate central tendency metric. We can see that median scores increased from Fall to Spring, each year. Note, however, that only 8 LEAs contributed to the 2012-13 boxplots, with 25 contributing to the 2013-14, 22 in 2014-15, 24 in 2015-16 and 19 in 2016-17 plots. To answer the question above, these data indicate that NCDPI and LEAs are successful in supporting teachers (through training and coaching) in the attainment of high TPOT scores, positioning them well to reach fidelity (a score of 80% with no noted issues). Note, that the scores presented below do not include Fall TPOT ratings for teachers who achieved fidelity in the previous school year (these are conducted to identify possible supports they may need).

Figure 26

*Distribution of Teacher TPOT scores in District-Wide Implementation Sites*




## Transition: A Continuum of Transitions

While the continuum of transitions tool and self-determination activities were implemented on a small scale to perform usability testing during the 2017-18 school year, transition data are presented for trend analysis for activities that have occurred to date (including the secondary transition toolkit). However, it should be noted that the implementation of the continuum of transition supports is currently within the exploration / initial implementation stages.

### What is the longitudinal trend in the percent of preschool children aged 3 to 5 with IEPs who demonstrate improvement in positive social-emotional skills, acquisition and use of knowledge and skills (including early language / communication and early literacy), and the use of appropriate behaviors to meet their needs?

Indicator 7 measures the percent of preschool children aged 3 to 5 with IEPs who demonstrate improvement in positive social-emotional skills, acquisition and use of knowledge and skills (including early

language / communication and early literacy) and the use of appropriate behaviors to meet their needs. Within each of these outcomes are two different metrics and accompanying targets, outlined as follows:

Outcome A (Positive social-emotional skills)

3. Of those children who entered or exited the program below age expectations in Outcome A, the percent who substantially increased their rate of growth by the time they exited the program.
4. The percent of children who were functioning within age expectations in Outcome A by the time they exited the program.

Outcome B (Acquisition and use of knowledge and skills)

1. Of those children who entered or exited the program below age expectations in Outcome B, the percent who substantially increased their rate of growth by the time they exited the program.
2. The percent of children who were functioning within age expectations in Outcome B by the time they exited the program.

Outcome C (Use of appropriate behaviors to meet their needs)

1. Of those children who entered or exited the program below age expectations in Outcome C, the percent who substantially increased their rate of growth by the time they exited the program.
2. The percent of children who were functioning within age expectations in Outcome C by the time they exited the program.

Figure 27 below depicts the percentage for outcome A, metrics 1 and 2 for the 2012-13 through 2016-17 school years. With respect to outcome A, NC met the established target for metric 1 during the 2016-17 school year but marginally failed to meet the target for metric 2.

Figure 27

*NC SEA Indicator 7 Positive Social Emotional Skills (Outcome A) Rates for 2012-13 through 2016-17 school years*

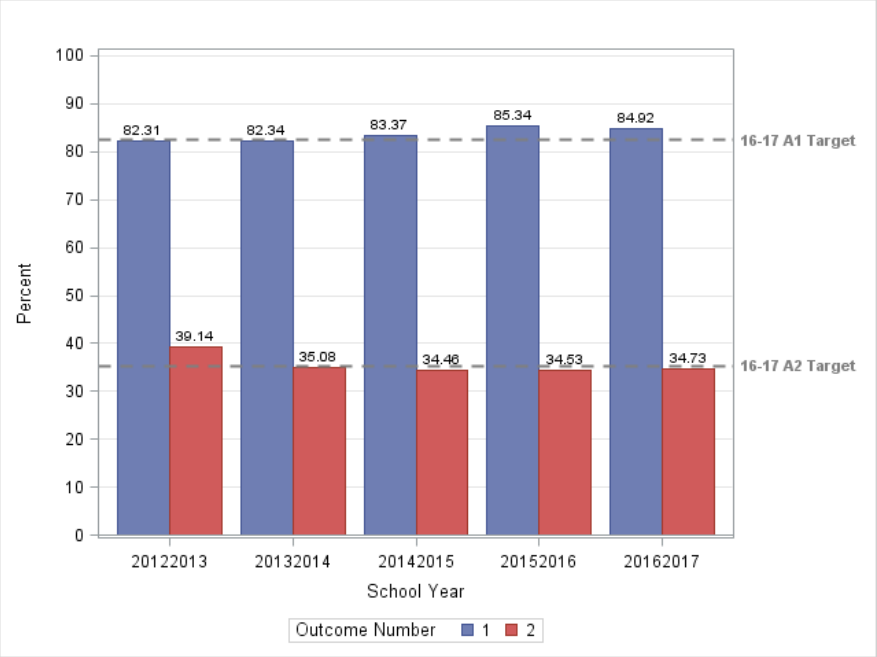



Figure 28 below depicts the percentage for outcome B, metrics 1 and 2 for the 2012-13 through 2016-17 school years. Again, we see that NC met the established target for outcome B, metric 1 but not metric 2 during the 2016-17 school year.

Figure 28

*NC SEA Indicator 7 Acquisition and Use of Knowledge / Skills (Outcome B) Rates for 2012-13 through 2016-17*

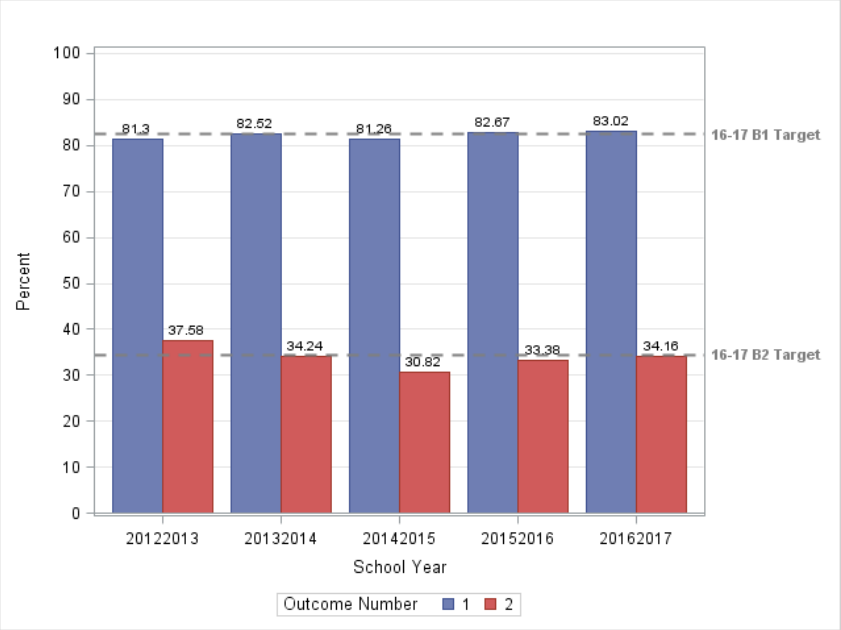
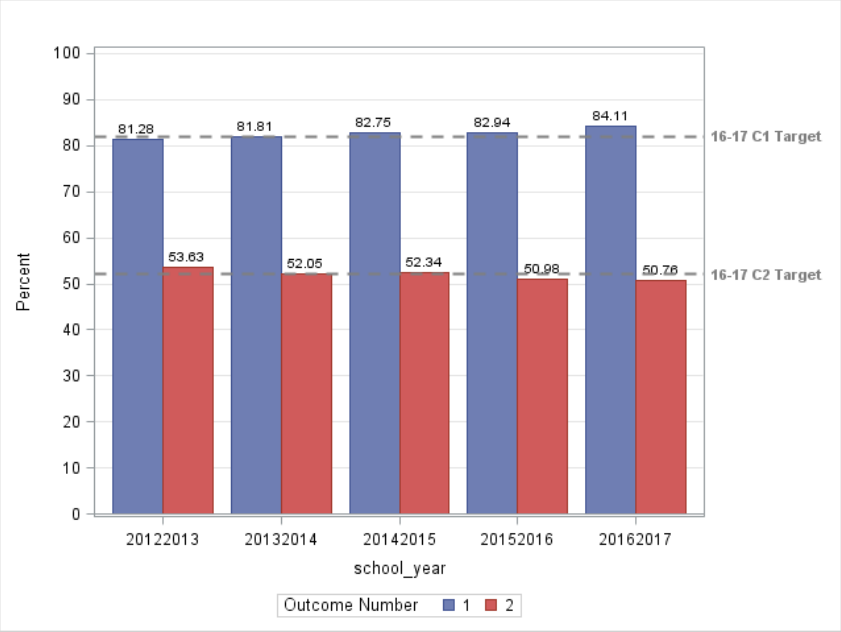



Figure 29 below depicts the percentage for outcome C, metrics 1 and 2 for the 2012-13 through 2016-17 school years. NC met the established targets for outcome C, metric 1 but not metric 2 during the 2016-17 school year.

Figure 29

*NC SEA Indicator 7 Appropriate Behaviors (Outcome C) Rates for 2012-13 through 2016-17*




Understanding the critical role of early prevention and intervention, the Indicator 7 data reveal students are making progress toward social emotional, early academic, and behavioral outcomes. However, many are not functioning within age-level expectations when transitioning into kindergarten. This is particularly salient for the continuum of transition work to ensure students continue to make progress toward these outcomes and receive supports they were responsive to while in preschool.

## What is the longitudinal trend in the percentage of parents with a child receiving special education services who report that schools facilitated parent involvement as a means of improving services and results for children with disabilities?

Table 9 below displays the counts, by school year of the Indicator 8 target attainment status. In all years, the target percentage for North Carolina was 50.0% (at the SEA level, the mean rates were 46.0%, 43.8%, 46.0%, and 43.43% respectively, for 2013-14 through 2016-17). As displayed in the table, in 2013-14, 31.6% of LEAs with available data attained a percentage of parents greater than the 50.0% target while 31.0% of LEAs had a percentage greater than 50.0% in 2014-15, 32.5% in 2015-16 and 34.1% in 2016-17. To answer the question above, there was a relatively stable state mean and number of LEAs meeting the target percentage of 50% prior to and following SSIP implementation. Additionally, this indicator supports the facilitation of parent involvement as a critical component of the continuum of transitions work.

Table 9

*Count and percent of LEAs by Indicator 8 target attainment status*

| School Year | Target Attainment Status | | | | | | | | Total |
|---|---|---|---|---|---|---|---|---|---|
| | <5 | | Not Applicable | | No | | Yes | | |
| | n | % | n | % | n | % | n | % | N |
| 20132014 | 7 | 18.4 | . | . | 19 | 50.0 | 12 | 31.6 | 38 |
| 20142015 | 6 | 14.3 | 1 | 2.4 | 22 | 52.4 | 13 | 31.0 | 42 |
| 20152016 | 6 | 15.0 | . | . | 21 | 52.5 | 13 | 32.5 | 40 |
| 20162017 | . | . | . | . | 27 | 65.9 | 14 | 34.1 | 41 |
| Total | 19 | 11.8 | 1 | 0.6 | 89 | 55.3 | 52 | 32.3 | 161 |

## What is the longitudinal trend in the percentage of students being referred that receive timely (within 90 days) evaluations and placement for special education services?

Figure 30 below displays the state-level Indicator 11 rates for the 2012-13 through 2016-17 school years. Children not counted in the numerator may have (a) transferred in / out of the LEA, dropped out, or died within 90 days of referral, (b) transferred into LEA after 90-day timeline expired, (c) parents failed to produce the child for evaluation (d) had no referral of EC Services evaluation or (e) the determination was made beyond 90 days. Using LEA-level data, LEA rates were also modeled across time.

The final model supported by the data included a linear effect for time, random intercepts and slopes allowing each LEA their own trajectory and change across time, but a non-significant main effect for the SSIP Cohort indicator ($p$ = .112). Despite the lack of a significant main effect or interaction term for the SSIP Cohort indicator, these effects were included to model the difference in rates from 2014-15 to 2015-16 and 2015-16 to 2016-17 as an indication of impact of the SSIP model. For the Cohort 1 group the change from 2014-15 to 2015-16 (or from 2015-16 to 2016-17 as the model was linear across time points) was not significant ($p$ = .725, odds ratio=.954, $d$ = .03). For the non-Cohort 1 group, the change from 2014-15 to 2015-16 (and from 2015 to 2016-17) was significant ($p$ = .000, odds ratio=.896 or $d$ = .06). Comparing 2016-17 to baseline, the non-Cohort 1 group difference was also significant ($p$ = .000, odds ratio=.804, $d$ = .12) and the Cohort 1 was non-significant ($p$ = .725, odds ratio=.911, $d$ = -.05). Despite attaining significance, the odds ratios suggest that non-Cohort 1 LEAs were only slightly less likely to have lower rates of on-time placement. The estimated Indicator 11 rates by Cohort 1 group can be seen in Figure 31.

To answer the question above, there has been little change from baseline (2014-15). Cohort 1 sites did not experience a different impact on Indicator 11 rates from 2014-15 (end of baseline) to 2016-17 as compared to the rest of the state. In addition, Cohort 1 sites have experienced relatively stable rates since SSIP implementation. However, the non-Cohort 1 group continued to experience statistically significant decreases in 2016-17 when compared to 2015-16 and the end of baseline in 2014-15. Again, this was a small practical effect. With that noted, the general trend suggests the continuum of transitions support should focus on timely evaluation and placement.

Figure 30

*Indicator 11 Rate From 2012-13 to 2016-17*

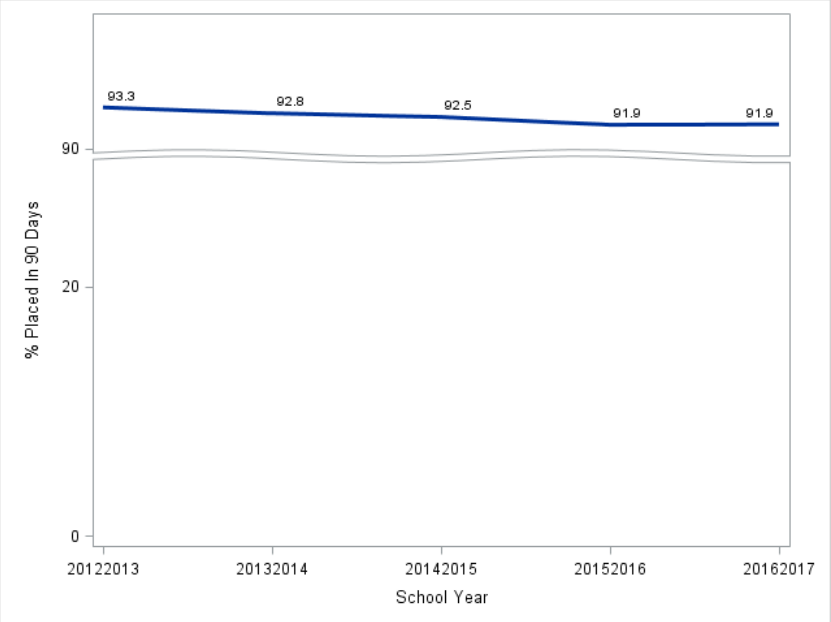
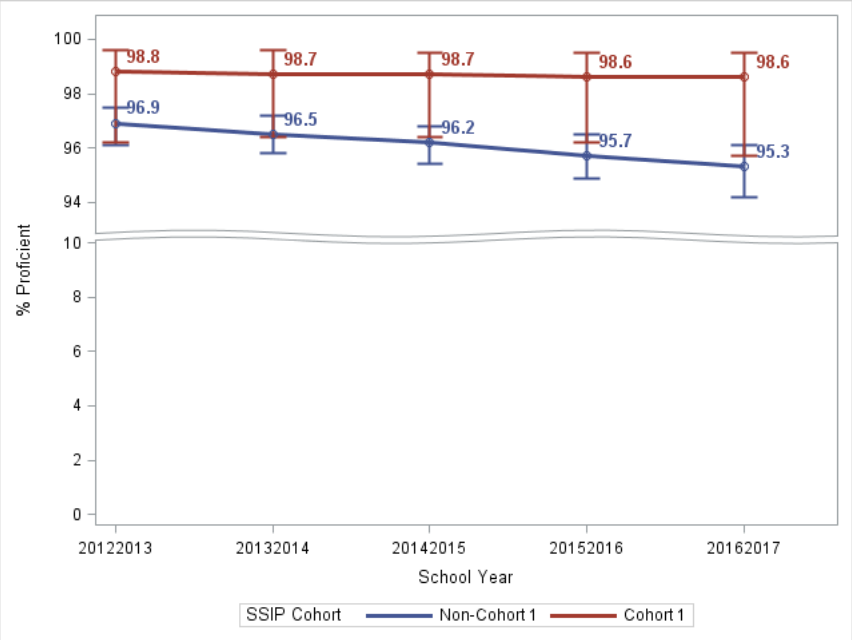


Figure 31

*Mean estimated Indicator 11 rates across time for NC LEAs*




## What is the longitudinal trend in the percentage of students referred by Part C / Early Childhood Intervention prior to age 3 who are found eligible for Part B / District Special Education Services and who have an IEP developed and implemented by their 3rd birthday?

Table 10 below shows the descriptive statistics across each school year (2012-13 to 2016-17). The median values of 100, coupled with the large negative skew values confirm that little variability among rates exist, making predictive modeling difficult. To answer the question above, the LEA rates have been consistent across the school years.

Table 10

*Descriptive statistics on LEA rates of IEPs in place by child's 3rd birthday*

| School Year | N | Mean | Median | Std Dev | Minimum | Maximum | Skewness |
|---|---|---|---|---|---|---|---|
| 20122013 | 112 | 97.76 | 100.00 | 7.43 | 50.00 | 100.00 | -4.16 |
| 20132014 | 115 | 97.81 | 100.00 | 7.34 | 50.00 | 100.00 | -4.23 |
| 20142015 | 114 | 98.92 | 100.00 | 3.69 | 80.00 | 100.00 | -3.92 |
| 20152016 | 113 | 98.42 | 100.00 | 5.31 | 66.67 | 100.00 | -4.31 |
| 20162017 | 112 | 96.84 | 100.00 | 13.99 | 0.00 | 100.00 | -6.20 |

## What is the longitudinal trend in the Indicator 13 data?

Indicator 13 data represent the percent of youth with IEPs aged 16 and above that have an IEP that includes appropriate measurable postsecondary goals that are annually updated and based upon an age appropriate transition assessment, transition services, including courses of study, that will reasonably enable the student to meet those postsecondary goals, and annual IEP goals related to the student's transition service needs.

Table 11 below displays the counts, by school year of the Indicator 13 target attainment status. In all years, the target percentage for North Carolina was 100.0% (at the SEA level, the rates were 85.1%, 88.4%, 88.1%, and 85.2% for 2013-14 through 2016-17, respectively). As demonstrated, in 2013-14, 6.5% of LEAs with available data attained a percentage of youth aged 16 and above with an IEP that meets the secondary transition requirements target while 10.5% of LEAs had a percentage greater than 100.0% in 2014-15. Over 20% attained the same measure in 2015-16, but only 13.6% did the same in 2016-17. To answer the question above, these indictor data showed a gradual increase through 2015-16, though a drop in 2016-17. It will be important that professional learning on the use of the transition work (and the associated evidence-based practices) is targeted to those LEAs not meeting targets.

Table 11

*Count and percent of LEAs by Indicator 13 target attainment status*

| School Year | Target Attainment Status | | | | | | Total |
|---|---|---|---|---|---|---|---|
| | <5 | | No | | Yes | | |
| | n | % | n | % | n | % | N |
| 20132014 | 12 | 38.7 | 17 | 54.8 | 2 | 6.5 | 31 |
| 20142015 | 8 | 42.1 | 9 | 47.4 | 2 | 10.5 | 19 |
| 20152016 | 8 | 27.6 | 15 | 51.7 | 6 | 20.7 | 29 |
| 20162017 | 1 | 2.3 | 37 | 84.1 | 6 | 13.6 | 44 |
| Total | 29 | 23.6 | 78 | 63.4 | 16 | 13.0 | 123 |

## What is the longitudinal trend in the Indicator 14 data?

Indicator 14 measures the percent of youth who are no longer in secondary school, and were:

- enrolled in higher education within one year of leaving high school.
- enrolled in higher education or competitively employed within one year of leaving high school.
- enrolled in higher education or in some other postsecondary education or training program; or competitively employed or in some other employment within one year of leaving high school.

Table 7 below displays the counts, by school year of the Indicator 14 target attainment status. The targets A, B and C are:

- Target A: enrolled in higher education within one year of leaving high school
- Target B: enrolled in higher education or competitively employed within one year of leaving high school
- Target C: enrolled in higher education, or in some other postsecondary education or training; or competitively employed or in some other employment within one year of leaving high school

The target percentages for North Carolina were >= 39.5% (target A), >= 62.5% (target B) and >= 73.5% (target C). At the NC SEA level, the rates were 30.0%, 54.0% and 69%, respectively, for targets A, B and C in 2013-14 and 31.8%, 61.1% and 72.7%, respectively, for targets A, B and C in 2014-15 and 38.4%, 71.7% and 78.0%, respectively, for targets A, B and C in 2015-16. For those LEAs with valid data, we can see that across targets there was an increase in the percentage of LEAs meeting targets from 2013-14 to through 2015-16.

Table 12

*Count and percent of LEAs by Indicator 14 target attainment status*

| Target/School Year | | Target Attainment Status | | | | | | | | Total |
|---|---|---|---|---|---|---|---|---|---|---|
| | | <5 | | No Response | | No | | Yes | | |
| | | n | % | n | % | n | % | n | % | N |
| A | 20132014 | 8 | 21.1 | 11 | 28.9 | 15 | 39.5 | 4 | 10.5 | 38 |
| | 20142015 | 8 | 26.7 | . | . | 15 | 50.0 | 7 | 23.3 | 30 |
| | 20152016 | 10 | 37.0 | . | . | 8 | 29.6 | 9 | 33.3 | 27 |
| B | 20132014 | 8 | 21.1 | 11 | 28.9 | 12 | 31.6 | 7 | 18.4 | 38 |
| | 20142015 | 8 | 26.7 | . | . | 10 | 33.3 | 12 | 40.0 | 30 |
| | 20152016 | 10 | 35.7 | . | . | 2 | 7.1 | 16 | 57.1 | 28 |
| C | 20132014 | 8 | 21.6 | 11 | 29.7 | 13 | 35.1 | 5 | 13.5 | 37 |
| | 20142015 | 8 | 27.6 | . | . | 9 | 31.0 | 12 | 41.4 | 29 |
| | 20152016 | 10 | 38.5 | . | . | 5 | 19.2 | 11 | 42.3 | 26 |
| Total | | 78 | 27.6 | 33 | 11.7 | 89 | 31.4 | 83 | 29.3 | 283 |

## How data supports changes that have been made to the implementation and improvement strategies

The predominant data sources that have informed implementation and improvement strategies have been derived from the LEASA and Improvement Plans. The crux of the NC SSIP rests upon using these data as a fulcrum to leverage comprehensive professional learning that is aligned to root causes identified by LEAs through a systematic data analysis and problem-solving process. In fact, the entire Professional Learning Plan and calendar for the ECD was developed based on the data obtained from the submitted LEASA and reviews. Notably, this year has lent some confidence to this approach, through validation work of the LEASA and ensuring the reliability of the Review Tool. Furthermore, districts' capacity to problem solve through this process and build their own implementation capacity appears to be improving as indicated by longitudinal changes in LEASA ratings related to total scores, each core element, and domains associated with systems, practices, and outcomes. In addition, substantial work has been done in the development of new professional learning related to the provision of Specially-Designed Instruction within an MTSS. The creation of this comprehensive professional learning was based on a systematic gap

analysis when aligning LEA needs identified in the LEASA to the capacity of the ECD to provide professional learning.

Concerning supporting districts who identify academics as root cause, the NC SIP fidelity data continue to reveal that high levels of fidelity of model reading and mathematics instruction are attained after teachers complete the professional learning. In addition, increases in fidelity appear to have modest associations to increases in academic proficiency. It is believed that with some changes in measurement strategies (e.g., modifying fidelity observation tools to yield more variability and more closely linking students to teachers who are completing the fidelity checks) these correlations could be higher. The output data related to the number of teachers trained and the growing capacity of the project to support leadership and job-embedded coaching indicate that this approach should be continued to target LEAs that identify root causes associated with academics.

Concerning behavior, the PBIS professional learning modules also result in high levels of fidelity with school-wide PBIS implementation. In addition, over the period since SSIP implementation, in-school and out-of-school (1-10 days) suspensions decreased slightly. However, being a school-based approach to improving behavioral-emotional outcomes for *all* students, the PBIS work has transitioned to the Integrated Academics and Behavioral Supports (IABS) division to more seamlessly integrate academic and behavioral supports through the systems and frameworks implemented through MTSS. Given broader support and leadership at the SEA and LEA levels to encompass both general and special education, it is expected that stronger core behavioral programming and prevention efforts will continue or enhance the positive trends currently. In addition, at an early age, the Social-Emotional Foundations for Early Learning (SEFEL) data indicate that the ECD and LEAs can quickly develop capacity to train and support teachers to the point of reaching fidelity of implementation.

Regarding transition, usability testing has resulted in gradual modification of the transition tool and associated training. The data gleaned from the self-determination activities also suggests that it will be important to establish systematic processes concerning the dosage and fidelity of implementation of the intervention. In addition to these implementation data, it will be important for the SSIP team to carefully select where to scale these efforts and create transformation zones, particularly identifying districts that have a high capacity for implementation as well as a need as indicated by the transition indicator data.

## How data are informing next steps in SSIP implementation

The Plan, Do Study Act (PDSA) improvement cycle informs the continual improvement of the NC SSIP. At the current time, many of the major metrics of the evaluation are indicative of broad implementation strategies. With that in mind, the ECD realizes that more granular and closely associated implementation data will support the implementation refinement process. As a result, there are several strategic efforts being made around both output and short-term outcome data that will continue to contribute to the robust data collection and analysis efforts.

First, while NC SIP, PBIS, SEFEL, and the Continuum of Transition work serve as the predominant evidence-based interventions, they are not the only intervention efforts contained within the comprehensive Professional Learning Plan. At the current time, registration, evaluation, fidelity monitoring, and tracking of these professional learning activities has occurred through different platforms and means, making a detailed picture of effort and output data challenging to ascertain. However, in FFY 2018 the ECD will use a single platform (Qualtrics) that will house all output data for all professional learning related to NC SSIP implementation. In addition, common evaluation tools have been created and will be validated next year to further elucidate what components of the professional learning plan are demonstrating the most positive impact across academics, behavior, and transition. This analysis will further allow the ECD to align and prioritize infrastructure and professional learning based on those interventions that appear to have the greatest impact.

Second, data for LEAs to complete the LEASA and for the ECD to align outcomes to the outputs contained in Qualtrics will be more accessible as NCDPI transitions to Every Child Accountability and Tracking System (ECATS) in FFY 2018. Notably, ECATs will house IEP and progress monitoring data that will allow LEAs to access and aggregate data to engage in the LEASA process. In addition, a single platform that houses a variety of outcome data that can be directly linked at the classroom level will provide enhanced ability to link specific NC SSIP activities to increases in fidelity and student outcomes.

In addition, while creating longitudinal models based on the priorities identified by LEAs generally did not yield any significant results in the current year, this metric will be important to continue to analyze as implementation progresses into initial and full implementation stages. Linking specific outcomes to specific root causes identified by LEAs through the LEASA and Improvement Planning Process will yield evidence as to the value NC SSSIP activities have had on implementation evidence-based practices.

### How data support planned modifications to intended outcomes (including the SIMR) and rationale for how data support that the SSIP is on the right path

The current evaluation data related to the outputs and outcomes (including the SIMR) of the logic model do not provide any indication that major modifications should occur. As the Professional Learning Plan is developed for FFY 2018 and the availability of data sources is enhanced through Qualtrics and ECATS, additional outputs may be identified and aligned to the plan. Longitudinal data trends show increases in graduation rates for students with disabilities, increases in students with disabilities' proficiency in reading and mathematics, and decreases in-school and out-of-school suspensions. This lends support for achievement of the intended outcomes and lends credence and justification to continuing on the same general path.

## Stakeholders involvement in the SSIP evaluation

### How stakeholders have been informed of the ongoing evaluation of SSIP

### How stakeholders have had a voice in the evaluation process

The ECD has continued to informed stakeholders (within and outside of the agency) of the ongoing evaluation in multiple ways. For the external SSIP team, progress toward outputs and outcomes contained within the logic model have been shared at each quarterly meeting, as data become available. As the data and implications are shared, the group has opportunity to provide feedback on both the interpretation of the findings as well as engage in the process of determining next steps. In addition, a summary of this report, the major implications, and opportunities for feedback will be provided at the next stakeholder meeting.

LEAs have also been kept informed of the evaluation activities during regional directors' and coordinators' meetings. To deter implementation drift and continually reinforce and communicate the work toward the SIMR, outputs and outcomes related to the logic model are shared throughout the year. In addition, during a Town Hall meeting at the Exceptional Children conference and during the March Directors' and Coordinators' Institute the progress toward the SIMR has been shared and celebrated with districts (with the thankful acknowledgement that the progress toward the SIMR is a result of their local data).

# Data Quality Issues

## Data limitations that affected reports of progress in implementing the SSIP and achieving the SIMR due to quality of the evaluation data

## Concerns or limitations related to the quality or quantity of the data used to report progress or results

While data access and quality will generally be enhanced through Qualtrics and ECATS next year, there are several metrics that may pose challenges to the longitudinal evaluation approach.

- First, new standards for literacy and mathematics have been approved by the state board and will result in new assessments in FFY 2018. The scaled scores and proficiency cut points will be based on new normative data and standard setting, and thus, will not be directly comparable to prior years.
- As PBIS transitions to MTSS, school-wide fidelity tools will likely be converged. Rather than collect SET data, items from the SET and / or Tiered Fidelity Inventory (TFI) will likely be incorporated into the NC Self-Assessment of MTSS (SAM). This tool will have to be validated and based on the outcomes of this process, longitudinal measurement of fidelity of tiered behavioral supports may need to be revised.

## Implications for assessing progress or results

There are no clear issues for the current evaluation report related to implication of assessing progress or results. However, given the issues above that will arise next year, the ECD will have to consider the most robust methods of gauging large-scale change over time as metrics evolve, and in some case, become incomparable. This work will be done in partnership with the Center for Educational Measurement and Evaluation at the University of North Carolina at Charlotte.

## Plan for improving data quality

As indicated previously ECATS (going online for FFY 2018) will have the capacity to seamlessly integrate data sources, including those that are aligned to both fidelity (e.g., dosage data) and outcome data (e.g., Office Disciplinary Reports, suspension data, attendance, child outcome summaries, teacher content knowledge, and progress monitoring data). That said, all these features will not be available during initial

implementation. In addition, the authoritative data source for much of ECATs data will be PowerSchool. Currently, the SSIP evaluation metrics will be cross-walked with availability in ECATs to ensure seamless transition and access to data.

In addition, a single platform will be used for professional learning registration, evaluation, fidelity monitoring, and tracking. This single platform (Qualtrics) will provide consistent access to output data for all components of the Professional Learning Plan.

# Progress Toward Achieving Intended Improvements

## Assessment of progress toward achieving intended improvement

## Infrastructure changes that support SSIP initiatives, including how system changes support achievement of the SIMR, sustainability, and scale-up

First, what began initially as a fundamental shift in how the ECD designed and delivered professional learning has now become an embedded practice. The development of the Professional Learning Plan each year is derived from data aggregated at regional and state levels that elucidate local root causes associated with the SIMR. In addition, the professional learning is evolving in design and delivery with the intent to develop and sustain the LEAs' capacity to provide the training to its staff, measure the transfer of training with reliable fidelity measures, provide job-embedded follow up, and engage in critical evaluation activities. The ECD now organizes itself and allocates it resources based on documented LEA need, rather than scattered LEAs requests that may or may not be rooted in data.

Second, during Phase Three, Year One ECD staff began collaborating not only in sections organized by focus of work, but also by the regions of the state they are serving. This occurred through the development of regional teaming structures, that when linked to the state-level SSIP team and district implementation teams, are associated with improved sustainability. Over the course of Phase Three, Year Two, however, the collaborative nature of the work progressed beyond just the ECD to across the agency (and with other states). The most prominent example of this is the professional learning developed by a comprehensive group of stakeholders across divisions to support the delivery of Specially-Designed Instruction within an MTSS. In addition to the collaborative nature in the design of the professional learning, it is also leveraging implementation frameworks and systems that are designed to impact total district and school improvement.

Thus, the work is being integrated into district and school improvement plans and local leadership is considering outcomes of students with disabilities when developing these plans.

Finally, the work has also led to broader conversations within the agency concerning the use of systems-levels needs assessment. This has generated structured processes to identify overlap and potential gaps in these tools, with the ultimate outcome of reduced redundancy and fragmentation and the development of a single improvement and implementation plan at the district and school levels.

## Evidence that SSIP's evidence-based practices are being carried out with fidelity and having the desired effects

As the LEASA and Improvement Plan process has become embedded practice, the submission and review processes now happen with a high level of procedural fidelity (e.g., the vast majority of the LEASAs are submitted on time, the majority contain all required components, the review process occurs within the indicated timeframe, and the Professional Learning Plan is developed and systematically communicated). In addition, now that the tool has established measurement characteristics, districts appear to be increasing their capacity to implement core elements of special education services as indicated by their increased ratings on the LEASA.

In addition, this evaluation report has provided data suggesting high fidelity of evidence-based practices including:

- High levels of fidelity for Reading and Math Foundations instructional implementation by teachers
- High levels of fidelity for School-wide PBIS
- High levels of SEFEL implementation by teachers

## Outcomes regarding progress toward short-term and long-term objectives that are necessary steps toward achieving the SIMR

Table 13

*Progress Toward Key Outcomes*

| Domain | Key Outcome Comparisons to Baseline |
|---|---|
| **Graduation** | • The SWD five-year CGR rate exceeded the 2016-17 target, and the rate was higher in 2016-17 than it was in the three previous years<br>• The gap between five-year cohort graduation rates for Students with Disabilities and Non-Disabled Students has decreased each year since baseline |
| **LEASA and Improvement Planning Process** | • Increases in mean LEASA total score ratings from 2016 to 2017<br>• Increases in mean Core Element total score ratings from 2016 to 2017<br>• Increases in mean Systems, Practices, and Outcomes domains score ratings from 2016 to 2017 |
| **Academics** | • High levels of fidelity for research-based programs in reading and mathematics<br>• Significant positive changes from baseline (2014-15) to 2016-17 in reading and mathematics proficiency for SWD |
| **Behavior** | • Consistent high rates of fidelity for School-wide PBIS implementation<br>• Consistent High rates of fidelity for SEFEL implementation<br>• Overall, in-school and out-of-school (1-10 days) suspensions decreased slightly from baseline to 2016-17 |
| **Transition** | • Indicator 7 metrics A1, B1 and C1 were met<br>• Usability testing revealed promising practice associated with self-determination interventions |

### Measurable improvement in the SIMR relation to targets

The 5-Year adjusted Cohort Graduation Rates for students with disabilities show a continued positive trend, despite a recent leveling off for non-disabled students. The current rate (FFY 2016) continue to surpass previously-established targets. In addition, from the baseline year of FFY 2013 to 2016, the gap between five-year adjusted cohort graduation rate for students with disabilities and non-disabled students has decreased by 15.7%.

## Plans for Next Year

### Additional Activities to be implemented next year, with timelines

The ECD is planning to continue the review, analysis, and response to the LEASA data. These and additional activities that will be implemented next year include:

- April 2018: Update Professional Learning Calendar
- May 2018: Review LEASA submissions and summarize data
- May 2018: Aggregate state and regional professional learning needs
- June 2018: Finalize Professional Learning Plan and Communicate to LEAs
- June 2018: Finish usability testing and transition to Qualtrics
- June 2018: Transition to professional learning evaluation with common items
- August 2018: Begin first cohort of SDI within an MTSS professional learning
- October 2018: Fully transition to ECATS
- April 2018 – April 2019: Review agency needs assessments, align or integrate tools, and develop a single tool for district improvement planning

### Planned evaluation activities including data collection, measures, and expected outcomes

The planned evaluation activities for FFY 2018 are largely consistent with the current year. As the professional learning plan for FFY 2018 is developed, it will be aligned to data sources that may add outputs and short-term outcomes to the SSIP logic model. In addition, a review of the professional learning catalog for the alignment and / or development of fidelity tools may lead to the availability of additional metrics.

## Anticipated Barriers and steps to address those barriers

The primary barrier for next year includes unforeseen issues with the installation of the ECATS data system and the changing metrics described in the "Data Quality" section of this report. While data are transferred, business rules are developed and implemented, and LEAs are trained on the system – the awkward initial stage of implementation has the potential to compromise the quality and efficiency of data collection in a time limited fashion. Currently, redundant data systems exist that they could still be accessed in case data quality issues arise with ECATs.

## Supports and Technical Assistance

As the ECD has continued engagement with several technical assistance providers and partners:

- Exceptional Children Assistance Center (ECAC), to provide professional learning and improve collection of parent and student information;
- National Technical Assistance Center for Transition (NTACT), as a resource for development of the continuum of transition supports;
- IDEA Data Center (IDC) for work related to success gaps;
- National Center for Systemic Improvement (NCSI) for Graduation and Specially-Designed instruction; and
- UNC Charlotte for evaluation planning, support, and statistical analysis

These partnerships are expected to continue and to provide the support needed by the ECD and SEA to effectively serve LEAs. As the evaluation of the project develops and other needs are identified, additional partnerships may be sought.