



# THE UNIVERSITY OF NORTH CAROLINA SYSTEM

## **Leading on Literacy: Challenges and Opportunities in Teacher Preparation Across the University of North Carolina System**

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February 14, 2018

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Chapel Hill, North Carolina



## FOREWORD

There may be no singular task more important for the future of our state and nation than ensuring our P-12 education System is preparing our young people to succeed in a rapidly changing world. Our children’s health, prosperity, and happiness depend on the quality of education they receive in their formative years.

Right now, too many of our students lack access to the educational opportunities they deserve. As a nation and as a state, we’ve made some gains, particularly in math. But our limited progress has not kept pace with the dramatic shift in the level of education and skills increasingly necessary for economic success.

Proficiency rates are still anemic, and stubborn achievement gaps have not narrowed enough. Not only are we not educating our students to the level they need now, but we are falling far short of the skills, knowledge and readiness they will need in the years to come.

I’ve dedicated my life in public service to changing this landscape, and I know it is no easy undertaking. But one key to educational improvement is clear: a high-quality P-12 education depends on high-quality P-12 teachers.

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Effective teachers are the foundation upon which school improvement efforts rest. The success of recent state-level reforms and investments designed to boost third-grade literacy will depend in large part on the quality of the teachers charged with implementing them. In order to improve our P-12 schools, then, we must recruit and prepare more high-quality teachers to serve in those schools, especially those that serve our neediest students.

This is a task—recruiting and preparing great teachers—that the University of North Carolina System knows well. As the state’s largest source of public school teachers, we are proud of our role supporting North Carolina’s schools.

Teacher preparation is a core part of our System’s identity. Many of our institutions were founded over the past two centuries for the purpose of teacher preparation. And while our institutions’ missions have expanded since those early days, our focus on educator preparation remains paramount. But, as a public university System, we have a responsibility to do more. We must take greater ownership of our role in public school improvement.

Teaching is a high-skill, high-stakes job. We must treat it as such, recruiting talented teacher candidates and enabling them to succeed by providing an education that stresses evidence-based strategies and

interventions. That education should also include plenty of opportunities to learn and hone their craft early-on through meaningful student teaching experiences.

To make good on that promise, we must identify areas of excellence in teacher education, the obstacles and challenges our educator preparation programs face, and the opportunities for improvement. With generous support from the Belk Foundation, I commissioned a group of experts in early literacy instruction to take a first look at the undergraduate teacher education programs across the University of North Carolina System.

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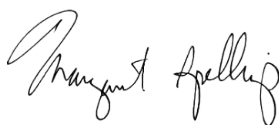
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The review allows us to take stock of where we are, offering a set of concrete lessons, recommendations, and directions for future research to guide our efforts to align teacher preparation with state content standards and evidence-based practices.

I look forward to working with institutional and state leaders to chart the path forward. Promising action is already underway. At the state level, for example, this summer's Senate Bill 599 promises to increase accountability, introduce new providers and new ideas into the educator preparation space, and expand the availability of information crucial to coordinating our response to public school needs.

Improving teacher quality will require a statewide effort, but with this report, the University of North Carolina System is taking an important step toward amplifying our role in improving North Carolina's public schools.



Margaret Spellings

President, The University of North Carolina System

February 2018

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## THE UNC SYSTEM OFFICE SETS THE CONTEXT

Strong public schools are key to North Carolina’s continued economic growth. Students who graduate from high school prepared to succeed in and complete postsecondary education earn more over the course of their careers, are less likely to be unemployed, and have a much better chance of moving up the economic ladder. The path to opportunity starts in the early grades. Indeed, research suggests that a student’s ability to read on grade level by the end of the 3<sup>rd</sup> grade is a primary predictor of future success. Students who are not proficient in reading by the end of third grade are four times more likely to drop out of high school than those who are proficient readers. Poor fourth graders who do not read on grade level are fully six times as likely to drop out.<sup>1</sup>

Fortunately, North Carolina has made some gains in reading and math over the past decade. Fourth-grade reading proficiency rates on the 2015 National Assessment of Educational Progress (NAEP) were above the national average and significantly better than they were 10 years earlier. Math scores for both fourth and eighth graders have also increased since 2000.

Still, the latest NAEP results show that less than 40 percent of fourth graders read on grade level. By 8<sup>th</sup> grade, that proportion drops to 30 percent (see Appendices C, D, and E). And though high school graduation rates have improved, the latest state assessment results show that less than half of all students in grades three through eight are considered “on track” for college and career readiness (CCR) in reading or math. Just 35 percent demonstrated CCR in both subjects.<sup>2</sup> ACT results show that 18 percent of North Carolina test-takers met college-ready benchmarks in English, reading, math, and science in 2017; nearly half failed to meet college-ready benchmarks in any of the four subjects.<sup>3</sup>

The state also faces stubborn achievement gaps. On the 2015 NAEP, one-quarter of disadvantaged North Carolina fourth graders (those who receive free or reduced price lunch) were proficient in reading compared to nearly 60 percent of their more affluent peers. Black and Hispanic students lag behind white peers at every grade level. Among 8<sup>th</sup> graders, just 13 percent of African American students and 21 percent of Hispanic students were proficient in reading.<sup>4</sup> Demographic projections indicate that North Carolina’s public schools will grow more diverse in the coming years. As the demographics of North

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<sup>1</sup> Hernandez, Donald. “Double Jeopardy: How Third Grade Reading Skills and Poverty Influence High School Graduation,” Annie E. Casey Foundation, 2012, <http://www.aecf.org/m/resourcedoc/AECF-DoubleJeopardy-2012-Full.pdf>.

<sup>2</sup> North Carolina Department of Public Instruction. “2016-17 Performance and Growth of North Carolina Public Schools, Executive Summary,” September 2017, <http://www.ncpublicschools.org/docs/accountability/reporting/2017/documentation/exsumm17.pdf>.

<sup>3</sup> ACT. “The Condition of College and Career Readiness 2017: North Carolina Key Findings,” <https://www.act.org/content/dam/act/unsecured/documents/cccr2017/North-Carolina-CCCR-2017-Final.pdf>.

<sup>4</sup> National Center for Education Statistics. National Assessment of Educational Progress (NAEP) 2015: State Snapshot for North Carolina.

Carolina's public schools change, these achievement gaps will have an increasing impact on the state's competitiveness.

To keep pace with a growing state and dynamic economy, North Carolina must do better. We must educate more students to a higher level than ever before. That means recruiting and preparing more teachers who are equipped to succeed in today's classrooms. To be sure, quality teaching is just one influence on student achievement; family income, zip code, race and ethnicity, and other factors are strongly related to student success. But research shows that great teaching matters. While there is substantial debate about how best to measure teacher effectiveness, a number of rigorous studies have shown that effective teachers can have a positive effect on student achievement (and success later in life) that goes beyond student demographics—what researchers call “value-added.”<sup>5</sup> Indeed, access to quality teaching can be trajectory-changing. A study of one million students found that those assigned to teachers with a track record of producing student learning gains were more likely to enroll in college and had higher earnings as adults.<sup>6</sup>

The key question facing policymakers is how to recruit and prepare more teacher candidates who have a positive impact on student learning and development. While acknowledging the importance of improvements in teacher compensation and working conditions as well as the value of alternative pathways into teaching, policymakers and practitioners have identified university-based teacher preparation as a key lever to prepare effective educators. Many states, including North Carolina, have implemented policies and initiatives designed to enhance and improve teacher education, including new programs to attract promising candidates to education preparation programs and efforts to ensure that coursework reflects rigorous, proven evidence on effective instructional practice.

The alignment between teacher preparation in early literacy and existing research has received considerable attention. In 2000, the blue-ribbon National Reading Panel (NRP)—created by Congress to “assess the status of research-based knowledge, including the effectiveness of various approaches to teaching children to read”—identified five essential components of reading: phonemic awareness,

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<sup>5</sup> Sanders, William L., S. Paul Wright, and Sandra P. Horn. "Teacher and classroom context effects on student achievement: Implications for teacher evaluation." *Journal of Personnel Evaluation in Education* 11, no. 1 (1997): 57-67; Rivkin, Steven G., Eric A. Hanushek, and John F. Kain. "Teachers, schools, and academic achievement." *Econometrica* 73, no. 2 (2005): 417-458; Helen F. Ladd, "Teacher Effects: What Do We Know?" in Greg DUNCAN and James Spillane, eds, *Teacher Quality: Broadening and Deepening the Debate*. Multidisciplinary Program in Education Sciences, Northwestern University (2008): 3-26.; C. Kirabo Jackson, Jonah E. Rockoff, and Douglas O. Staiger. "Teacher Effects and Teacher-Related Policies," Working Paper (2014): [https://www0.gsb.columbia.edu/faculty/jrockoff/papers/Jackson\\_Rockoff\\_Staiger\\_2014.pdf](https://www0.gsb.columbia.edu/faculty/jrockoff/papers/Jackson_Rockoff_Staiger_2014.pdf).

<sup>6</sup> Chetty, Raj, John N. Friedman, and Jonah E. Rockoff. "Measuring the impacts of teachers II: Teacher value-added and student outcomes in adulthood." *The American Economic Review* 104, no. 9 (2014): 2633-2679.



phonics, oral reading fluency, vocabulary, and comprehension.<sup>7</sup> Subsequent research on reading instruction has served to reinforce the NRP's main findings, and states and institutions have worked to align teacher preparation programs with those findings (see Appendix G for a list of relevant reading research).

For instance, the higher education system in Mississippi has conducted two in-depth studies of the extent to which teacher preparation coursework and field experiences reflect the NRP's five essential components. The latest study found that educator preparation programs in the state had made progress in focusing coursework on the five essential components of reading.<sup>8</sup> In 2011, the Florida Department of Education revised its Reading Endorsement, which teachers can earn by completing relevant coursework, to ensure that the required competencies and courses reflect research published since 2000.<sup>9</sup> The Louisiana Department of Education has partnered with nonprofit Teacher Prep Inspection-US (TPI-US) to review educator preparation programs on a number of dimensions, including the extent to which coursework covers evidence-based reading instruction.<sup>10</sup> Many individual universities—and groups of universities—have undertaken similar reviews in response to new demands.

North Carolina's educator preparation programs are also operating in an era of increasing expectations. This past year, the North Carolina General Assembly passed legislation (S.B. 599) that will clarify the expectations for teacher preparation program approval and review and a set of reforms related to licensure policy. The law sets out new criteria for the licensing of educator preparation programs, placing greater emphasis on equipping teachers with evidence-based practices. The law also includes new accountability measures for all educator preparation programs licensed in North Carolina and creates space for organizations other than universities to offer teacher preparation programs, conditional on review and approval by a new Professional Educator Preparation and Standards Commission.

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<sup>7</sup> National Institute of Child Health and Human Development. *Report of the National Reading Panel. Teaching children to read: an evidence-based assessment of the scientific research literature on reading and its implications for reading instruction: Reports of the subgroups* (2000: NIH Publication No. 00-4754). Washington, DC: U.S. Government Printing Office.

<sup>8</sup> See Barksdale Reading Institute and Mississippi Institutions of Higher Learning. "2014-15 Study of Mississippi Teacher Preparation for Early-Literacy Instruction." (2016): <http://msreads.org/files/2016/03/ExSumm-2014-15-Study-of-Teacher-Preparation-for-Early-Literacy-Instruction.EXEC-SUMMARY.pdf>.

<sup>9</sup> Florida Department of Education. "Reading Endorsement." (2011): <http://www.fldoe.org/academics/standards/just-read-fl/reading-endorsement.stml>.

<sup>10</sup> Louisiana Department of Education. "Teacher Preparation On-site Review Brief." 2017: [https://www.louisianabelieves.com/docs/default-source/teaching/teacher-preparation-onsite-review-brief\\_january-2017.pdf?sfvrsn=6](https://www.louisianabelieves.com/docs/default-source/teaching/teacher-preparation-onsite-review-brief_january-2017.pdf?sfvrsn=6).

As the largest producer of public school teachers in the state, the University of North Carolina System has an opportunity and an obligation to exceed these new standards and compete with new providers. Thirty-seven percent of the teachers in North Carolina’s public schools are graduates of the UNC System; among beginning teachers (those with two or fewer years of experience), UNC System graduates make up 43 percent of the teaching corps. Research indicates that, overall, teachers prepared at UNC System institutions generally have higher value-added estimates, earn higher evaluation ratings, and stay in the classroom longer than teachers prepared through most other routes.<sup>11</sup> Data from 2015 show that about 8 out of 10 UNC System graduates met or exceeded targets for expected student growth.<sup>12</sup>

There is room for improvement, however, particularly in reading. A 2015 study found that none of the 15 teacher preparation programs in the UNC System had a positive, statistically significant effect on elementary reading achievement when compared to teachers prepared via other routes. Meanwhile, the UNC System’s colleges of education have experienced significant declines in enrollment, mirroring a nationwide trend. Between 2010 and 2015 alone, enrollments in bachelor’s and master’s degree programs in education in the UNC System dropped 30 percent (see Appendix B). Those numbers rebounded some in 2016, but are still far below previous levels.

The University of North Carolina System’s Board of Governors (Board) has recognized the need for improvement in teacher education. In 2015, a Board subcommittee made a series of recommendations, including the creation of a public Educator Quality Dashboard, closer alignment between colleges of education and colleges of arts and sciences, a focus on high quality clinical experiences, and aligned instructional support for beginning teachers.<sup>13</sup> Considerable progress has been made on these recommendations, but there is more work to be done, especially in light of new legislation, changing demographics, and increasing expectations.

In response, UNC System President Margaret Spellings commissioned this initial review of curriculum and practice at the 14 undergraduate teacher preparation programs that license bachelor’s degree

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<sup>11</sup> Research suggests that teachers who enter through Teach for America perform better than UNC-trained teachers, as do visiting international teachers in some subjects. See Bastian, Kevin and Qi W. Xing. “Staffing North Carolina’s Classrooms: Evidence Connecting Teacher Preparation to Teacher Outcomes.” Education Policy Initiative at Carolina (EPIC) (2015): [https://publicpolicy.UNC.edu/files/2015/07/Staffing\\_North-Carolinas\\_Classrooms\\_Evidence-Connecting\\_Teacher-Preparation\\_to\\_Teacher-Outcomes\\_April-2016.pdf](https://publicpolicy.UNC.edu/files/2015/07/Staffing_North-Carolinas_Classrooms_Evidence-Connecting_Teacher-Preparation_to_Teacher-Outcomes_April-2016.pdf).

<sup>12</sup> See UNC Educator Quality Dashboard. “Education Value-Added Assessment System (EVAAS).” <http://eqdashboard.northcarolina.edu/performance-employment/>.

<sup>13</sup> University of North Carolina Board of Governors. “Recommendations from the UNC Board of Governors Subcommittee on Teacher and School Leader Quality.” (2015): <http://eqdashboard.northcarolina.edu/wp-content/uploads/2015/11/BOG-Recommendations-for-Teacher-and-School-Leader-Quality.pdf>.

recipients to teach in elementary and middle schools, with a particular focus on how those programs prepare candidates to teach reading.<sup>14</sup> The review, made possible by a grant from the Belk Foundation, was conducted over the summer and fall of 2017, and involved on-site visits and stakeholder interviews by reviewers with expertise in policy, literacy, and educator preparation. The goal was to better understand the current work and contributions of our teacher preparation programs, the challenges they face, and the models of excellence in our System. How do UNC System educator preparation programs incorporate the latest research and best practices from teacher quality efforts around the country? What evidence-based approaches have programs adopted to prepare pre-service teachers how to teach reading? How well are those approaches aligned with state content standards?

This initial review provides insight into the areas that require a more detailed look at content and practice, the opportunities for institutions to learn from one another, and recommendations for institutional and System-level leaders to consider.

## OVERVIEW

The University of North Carolina System (UNC) plays a significant role in ensuring PK–12 student achievement and strives to prepare educators to effectively teach diverse populations of students. The fourteen undergraduate Educator Preparation Programs (EPPs) in the System can be leaders in efforts to prepare teachers to be more successful as they focus on continuous improvement of their programs, including the following elements:

- incorporation of robust, detailed knowledge of what constitutes evidence-based practice;
- integration of evidence-based practices and strategies into all aspects of educator preparation;
- collaboration with district and state partners that is formal, thoughtful, and routine;
- provision of ample, deliberate, and assessed field experiences in schools;
- preparation that ensures candidates are fully conversant with the state content standards and know how to incorporate them into their classroom practices;
- utilization of expertise of other departments and external entities and resources to boost the effectiveness of the EPPs; and
- continuous review and revision of EPP models to improve the preparation of teachers.<sup>15</sup>

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<sup>14</sup> UNC-Chapel Hill’s School of Education no longer offers bachelor’s degrees leading to licensure in elementary or middle grades. The UNC Baccalaureate of Education in Science and Teaching (BEST) allows mathematics, chemistry, biology, physics and astronomy, and geological science majors to earn a teaching license for secondary grades. Undergraduate music majors can get licensed to teach music.

<sup>15</sup> For more information on best practice in effective educator preparation programs, see: Cochran-Smith, Marilyn & Zeichner, K. (Eds.). *Studying Teacher Education: The report of the AERA Panel on research and teacher education* (2009). Mahwah, NJ: Lawrence Erlbaum Associates; Ball, Deborah & Forzani, F. M. “Building a common core for learning to teach and connecting professional learning to practice.” *American Educator*, 35(2), 17-21,38-39 (2011, Summer); Benedict, A., Holdheide, L., Brownell, M., Foley, A. M. *Learning to teach: Practice-based preparation in*

## FOCUS

The reviewers were tasked with visiting each of the fourteen UNC System institutions that offer an undergraduate degree leading to teacher licensure in elementary or middle grades to interview deans and their leadership teams, faculty, and teacher candidates. The reviewers' goals were to gather information on broad themes—areas of excellence within the System, integration of state standards into preparation, the challenges that leaders, faculty and candidates face, and the opportunities for System support—and more specific questions related to literacy coursework. The System Office plans to use the results of the review to conduct further research and design support for the programs to impact effective teaching and learning in order to improve K-12 student outcomes. The review focused upon the following areas:

- program highlights, program cohesiveness, and course alignment
- requirements for program admission
- candidate readiness to teach
- relationships with school districts
- alignment with state content standards
- use of accountability data to inform continuous improvement efforts
- research-based curriculum in literacy.

## METHODOLOGY

Reviewers sought to gather information from each EPP on the following topics in order to create a “snapshot” of the work of the EPPs, highlighting what the schools are doing well and determining the challenges they encounter. The review was designed as an overall look at the programs across the

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*Teacher education*. Washington, DC: American Institutes for Research and University of Florida (2016). [http://ceedar.education.ufl.edu/wp-content/uploads/2016/07/Learning\\_To\\_Teach.pdf](http://ceedar.education.ufl.edu/wp-content/uploads/2016/07/Learning_To_Teach.pdf); Deans for Impact. *Building Blocks Framework*. Austin, TX: Deans for Impact (ND); Robinson, S., Nemr, G., Nicoll-Senft, J., Spear-Swerling, L., Tralli, R. *Developing quality fieldwork experiences for teacher candidates: A planning guide for educator preparation programs and district partners*. Washington, DC: American Institutes for Research and the University of Florida (2017).

System, identifying areas that could be considered for further study, and is not intended to make definitive judgments about any one program. Through personal visits to institutions and discussions with deans, leadership teams, faculty, and teacher candidates, the reviewers asked questions focused on the following (see Appendix A):

- integration of evidence-based approaches and models to address the needs of each student, particularly in literacy instruction
- exemplary practices identified by each EPP
- concerns, needs, issues, and barriers identified by the universities
- supports the UNC System office can provide to strengthen the efforts of the EPPs
- partnerships that exist between the university and its school district partners, including a focus on
  - field experience opportunities afforded candidates
  - alignment of district and university expectations for field experiences
  - extent of ongoing collaboration and communication with local district leaders
  - results of data measuring the effectiveness of recent graduates
- integration and assessment of state content standards in the EPPs
- practices and content of early childhood education, special education, elementary, and secondary programs
- extent of collaboration between other departments associated with teacher preparation, e.g., psychology (cognitive science, science of reading), mathematics, science, English
- leveraging of resources with other entities to support the work of educator preparation (e.g., IES grants, state ESSA funding, equity grants, and/or title 1)
- methods to support and encourage EPPs to continuously review and revise, as needed, their programs to prepare teachers.

The reviewers visited each of the fourteen schools of education between August and mid-October of 2017.

Each visit was approximately three hours long and involved a conversation with leadership of each program, a separate discussion with faculty chosen by leadership, and then a final dialogue with current candidates in the program. The number of individuals in each meeting varied. Some leadership meetings were small with just the dean and a few key individuals. Others were much larger. The same was true of the faculty meetings and the candidate meetings.

The reviewers confirmed that the report would be generic and would not identify any individuals or schools, but rather would look at trends and key issues discussed.

Overall, the reviewers found interviewees to be open, straightforward, and forthcoming with descriptions of their programs, goals, concerns, and issues. All visits went smoothly, and program leadership was very helpful with all aspects of the visit.

Additionally, the reviewers received most of the documents requested from most EPPs. Some provided additional information and data about their program.

## LIMITATIONS OF REVIEW

This review is intended to be a snapshot of the EPPs, highlighting areas that could be considered for further study. The following limitations to the review preclude making any definitive judgments about any one program. Likewise, because literacy was a focus of this review, the lessons may not be generalizable to other programs at the institution that were not reviewed. However, the information obtained does suggest areas to explore further that are likely relevant to the vast majority of programs. Those areas are outlined in the recommendations.

The limitations of the interview process and syllabi review are discussed below.

### *Interviews:*

1. Each institution selected persons for the reviewers to interview based upon roles requested by the UNC System Office staff. This typically included representatives from the leadership team (e.g., dean and other administrators), faculty, and candidates. Consequently, it is likely that the criteria used to select the personnel to be interviewed varied across institutions.
2. The number of persons interviewed differed at each site. One university provided fewer than 10 people to be interviewed; others had more than 30.
3. The representation of those interviewed was not consistent across the sites. Some institutions provided faculty and candidates from elementary and secondary programs, STEM programs, and special education programs; others provided less comprehensive representation.
4. Candidates ranged from freshmen to seniors, and candidates' knowledge and perceptions likely varied with their level of experience.
5. For the most part, each group was interviewed for approximately the same length of time. Therefore, the larger groups had fewer opportunities for all the people to participate in the conversation.

### ***Syllabi Review:***

Syllabi from relevant EPP courses were solicited and reviewed. Syllabi reflect the intended content of a course, not how the course is implemented; both are important sources of information about what candidates experience in a course. The actual curriculum that is delivered was ascertained in part by interviews with faculty and candidates, although this review could not determine what was actually taught or how material was taught in each course. It is acknowledged that some concepts not included on the syllabus may have been taught, whereas concepts included on the syllabus may not have been covered. In addition:

1. Not all course materials were available for review. Some assignments, rubrics, and readings were posted on the school's learning management System (e.g., COURSE PACK, Blackboard) and were not accessible to the reviewers.
2. The reviewers were familiar with most but not all of the texts and suggested readings.
3. Tests, quizzes, and samples of assignments submitted were not available.
4. Feedback provided to candidates and documentation of their progress during their field experiences were not available for review.
5. Teaching by faculty or candidates was not observed. Thus, the reviewers were not able to discern classroom activities, modeling by the instructor, practice opportunities that may have been provided, or how the candidates implemented what they had been taught.

## **KEY FINDINGS**

### ***1. Relationships with districts and alignment of instruction***

One key topic of inquiry with each EPP was the level of connection with local school districts. Most institutions reported they had close relationships with surrounding districts, and that these districts were the recipients of the majority of their graduates, so it benefitted both parties to work together. However, the quality and structure of the relationships seemed to vary greatly. Some deans and faculty said they had regularly scheduled meetings with either superintendents or key officials in the district and had carefully crafted agendas at those meetings. Others connected as needed. Most described highly amicable relationships. Some colleges had faculty out in the schools on a regular basis, and a few colleges brought current public school teachers in as adjunct instructors. Superintendents and principals were brought in to present to classes in some EPPs. Many of the schools of education felt that their instruction was very much in line with the approaches implemented in the nearby districts and, in fact, their partnerships focused on that synchronization. However, others said that their colleges taught specific strategies, practices, and approaches, but that when their candidates went into the local schools, they saw different practices, and the candidates were asked to implement the approach of the school, not what they had been taught by the EPP. In some instances, both faculty and candidates reported a disconnect between what is

taught in the EPP and the alignment with the curricula and practice of the LEAs. Some faculty raised questions as to whether what is expected in local districts and by state standards is appropriate.

## 2. *Field experiences*

The structure of the review did not allow for a systematic study of field experiences. However, both faculty and candidates shared information and opinions about this topic. Some education schools begin field experiences in the freshman year while other colleges do not begin them until later. Candidates preparing to teach in secondary schools reported a later start getting into schools. One of the items mentioned most often by candidates is the need for earlier and more frequent field experiences. Many candidates commented they would better understand their coursework and how it applies if they had more field experiences. Some colleges are incorporating various types of field experiences much earlier, including focused observations, supervised tutoring of individual students, and semester-long full-time co-teaching.

The descriptions of field experiences were highly variable. The comments of some faculty suggested that districts working with the colleges varied greatly in what they were willing to do to support these field experiences. Faculty reported that some districts were willing to have candidates early and often while others reported difficulties with placements in the field. Some interviewees reported that candidates were carefully placed with both the college and the district involved in selecting the most appropriate classroom with a highly effective teacher and ongoing support. Other interviewees commented that placements were not always with effective teachers. Some faculty observed that the candidates provided quality instruction to the students, but the candidates did not always benefit from an effective mentor teacher.

The message was loud and clear from many candidates: “More clinical hours starting earlier!” Many faculty and leadership also saw this need.

In addition to supervised field experiences, most institutions encouraged candidates be involved in the community working with PK-12 students. Some institutions embedded this requirement into the coursework, and interviewees from a number of EPPs discussed at length the volunteer activities their candidates performed in the community. The candidates, for example, could work with local students and parents on a volunteer basis reading with children and helping parents assist with homework. Some EPPs cited their affiliated lab schools as creating opportunities to provide more field experiences for teaching candidates.

In summary, field experiences were provided by all programs and were valued by the candidates. However, the reviewers did not have access to information to determine whether the experiences had clear expectations that scaffold over time or if feedback that would promote candidate growth over time was systematically provided. Most syllabi required candidates to observe the teacher, help when they could, and make note of practices the teacher implemented, but the candidates did



not consistently report that they had explicit expectations about what to observe nor how to apply what they observed to enhance their own practice.

### 3. *Utilization of the North Carolina Standard Course of Study*

The utilization, integration, and EPP curricular fidelity to the North Carolina Standard Course of Study was discussed at all meetings. The North Carolina Standard Course of Study is the state-mandated set of content standards that delineates what K-12 students should know and be able to do in all grade levels and subjects. All teachers in all schools are expected to teach to these standards.

It was apparent in most of the meetings that the actual nomenclature used for these content standards varies widely within and across the EPPs. When asked about how they addressed “the state standards,” many candidates seemed perplexed—some candidates know them as the Common Core, while others know the name North Carolina Standard Course of Study. Most did have some understanding of what was meant by “the state standards.”

Leadership and faculty expressed that they include the state content standards in all courses and throughout the work they do. In fact, some institutions have an actual course that teaches the state content standards as a whole and how the standards should be utilized by teachers. There was clear evidence that most institutions incorporate the state content standards into the lesson plan templates that candidates are expected to utilize. When asked to elaborate on what they knew about North Carolina state content standards, many candidates mentioned that after they created a lesson plan, they would find the state standards that were addressed by the particular lesson. What is less clear is whether most candidates are given a full and complete study of the state content standards, what they cover, what is expected of teachers in covering these in a timely fashion, and how to work from the standards in planning instruction and assessing student growth. Candidates seemed much more comfortable with matching lesson plans to particular state standards. They were less comfortable with explaining the body of standards, why they exist, and what is expected of teachers and students.

Some interviewees said that content standards were addressed early in the freshman year and that all work embeds standards and strategies to support and scaffold the standards. Some mentioned creating a crosswalk of the standards with the objectives of their courses. Some faculty said they have internal discussions around the standards and how to make sure the standards are covered thoroughly.

Faculty also mentioned focusing on selected standards in-depth rather than covering the scope of what is expected (quality vs. quantity). Some faculty emphasized that they simply “teach good practice” rather than focus on the content standards. There was also the comment that the “standards are such a mess they are unattainable.” Faculty at other EPPs were less specific.

Candidates often had differing views. In schools where faculty seemed to be very focused on carefully incorporating the standards, candidates were articulate about how they work with

standards and what they know about them. In other places, candidates were frank that there was no broad instruction on standards and that they really were not that familiar with the standards. Candidate comments indicated some faculty required candidates to integrate the standards in their planning and teaching, while other candidates stated the standards were not a key part of their coursework.

It seems that candidates knew where to find the standards and how to “check off” that a lesson plan addressed them, but the candidates stated they were unsure how to integrate more than one standard across lessons or how to assess student mastery of the standards.

Most of the syllabi contained long lists of standards, though few explicitly mentioned the North Carolina Standard Course of Study. It was less clear that faculty determined specific objectives or standards that candidates would master in each courses, and most candidates could not articulate what standards were supported in the courses they took. In summary, the EPPs do not appear to consistently integrate the North Carolina Standard Course of Study into the programs in meaningful ways.

#### 4. *Praxis*<sup>®</sup> Core tests and entrance requirements

A key concern mentioned at nearly every campus by leadership, faculty, and candidates alike was *Praxis* Core tests. The *Praxis* Core Academic Skills for Educators are tests that measure the core academic skills of teacher candidates in reading, writing, and math. Students who score below certain levels on the SAT or ACT exams are required to take the *Praxis* exams prior to certification or, in some cases, prior to entrance into a teacher education program. Some institutions require that students pass *Praxis* Core exams before entering a teacher education program, usually in the sophomore or junior year. Others require passing after coursework has begun but before certification is possible. Many institutions expressed concern that a number of students arrive in college unable to pass these tests of core academic skills, even on a second or third try.

The colleges expressed varied views on how to handle this issue, and a majority of EPPs asked for support as they explore strategies to increase passage rates. Math was of particular concern. All colleges have mechanisms in place to tutor and support students who are having difficulty. Some utilize full courses in the area needed (e.g., reading, writing, math), while others rely on tutoring, including using recent graduates as tutors. Some use online resources or special Saturday classes. Regardless, interviewees at most institutions asked for assistance in identifying better ways to support these students.

Most of the colleges agreed that passing *Praxis* Core tests ensured that teachers going into the field had adequate reading, writing, and math skills.

Candidates at more than one college expressed a desire to have *Praxis* Core exams completed very early once the student decided to go into teacher education. Candidates felt that taking and passing

the exam early was necessary so that it was clear the candidate had the necessary reading, writing, and math skills to be certified and did not have to worry about the exams while juggling coursework and field experiences. Additionally, one of the key points mentioned at a number of institutions by both candidates and faculty/leadership is the cost to students for the various entrance and certification exams. Some interviewees mentioned that fees for the exams were a significant burden for them. The costs are higher for students who have to retake the exams or for students who want multiple certifications. Several institutions and candidates mentioned this as a significant issue for a number of their candidates and asked for a discussion of how to ameliorate these costs for certain students.

##### 5. *Program requirements*

Colleges of education have a number of required courses that all students must take. Many of those courses are about theories of education, understanding issues of diversity and cultural and language differences, or historical perspectives in education. Other coursework is more specific to actual instruction and actual strategies for teaching reading, math, or writing or helping students with difficulties. Colleges vary in what they require. Some colleges require more reading courses than others. Some require more courses in theory or diversity. Candidates were very clear in almost every interview that they needed more of the “practical” courses on teaching reading, math, writing, and behavior management.

Most candidates said that even though they may have taken a special education course, they really did not have practical coursework that gave them a collection of specific strategies for helping students who were having difficulty. All groups of candidates were asked specifically about what they had learned to do to teach a student who was having trouble with reading. In almost all circumstances, candidates could not articulate specific strategies or practices they would use to help such a student. Some candidates attempted to answer the question and said they would refer the student to special education or rely on a digital reading program. However, given the data that shows that many non-special education North Carolina students in the public schools have difficulties learning to read, it is concerning that candidates do not seem to have a clear repertoire of practices to use with those students. Candidates in Special Education seemed to have a better understanding of how to scaffold instruction and how to choose various interventions for struggling readers. However, the general inability of candidates, some of whom were already in student teaching, to talk knowledgeably about interventions for readers having difficulty was a troubling theme across all of the visits.

This issue leads to another observation throughout the visits. Colleges have multiple types of programs and degrees available to candidates. One of those programs is a joint Special Education/Regular Education degree, where candidates get a significant number of special education courses.

Both faculty and candidates who had strong special education backgrounds were the most knowledgeable on reading research and strategies and specific interventions for public school students who are having difficulty.

One issue that came up in almost every meeting with candidates was the work that was done to help them with behavior management in the classroom. Candidates expressed a need to have more help on this topic and have that help earlier in their programs. Some schools relied on online coursework to teach behavior management theory and practices. Students felt the online coursework was not particularly helpful. This was an area where candidates said that field experience, early and often, was one of the best ways to help with this issue. They requested more coursework in behavior management as well.

#### 6. *Utilization of data*

Several of the institutions mentioned their use of data for continuous improvement. At some institutions, there was one individual who coordinated data, utilizing local sources as well as System and state information. Other institutions have a group of faculty who work together to analyze various data sources.

Some faculty were positive about the UNC System Educator Quality Dashboard, which provides various types of data on candidate achievement and matriculation. Some called it “forward thinking,” while others felt it was not helpful. Some mentioned the need to get more clarity from the System Office on the Dashboard and said they would like to offer input to the System Office on how it could be more helpful. Preparation programs mentioned the need to get accurate information on graduates, where they are teaching, and how they are affecting student achievement.

Educator preparation programs differ in the selection of instruments they use to teach candidates how to obtain diagnostic and achievement data about K-12 student achievement. School districts often use data from other types of instruments, so graduates may have differing, and perhaps confusing, ideas of what constitutes good data for helping their students. Syllabi and interviews provided little evidence that candidates were taught to use data to inform decisions about their instruction.

#### 7. *Literacy curriculum*

*“[T]he work of the National Reading Panel challenges educators to consider the evidence of effectiveness whenever they make decisions about the content and structure of reading instruction programs. By operating on a “what works” basis, scientific evidence can help build a foundation for instructional practice. Teachers can learn about and emphasize methods and approaches that have worked well and caused reading improvement for large numbers of children. Teachers can build their students’ skills efficiently and effectively, with greater results*

*than before. Most importantly, with targeted “what works” instruction, the incidence of reading success should increase dramatically.”<sup>16</sup>*

*Put Reading First, 3<sup>rd</sup> Edition, 2006*

In addition to the confidential interviews with deans, leadership teams, faculty, and pre-service candidates at each site, the reviewers requested that EPPs share materials from courses focused on literacy. Syllabi, course outlines, textbooks, and other assigned readings, assignments, and practice opportunities were reviewed as thoroughly as possible from the materials provided. Approximately 85 syllabi that addressed literacy were reviewed.

Syllabi review findings:

- a) The amount of time and number of courses allotted to literacy instruction was highly varied across the institutions, including the number of required courses on literacy.
- b) It was evident that most syllabi relied upon the textbook to determine topics of study for each class. Often the text was inaccurate or lacked an in-depth discussion of the skills students must learn, thus failing to provide candidates with knowledge of an effective instructional scope and sequence and strategies to solve instructional problems.
- c) The structure and content of the literacy courses were varied across the state. For example, at some sites, it appeared that evidence-based strategies for teaching early decoding skills varied from teaching phoneme-grapheme correspondence e.g., explicit instruction of letter sounds and names (research-based); to using context and pictures to decode words (e.g., look at the picture and see what word would make sense, not an effective strategy for early decoding).
- d) In addition to—or instead of—relying on research about how best to teach reading, some instructors required candidates to write their personal philosophies about how to teach reading, equating what they “feel about reading” or how they learned to read as a valid way to make instructional decisions.
- e) Some assignments appeared to be irrelevant to teaching literacy, or at least not inclusive of research-based practices. For example, some candidates spent class time constructing alphabet books or writing their own children’s books. Such instructional decisions might add to candidates’ course enjoyment or to a broader experience with literacy-related activities, but they are not the most efficacious practices to enhance teaching skill or—ultimately—student learning.

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<sup>16</sup> Armbruster, Bonnie B., Fran Lehr, and Jean Osborn. *Put Reading First: Research Building Blocks for Teaching Children to Read*. 3<sup>rd</sup> Edition. Washington, DC: National Institute for Literacy (2006): ii.

- f) Most syllabi required outside reading. However, there was little to no guidance about how to select appropriate research-based articles and websites.
- g) Lesson plan rubrics were not available to review. It is suggested that lesson plan rubrics be consistent across a program and include consideration of such things as differentiation of instruction, progress monitoring of students, universal design for learning, and organizing small-group instruction.
- h) Several programs required candidates to read *Put Reading First* (NICHD, 2000). However, it is not clear how much time was spent discussing its implications and why some instructional practices are more effective than others.
- i) Most programs teach a “balanced reading” approach to literacy instruction, although exactly how that is defined or enacted is not clear. It is also not clear if all instructors understand the concerns about this approach and that many of the practices that are taught are not, in fact, based on rigorous evidence.
- j) It is not clear that all instructors thoroughly address the five essential components of reading instruction, particularly phonological and phonemic awareness; word analysis, decoding, phonics, and morphology; how to effectively teach and assess vocabulary development; and how to teach comprehension strategies that help students identify and solve comprehension problems.
- k) Instructional strategies based on research were mentioned in a cursory way, if at all, on most syllabi. However, explicit instruction with modeling, Systematic instruction with scaffolding, multiple opportunities for students to practice, corrective and reinforcing feedback, and how to monitor ongoing student progress were mentioned in very few courses, and those courses tended to be taught in the special education program. It is also not clear if instructors modeled these practices in the classroom and that candidates had opportunities to practice these important instructional skills.
- l) Data-based decision making was referred to only a few times and only in special education syllabi, yet this knowledge is crucial for all teachers.
- m) Multi-Tiered System of Supports (MTSS), is defined by the North Carolina Department of Public Instruction as “...a multi-tiered framework which promotes school improvement through engaging, research-based academic and behavioral practices. NC MTSS employs a Systems approach using data-driven problem-solving to maximize growth for all.”<sup>17</sup> The role of the teacher in MTSS implementation was referred to in two courses.

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<sup>17</sup> Retrieved from <http://www.ncpublicschools.org/integratedSystems/mtss/>.

- n) Candidates stated, and the syllabi confirmed, that most educator preparation programs do not provide sufficient time on how to instruct struggling readers.

### **QUESTIONS FOR CONSIDERATION BY THE EDUCATOR PREPARATION PROGRAMS**

- Is the literacy content of pre-service teacher training implemented as intended? Does the Professional Educator Preparation and Standards Commission need to review expectations and guidance? Are the standards for program approval rigorous enough to ensure that graduates are equipped to effectively teach reading to students of all ability levels?
- Does the literacy course of study at each EPP provide candidates with the foundational skills and knowledge required to deliver effective reading instruction in K–3, including how to monitor student progress and adjust instruction to ensure all students master the requisite skills?
- What are the gaps or redundancies in the content and practice opportunities required by the courses in a program (e.g., K–3 literacy courses)? How can ineffective activities be identified and eliminated? Is there duplication of content and assignments that does not lead to increased understanding of the essential elements?
- Has each EPP collaborated on determining the skills that they feel are most important for all candidates to master? What are those practices that all candidates in all subjects should know and be able to do on day one?
- Does each program provide sufficient experience in evaluating research and associated recommendations to ensure they reflect best practices and evidence-based literacy research and instructional strategies?
- How well are instructors modeling the most effective instructional strategies with their candidates? Are faculty modeling strategies to increase student engagement, monitor progress, and differentiate instruction?
- How are field experiences evaluated? What evidence documents pre-service teacher growth over time?
- How does each institution determine how well candidates are prepared to teach struggling students?

## RECOMMENDATIONS FOR THE UNC SYSTEM

The UNC System is uniquely positioned to support the EPPs in their efforts toward continuous improvement. During our visits, we heard myriad ideas about recommended actions that the System could take to support EPPs, and we were able to discern several overarching areas on which the educator preparation programs may want to focus their continuous improvement efforts. We suggest several key recommendations be further explored. The ideas listed below are the ones that seem most critical and most likely to significantly improve the ability of teachers to boost student achievement in North Carolina.

**1. Establish a key individual in the UNC System Office who serves as the liaison with the education schools.**

Faculty expressed appreciation for having someone appointed as their direct liaison—a person they can contact personally. That person can inform the UNC System Office about what kinds of help and support are needed by the educator preparation programs.<sup>18</sup> The individual would facilitate implementation of the recommendations below and support the schools in implementing strong research-based support for their programs.

**2. Address the challenges posed by the requirement that candidates must pass a series of certification examinations.**

Some students are unable to demonstrate, through the certification examinations, that they have necessary reading, writing, and math skills. The colleges need assistance and support to ensure that candidates are prepared to pass the *Praxis* Core tests.

- The UNC System Office can be the lever and convene a working group—including superintendents, college leadership, faculty, candidates, and experts in interventions for older students—to help colleges learn about and implement effective strategies for helping candidates achieve the basic skills in reading, writing, and mathematics required to pass the Core exams the first time they are taken. Some institutions, including those with many students from disadvantaged backgrounds, do a better job than others of achieving high passage rates. It is recommended that the System Office work with EPPs to consider policies that can help students successfully pass the *Praxis* Core and ensure they can move seamlessly through the program focused on the coursework and preparing for teacher certification.
- The working group could also look at identifying ways to ameliorate the cost of the various credentialing exams for low-income candidates.

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<sup>18</sup> Catherine Truitt, former Assistant Vice President for Academic and University Programs at the UNC System Office, occupied this role until October 2017. Truitt coordinated the campus visits and accompanied the reviewers on several of them. In the period between the visits and the publication of this review, Truitt was hired to serve as chancellor of Western Governors University-North Carolina. The System Office is currently in the process of hiring a replacement.



**3. Help colleges identify successful recruitment strategies for teacher candidates.**

The UNC System Office can help institutions develop successful strategies to encourage more people to consider education as a rewarding, respected career option. For example, some institutions actively recruit high school students and use their own graduates in the recruiting efforts. The System Office currently oversees two programs that can serve as effective recruiting tools and learning opportunities: the Future Teachers of North Carolina program (which works with high school students interested in teaching), and the North Carolina Teaching Fellows program (which provides forgivable loans to teaching candidates at five EPPs). Depending on the program's success, the UNC Board of Governors might consider a request to the General Assembly to expand the Teaching Fellows program to additional EPPs.

**4. Assist the EPPs in incorporating the NC Standard Course of Study for K–12 students more visibly into the work of teacher education candidates.**

The North Carolina Standard Course of Study was not always well-understood by candidates. Generally, candidates seemed to be able to make a lesson plan and identify a standard that related to that lesson plan, but they had less understanding of the expectations of the standards as a whole and how the standards should be addressed across the curriculum. The UNC System Office should work with the colleges and with the Department of Public Instruction to identify the best ways to ensure that all courses in the colleges of education deliberately integrate the expectations of what K–12 students in North Carolina should know and be able to do. Working directly with willing colleges on this topic could increase knowledge of what is expected at each grade level and how teachers should manage covering the required standards in a given time period.

**5. Consider aligning teacher education for kindergarten with the state standards.**

Most colleges use a birth-through-kindergarten approach to early childhood education, and grades K-6 for elementary degree programs, paralleling the North Carolina certification structure. However, in practice, kindergarten instruction at the institutions seems to be more focused within the early childhood curriculum rather than the elementary curriculum. The North Carolina Standard Course of Study includes competencies for children in kindergarten, but the emphasis on kindergarten in the EPPs is more closely aligned with early childhood than elementary instruction. This disconnect may cause confusion for kindergarten teachers as they enter the public school setting. The North Carolina Department of Public Instruction (DPI) provides the following statement about the standards: "The ELA Standards are based on research and evidence that describe the competencies necessary for all students to become college and career ready by the end of high school, outlining a vision of what it means to be a literate person in the 21st Century."<sup>19</sup> Because the early reading research base is quite strong, North Carolina may want to emphasize alignment for kindergarten teacher preparation with the state standards.

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<sup>19</sup> North Carolina Department of Public Instruction. K-12 Standard, Curriculum, and Instruction: English Language Arts. Available at: <http://www.ncpublicschools.org/curriculum/languagearts/>.

**6. Sponsor meetings to address concerns of the colleges and provide faculty with opportunities for continued professional development.**

Some examples of meeting foci include the following:

- provide opportunities to better understand and utilize the Educator Quality Dashboard. Some institutions use the data regularly, and those strategies should be highlighted. Most institutions indicated they would appreciate feedback from the System Office about the data they submit.
- edTPA, the state's performance-based, subject-specific assessments for candidates, was the subject of some confusion. Some colleges were further along in their implementation of edTPA than others. Colleges were interested in having more clarification on edTPA and knowing more about best practices in the implementation of edTPA.
- faculty teaching several courses a semester, supporting candidates in the field, and completing other assignments associated with preparing pre-service teachers at times face challenges to engage in related research or to keep up with research. Knowing the research is the first step; teaching teachers to implement research-based knowledge and instructional strategies in classrooms is a crucial and more difficult aspect of teacher education. Sponsored colloquia at which recent research is presented and implications for classroom practice are explored could support faculty in increasing their own knowledge about teaching candidates and also about state initiatives such as MTSS, STEM, and the Literacy Initiative. The System Office could partner with EPPs to facilitate and sponsor professional development from national and state experts in the latest research and evidence-based instructional strategies, thus benefiting all schools of education.

**7. Help facilitate early, deliberate, scaffolded, and aligned field experiences.**

EPPs are required to offer aligned field experiences to meet accreditation standards (Council for the Accreditation of Educator Preparation (CAEP) Standard 2). The System Office could support these efforts by working directly with institutions and superintendents in the state to encourage field experiences as early as the freshman year and continued access to opportunities for high-quality practice throughout the program. Candidates should have significantly increased opportunities to work with students in the classroom, particularly students with difficulties, students with disabilities and English language learners. In addition, the UNC System Office could convene colleges interested in examining the practice opportunities available for their candidates and highlight those programs that provide clinical experience early, often, and with quality.

Logistical issues often get in the way of making these experiences a reality. However, some institutions have found ways to give candidates significant time in the schools. This was the greatest plea from the candidates. They felt that actual classroom experience was the most valuable aspect of their preparation program.

**8. Work with EPPs to review all courses in each program, paying particular attention to the sequencing and depth of literacy courses.**

It is recommended that the System Office and the EPPs consider:

- working with the schools of education to help update teachers and faculty on evidence-based practices within their discipline. Of particular benefit would be a focus on reading and math strategies proven effective with K–12 students having difficulty. Very few of the syllabi for reading courses provided candidates with a thorough knowledge of research-based instructional strategies, data-based decision-making, how to monitor student progress, and how to provide interventions when students struggle;
- working with willing colleges to align courses, address gaps, and reduce redundancies. Several of the EPPs are working on this alignment now and could use support and share the results of their efforts with other EPPs and school districts;
- engaging with selected national research centers that provide support to articulate coursework and integrate research-based practices;
- encouraging more coursework in the details of teaching reading, math, and writing; intervention strategies for struggling students; and the implementation of behavior management strategies. Candidates are interested in more practical knowledge about strategies and approaches they can use in the classroom;
- convening interested institutions and highlighting those that have clear strategies for maximizing their special education components. Special education faculty and candidates who were in the Special Education/Regular Education program at most institutions were cognizant of evidence-based practices and, in particular, the practical knowledge candidates need to work with K–12 students who are struggling. Encouraging more schools to develop dual special education/regular education programs and encouraging their candidates to participate in these programs would ensure teachers are better prepared to teach all students;
- integrating discussions into all courses about types and quality of research and how to choose instructional methods and materials based on research;
- encouraging the colleges to agree on a limited number of skills that all teachers need to have mastered by day one. To better teach students who may be struggling, schools could integrate features of effective instruction into all their courses, modeled by instructors and practiced, with feedback, in the classroom;
- helping all EPPs to incorporate coursework on assessment and integrating solid information on assessment and testing across the EPP curriculum. Candidates will benefit from a thorough knowledge of research on assessment, the different types of assessment (e.g., universal, formative, summative, and state assessments for accountability) as well as methodological concepts such as validity and reliability and effect sizes. The result will be that candidates are ultimately better able to understand and provide data-driven instruction to their students. The UNC System has the benefit of having some talented methodologists from various institutions who can serve as resources to help design the critical components of this endeavor.

## NEXT STEPS

1. Establish and immediately convene a collaborative leadership group made up of representatives from EPPs to work with the System to address the recommendations and establish a vision for desired outcomes. This group could also work with the System Office on many of the next steps.
2. Use the convening power of the System Office to provide support to the institutions, utilizing national expertise on various topics addressed in the recommendations, particularly on interventions for struggling students.
3. Provide a venue for schools to collaborate on implementation of edTPA, Praxis success, CAEP requirements, and work with the Department of Public Instruction (DPI) on state initiatives, particularly on how the North Carolina Course of Study is communicated to the candidates.
4. Convene deans to discuss increasing dual credential programs (particularly with Special Education) and bolstering coursework for candidates that helps them work with students who are struggling with reading, writing or math.
5. Examine new requirements from recently passed legislation and develop a strategy to support institutions in meeting the requirements.
6. Increase collaboration with community colleges and local school districts to assist in recruiting candidates and ensuring those candidates are prepared to pass the Praxis exams.
7. Establish future studies to examine areas not covered in this report such as mathematics preparation, leadership preparation programs, implementation and evaluation of field experiences, development of robust communications Systems with stakeholders, and other areas of interest.
8. Ensure that EPPs integrate current research, such as that made available by the entities listed below, into their programs, beginning with high priority areas such as early literacy instruction and mathematics instruction.

9. Explore collaboration with state and national centers that assist state departments of education, local education agencies, and institutions of higher education to improve their programs, such as the ones listed below.
- Building RTI Capacity (<https://buildingrti.utexas.org>)
  - Center for Effective Educator Development, Accountability, and Reform (CEEDAR Center, [www.ceedar.org](http://www.ceedar.org))
  - Center on Response to Intervention (<https://rti4success.org>)
  - Florida Center for Reading Research ([www.fcrr.org](http://www.fcrr.org))
  - Institute of Education Sciences (<https://ies.ed.gov>)
  - Meadows Center for Preventing Education Risk ([www.meadowscenter.org](http://www.meadowscenter.org))
  - National Center on Intensive Intervention (<https://intensiveintervention.org>)
  - National Center for Systemic Improvement ([www.wested.org](http://www.wested.org))
  - National Implementation Research Network (<https://nirn.fpg.UNC.edu>)
  - State Implementation and Scaling-Up of Evidence-Based Practices (SISEP) (<https://sisep.fpg.UNC.edu>)

## CONCLUSION

The University of North Carolina System has the benefit of multiple educator preparation programs and many talented individuals who are putting forth great effort to ensure that the students of North Carolina have teachers who can provide an effective and engaging education for all.

The challenges discussed in this report are not unique to North Carolina. Most states are in the process of generating ongoing improvements in their teacher preparation programs, addressing many of the issues identified in this review. With strong partnerships between the UNC System Office and interested universities, North Carolina has the opportunity to lead the nation in improving teacher preparation and student achievement.

## Appendix A

### Syllabi Review Criteria

The overarching focus was on determining the extent to which candidates develop the knowledge and ability to implement effective reading instruction. The reviewer determined the extent to which the following topics were studied and applied by the candidates:

- A. An in-depth understanding of the essential components of reading acquisition
  - 1. Phonological and phonemic awareness
  - 2. Phonics and word analysis (morphology, syllable types)
  - 3. Fluency
  - 4. Vocabulary
  - 5. Comprehension
- B. An extensive exposure to evidence-based strategies to teach and assess progress in each component of reading including the following features of effective instruction:
  - 1. Explicit instruction with modeling
  - 2. Systematic instruction with scaffolding
  - 3. Multiple opportunities for practice and response
  - 4. Immediate corrective feedback
  - 5. Progress monitoring
- C. Exposure of candidates to evidence-based research and instructional strategies

The conclusions were based on a careful examination of each syllabus including the following sections:

- 1. Description of course
- 2. Objectives or learner outcomes
- 3. Standards provided
  - a. North Carolina Standard Course of Study
  - b. Common Core state standards
  - c. Professional standards (CEC, IRA, IDA)
- 4. Extent to which evidence-based content and strategies were taught
  - a. No mention
  - b. Mentioned in readings, lecture, tests, or quizzes
  - c. Opportunities to practice with peers
  - d. Opportunities to practice with students
- 5. Opportunities for candidates to practice what they had been taught
  - a. College classroom assignments
  - b. Supervised small-group instruction
  - c. Supervised student teaching
  - d. Evidence of deliberate, aligned, and scaffolded practice
  - e. Supervision and feedback

6. Fieldwork experiences, including opportunities for candidates to practice what they were learning and to receive feedback and follow-up
7. Extent to which state initiatives and priorities were addressed
  - a. North Carolina Standard Course of Study
  - b. Multi-Tiered System of Support (MTSS)
  - c. Universal Design for Learning (UDL)
8. Textbooks and assigned readings
9. Bibliography
  - a. Institute for Education Science (IES) guidelines
  - b. Materials from national centers (e.g., IRIS Center, Florida Center for Reading Research, Meadows Center for Preventing Education Risk, National Center on Intensive Intervention, National Center for Universal Design for Learning)
  - c. Current readings from research-based journals



## Appendix B

### Educator Preparation Programs Included in Review

Institution	Bachelor's Degrees Awarded to Teacher Education Program Completers (2016-2017)	Trend (2011-12 to 2016-17)
Appalachian State	412	-29%
Elizabeth City State	18	-58%
East Carolina	371	-24%
Fayetteville State	35	-57%
North Carolina A&T	19	-69%
North Carolina Central	22	-66%
North Carolina State	156	-54%
UNC Asheville*	20	-51%
UNC Charlotte	230	-30%
UNC Greensboro	164	-57%
UNC Pembroke	62	-52%
UNC Wilmington	225	-24%
Western Carolina	138	-43%
Winston-Salem State	31	-31%
<b>Total</b>	<b>1,903</b>	<b>-39%</b>

**Source:** UNC System Office Strategic Plan Metrics (Critical Workforces: educator preparation (bachelor's degree completers only)).

**Note:** At the undergraduate level, there are a small number of post-baccalaureate certificates awarded in teacher prep programs as well, and those are not included here.

UNC Asheville does not offer bachelor's degree in education. However, UNCA's Department of Education offers a teacher licensure program that enables undergraduates to earn a teaching license while they complete their bachelor's in a major field of study.

UNC-Chapel Hill was not included because the School of Education no longer awards a bachelor's degree in education that licenses graduates to teach core subjects in elementary or middle grades (the UNC BEST program allows undergraduates majoring in math and science to earn a license for teaching grades 9-12; undergraduate Music majors can earn a license to be a music teacher).

### Appendix C

#### State Snapshot of NAEP Fourth-Grade Reading Scores in North Carolina

**Table 1. Overall Performance**

	<i>Year</i>	<i>Average Score</i>
<i>North Carolina</i>	2015	226
<i>North Carolina</i>	1998	213
<i>Nation</i>	2015	221

**Table 2. North Carolina Achievement-Level Percentages and Average Score Results**

<i>Year</i>	<i>% Below Basic</i>	<i>% at Basic</i>	<i>% Proficient</i>	<i>% Advanced</i>
2015	27	34	29	9
1998	42	31	21	6

**Table 3. Student Group Results 2015**

	<i>% of Students</i>	<i>Avg. Score</i>	<i>% at or Above Basic</i>	<i>% at or Above Proficient</i>	<i>% at Advanced</i>
<b><i>Race/Ethnicity</i></b>					
<i>White</i>	50	236	83	51	15
<i>Black</i>	25	214	60	23	3
<i>Hispanic</i>	18	212	61	23	2
<i>Asian</i>	3	242	84	59	20
<i>American Indian</i>	1	198	45	19	4
<i>Two or more races</i>	3	228	76	47	9
<b><i>Gender</i></b>					
<i>Male</i>	51	222	68	34	7
<i>Female</i>	49	230	77	43	12
<b><i>Free/Reduced Lunch</i></b>					
<i>Eligible</i>	60	215	62	25	4
<i>Not eligible</i>	39	242	88	59	18

**Table 4. Score Gaps for Student Groups 2015**

<i>Student Group</i>	<i>Gap in Average Scores</i>
<i>Black</i>	22 pts. lower than white students
<i>Hispanic</i>	24 pts. lower than white students
<i>Female</i>	9 pts. higher than males
<i>Free/reduced LUNCH</i>	27 pts. lower than ineligible students

(Source: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, NAEP, various years, 1998-2015 Reading Assessments)

## Appendix D

### State Snapshot of NAEP Eighth-Grade Reading Scores in North Carolina

**Table 1. Overall Performance**

	<i>Year</i>	<i>Average Score</i>
<i>North Carolina</i>	2015	261
<i>North Carolina</i>	1998	262
<i>Nation</i>	2015	264

**Table 2. North Carolina Achievement-Level Percentages and Average Score Results**

<i>Year</i>	<i>% Below Basic</i>	<i>% at Basic</i>	<i>% Proficient</i>	<i>% Advanced</i>
2015	28	41	27	3
1998	26	44	28	2

**Table 3. Student Group Results 2015**

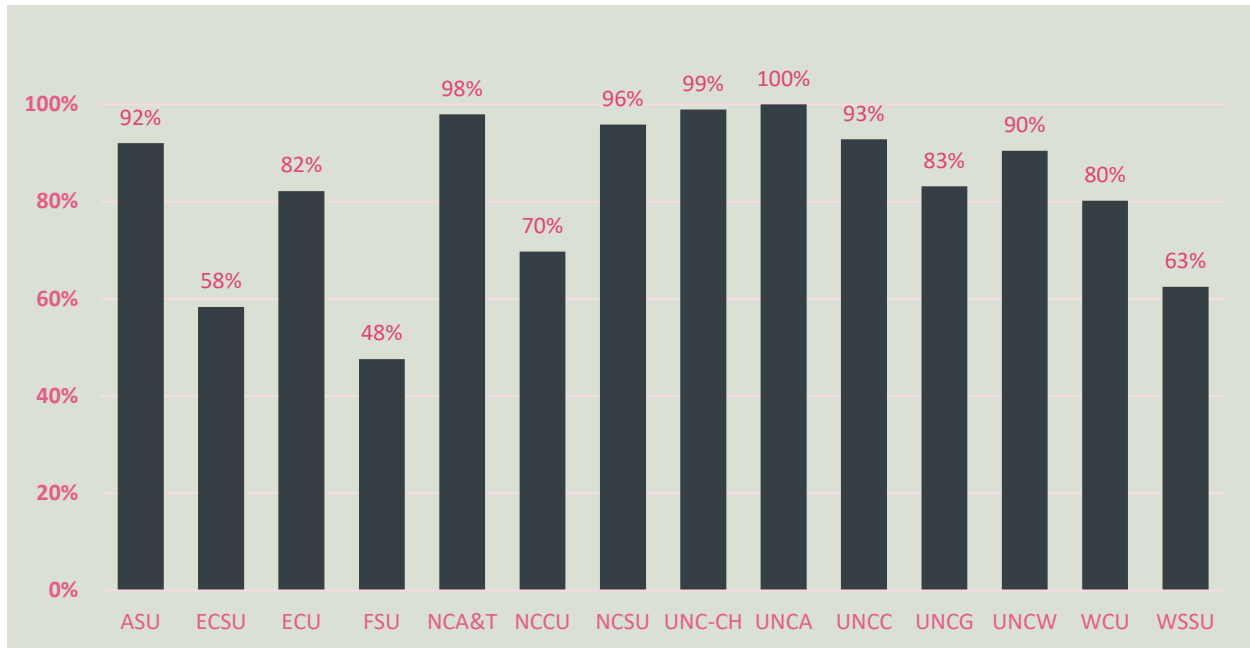
	<i>% of Students</i>	<i>Avg. Score</i>	<i>% at or Above Basic</i>	<i>% at or Above Proficient</i>	<i>% at Advanced</i>
<b><i>Race/Ethnicity</i></b>					
<i>White</i>	52	271	81	40	5
<i>Black</i>	25	243	54	13	1
<i>Hispanic</i>	16	252	66	21	1
<i>Asian</i>	3	279	87	55	7
<i>American Indian</i>	1	250	56	27	4
<i>Two or more races</i>	3	269	81	37	2
<b><i>Gender</i></b>					
<i>Male</i>	51	254	66	24	2
<i>Female</i>	49	268	78	37	5
<b><i>Free/Reduced Lunch</i></b>					
<i>Eligible</i>	57	249	61	18	1
<i>Not eligible</i>	42	277	86	48	7

**Table 4. Score Gaps for Student Groups 2015**

<i>Student Group</i>	<i>Gap in Average Scores</i>
<i>Black</i>	27 pts. lower than white students
<i>Hispanic</i>	19 pts. lower than white students
<i>Female</i>	14 pts. higher than males
<i>Free/reduced lunch</i>	28 pts. lower than ineligible students

(Source: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, NAEP, various years, 1998-2015 Reading Assessments).

Appendix E  
Licensure Exam Pass Rates 2014-2015



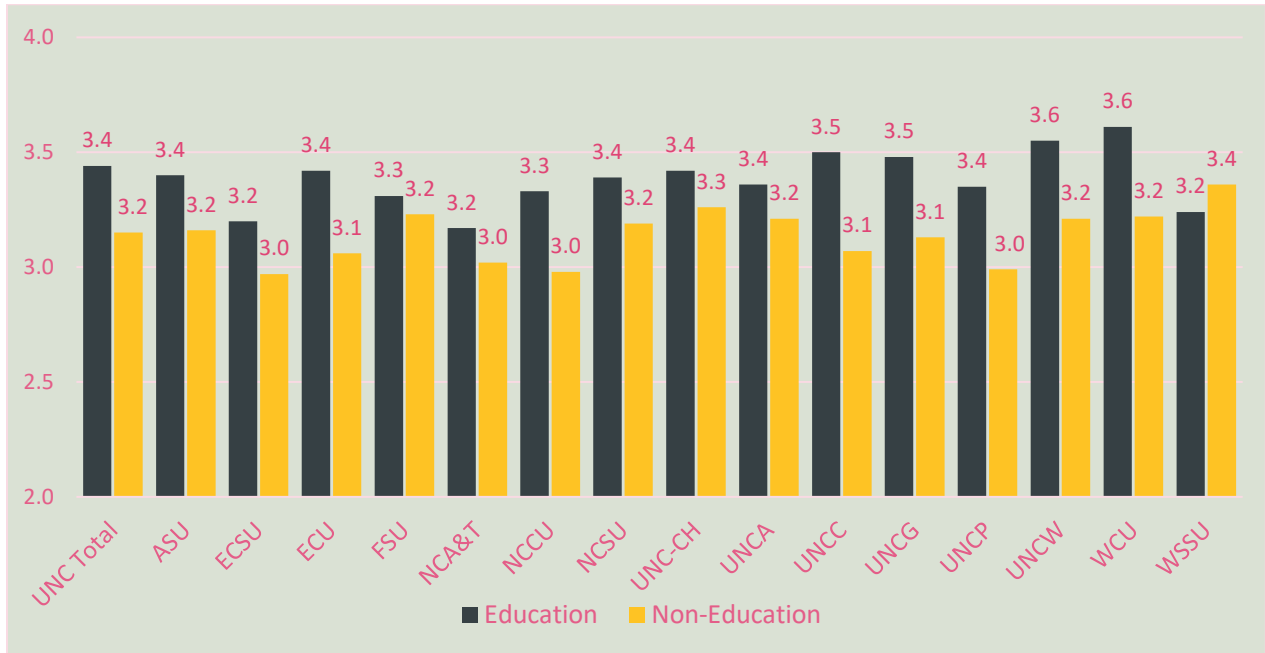
Campus	Number Taking Exam	Number Passing Exam	Institution Pass Rate
Appalachian State University	350	322	92.0%
East Carolina University	314	258	82.2%
Elizabeth City State University	24	14	58.3%
Fayetteville State University	21	10	47.6%
NC A&T State University	49	48	98.0%
NC Central University	33	23	69.7%
NC State University	169	162	95.9%
UNC-Asheville	43	43	100.0%
UNC-Chapel Hill	96	95	99.0%
UNC-Charlotte	349	324	92.8%
UNC-Greensboro	184	153	83.2%
UNC-Wilmington	220	199	90.5%
Western Carolina University	131	105	80.2%
Winston-Salem State University	32	20	62.5%

Source: UNC System Educator Quality Dashboard.

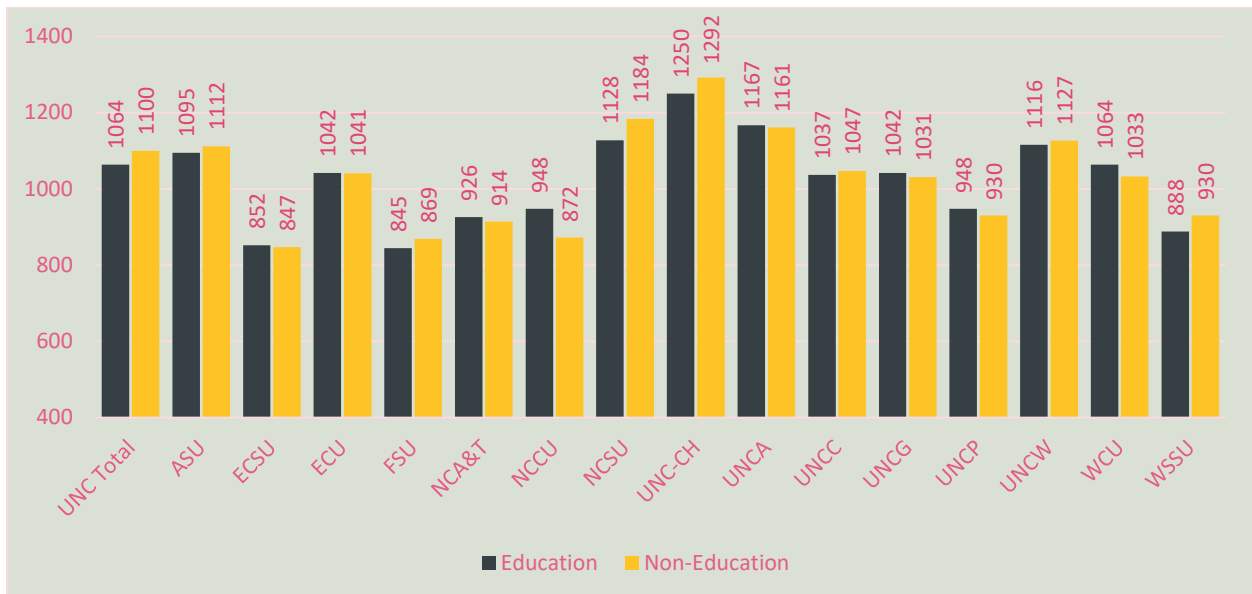
**Technical Note:** These tables reflect data reported to the US Department of Education by the state of North Carolina as per Title II of the Higher Education Act. These figures illustrate the percentage of students who passed Praxis assessment(s) taken for initial certification or licensure in their field of preparation. These summary assessment pass rates show the percentage of students who passed a particular assessment among all who took the assessment. The pass rate data included in these tables present the data at an aggregate level.

## Appendix F

### 2014-2015 Academic Profile Comparisons: Education Majors and Non-Majors 4-Year Cumulative College GPA



### Average SAT Score



**Source:** UNC System Educator Quality Dashboard.

**Technical note:** These figures reflect academic data on the UNC System education and non-education graduates obtained from the UNC System's Office of Institutional Research. UNC System education graduates are students enrolled in our 15 educator preparation programs. UNC System non-education graduates include all other students enrolled in UNC System institutions.

## Appendix G

### Additional References

*Note: References include rigorous research studies and syntheses on reading since 2000. It is not the totality of research published on reading.*

- Adams, M. J. (1990). *Beginning to read: Thinking and learning about print*. Cambridge: MIT Press.
- Archer, A. & Hughes, C. (2011). *Explicit instruction: Effective and efficient teaching*. New York: Guilford Press.
- Balu, R., Zhu, P., Doolittle, F., Schiller, E., Jenkins, J., & Gersten, R. (2015). *Evaluation of response to intervention practices for elementary school reading: Executive Summary*. (NCEE 2016-4000). Washington, DC: National Center for Education Evaluation and Regional Assistance, Institute of Education Sciences, U.S. Department of Education. <http://ies.ed.gov/ncee>
- Benedict, A., Foley, A., Holdheide, L., Brownell, M., Kamman, M. (2016). *Learning to teach: A framework for crafting high-quality, practice-based preparation*. Gainesville, FL: CEDAR Center. [www.ceedar.org](http://www.ceedar.org)
- Birsh, J. (2011). *Multisensory teaching of basic language skills*. Baltimore, MD: Brookes.
- Blachowicz, C., & Ogle, D. (2001). *Reading comprehension: Strategies for independent learners*. New York, NY: Guilford Press.
- Block, C. C., & Pressley, M. (Eds.). (2001). *Comprehension instruction: Research based best practice*. New York, NY: Guilford Press.
- Burns, M. S., Griffin, P., & Snow, C. (1999). *Starting out right: A guide to promote student reading success*. Washington, DC: National Academy Press.
- Cain, K., Compton, D., L. & Parrila, R. K. (2017). *Theories of reading development*. Amsterdam, The Netherlands: John Benjamins Publishing Co.
- Children's Learning Institute at The University of Texas Health Science Center at Houston. (2009). *Elements of understanding: Deeper instruction in reading and listening comprehension. Creating mental images: Coaching to make it happen*. Houston, TX: Texas Education Agency and University of Texas System.
- Children's Learning Institute at The University of Texas Health Science Center at Houston. (2009). *Elements of understanding: Deeper instruction in reading and listening comprehension. Making connections: Coaching to make it happen*. Houston, TX: Texas Education Agency and University of Texas System.
- Children's Learning Institute at The University of Texas Health Science Center at Houston. (2009). *Elements of understanding: Deeper instruction in reading and listening comprehension. Making inferences and predictions: Coaching to make it happen*. Houston, TX: Texas Education Agency and University of Texas System.
- Connor, C. M., Alberto, P. A., Compton, D. L., O'Connor, R. E. (2014). *Improving reading outcomes for students with or at risk for reading disabilities: A synthesis of the contributions from the Institute of Education Sciences Research Centers* (NCSE 2014-3000). Washington, DC: National Center for Special Education Research, Institute of Education Sciences, U.S. Department of Education. <http://ies.ed.gov/>
- Council for the Accreditation of Educator Preparation, "The CAEP Standards," <http://www.ncate.org/standards/introduction>.

- Coyne, M., Chard, D., Zipoli, R., & Ruby, M. (2007). Effective strategies for teaching comprehension. In M. Coyne, E. Kame'enui, & D. Carnine (Eds.), *Effective strategies that accommodate diverse learners* (pp. 80–109). Upper Saddle River, NJ: Pearson Education.
- Duke, N. K., & Carlisle, J. (2010). The development of comprehension. *Handbook of Reading Research*, Vol. IV, pp. 199–228). New York: Routledge.
- Duke, N. K. (2004). The case for informational text. *Educational Leadership*, 61(6), 40–44.
- Duke, N. K., & Pearson, P. D. (2002). Effective practices for developing reading comprehension. In A. Farstrup & S. J. Samuels (Eds.). *What research has to say about reading instruction*. (pp. 205–242). Newark, DE: International Reading Association.
- Dycha, D. (2012). Comprehension, Grades K-3. In Hougen, M. & Smartt, S. (Eds.). *Fundamentals of Literacy Instruction & Assessment, Pre-K-6*. Baltimore, MD: Brookes Publishing.
- Dynamic Measurement Group. (2010). Dynamic Indicators of basic early literacy skills NEXT (7th ed.). Eugene, OR: Institute for Development of Educational Achievement.
- Ebbers, S., & Hougen, M. (2014). Academic vocabulary development: Meaningful, memorable, and morphological. In Hougen, M. (Ed.). *Fundamentals of literacy instruction & assessment* (pp. 6-12). Baltimore, MD: Brookes.
- Ehri, L. (2002). Phases of acquisition in learning to read words and implications for teaching. In R. Stainthorp & P. Thomlinson (Eds.), *Learning and teaching reading* (pp. 7-28). London, England: British Journal of Educational Psychology Monograph Series II.
- Ehri, L. (2005). Development of sight word reading: Phases and findings. In M. Snowling & C. Hulme (Eds.), *The science of reading: A handbook* (pp. 135-154). Malden, MA: Blackwell.
- Ehri, L. (2005). Learning to read words: Theory, findings and issues. *Scientific Studies of Reading*, 9, 167-188.
- Ehri, L. C. (2014). Orthographic mapping in the acquisition of sight word reading, spelling memory, and vocabulary learning. *Scientific Studies of Reading*, 18(1), 5-21.
- Farstrup, A., & Samuels, S. J. (Eds.). *What research has to say about reading instruction*. Newark, DE: International Reading Association.
- Foorman, B., Beyler, N., Borradaile, K., Coyne, M., Denton, C., Dimino, J., Furgeson, J., Hayes, L., Henke, J., Justice, L., Keating, B., Lewis, W., Sattar, S., Streke, A., Wagner, R., & Wissel, S. (2016). *Foundational skills to support reading for understanding in kindergarten through 3<sup>rd</sup> grade* (NCEE 2016-4008). Washington, DC: National Center for Education Evaluation and Regional Assistance, Institute of Education Sciences. <http://whatworks.ed.gov>.
- Fuchs, L. S., Fuchs, D., Hamlett, C. L., Walz, L., & Germann, G. (1993). Formative evaluation of academic progress: How much growth can we expect? *School Psychology Review*, 22(1), 27-48.
- Fuchs, L. S., Fuchs, D., Hosp, M. K., & Jenkins, J. (2001). Oral reading fluency as an indicator of reading competence: A theoretical, empirical, and historical analysis. *Scientific Studies of Reading*, 5(3), 239-256.
- Gersten, R., Compton, D., Connor, C., Dimino, J., Santoro, L., Linan-Thompson, S., Tilly, W. D. (2009). *Assisting students struggling with reading: Response to intervention and multi-tier intervention in the primary grades*. NCEE 2009-4045. Washington, DC: Institute of Education Sciences.
- Gersten, R., Fuchs, L., Williams, J., & Baker, S. (2001). Teaching reading comprehension strategies to students with learning disabilities: A review of research. *Review of Educational Research*, 71(2), 279-320.
- Gillon, G. T. (2018). Phonological awareness: From research to practice. New York, NY: Guilford Press.

- Goldhaber, D., Krieg, J. M., Theobalk, R. (2016). *Does the match matter? Exploring whether student teaching experiences affect teacher effectiveness and attrition*. CALDER Working Paper 149. Washington, D.C.: American Institutes for Research.
- Good, J. E., Lance, D. M., & Rainey, J. (2017 May). The use of direct spelling instruction for children with language impairment. *Communications Disorders Quarterly*.
- Graves, M. F. (2006). *The vocabulary book: Learning and instruction*. New York, NY: Teachers College Press.
- Graves, M. R., Juel, C. & Graves, B. B. (2001). *Teaching reading in the 21<sup>st</sup> century* (2<sup>nd</sup> ed.). Boston: Allyn & Bacon.
- Haager, D., Dimino, J. A., Windmueller, M. P. (2014). *Interventions for reading success*. Baltimore, MD: Brookes Publishing.
- Hasbrouck, J. E. & Tindal, G. (2017). *An update to compiled ORF norms* (Technical Report No. 1702). Eugene, OR: Behavioral Research and Teaching, University of Oregon.
- Hasbrouck, J. E. (2010). *Educators as physicians: Using RTI data for effective decision making*. Wellesley Hills, MA: Gibson Hasbrouck & Associates.
- Harvey, S., & Goudvis, A. (2007). *Strategies that work: Teaching comprehension to enhance understanding*. York, ME: Stenhouse.
- Herrera, S., Truckenmiller, A., Foorman, B. (2016). *Summary of 20 years of research on the effectiveness of adolescent literacy programs and practices*. Washington DC: Institute of Education Sciences.
- Hibbing, A. N., & Rankin-Erickson, J. L., (2003). A picture is worth a thousand words: Using visual images to improve comprehension for middle school struggling readers. *The Reading Teacher*, 56, 758–771.
- Hiebert, E. (2012). The Common Core State Standards and text complexity. In Hougen & Smartt, (Eds.). *Fundamentals of literacy instruction & assessment Pre-K-6*. Baltimore, MD: Brookes.
- Hitchcock, J., Dimino, J., Kurki, A., Wilkins, C., Gersten, R. (2011). *The impact of collaborative strategic reading on the reading comprehension of grade 5 students in linguistically diverse schools*. Washington, DC: National Center for Education Evaluation and Regional Assistance, Institute of Education Sciences. <http://edlabs.ed.gov>
- Honig, B., Diamond, L., & Gutlohn, L. (2008). *Teaching reading sourcebook*. Novato, CA: Arena Press.
- Hougen, M. & Smartt, S. (2012). *Fundamentals of literacy and instruction Pre-K-6*. Baltimore, MD: Brookes Publishing.
- Hudson, R. F., Torgesen, J. K., Lane, H. B., & Turner, S. J. (2006). *Predictors of decoding fluency: Explaining individual differences in children*. Unpublished manuscript. Institute of Education Sciences. (2002). *National assessment of educational progress: 2002 oral reading study*. Washington, DC: U.S. Department of Education.
- Jimerson, S. R., Burns, M. K., & VanDer Heyden, A. M. (Eds). (2016). *Handbook of response to intervention: The science and practice of multi-tiered Systems of support*. New York: Springer.
- Kamil, M., Borman, G., Dole, J., Kral, C., Salinger, T., Torgesen, J. (2008). *Improving adolescent literacy: Effective classroom and intervention practices*. IES Practice Guide NCEE 2008-4027. Washington, DC: Institute of Education Sciences.
- Katzir, T., Youngsuk, K., Wolf, M., O'Brien, B., Kennedy, B., & Lovett, M. (2006). *Reading fluency: The whole is more than the parts*. *Annals of Dyslexia*, 56(1), 51-82.
- Kilpatrick, D. A. (2015). *Essentials of assessing, preventing, and overcoming reading difficulties*. Hoboken, NJ: John Wiley & Sons, Inc.



- Keene, E., & Zimmerman, S. (2007). *Mosaic of thought: The power of comprehension instruction* (2nd ed.). Portsmouth, NH: Heinemann.
- Klinger, J., Vaughn, S., Boardman, A., Swanson, E. (2012). *Now we get it! Boosting comprehension with collaborative strategic reading*. San Francisco, CA: Jossey-Bass.
- Klingner, J., Vaughn, S., Dimino, J., Schumm, J. S., & Bryant, D. (2001). *Collaborative strategic reading*. Longmont, CO: Sopris West.
- McGregor, T. (2007). *Comprehension connections: Bridges to strategic reading*. Portsmouth, NH: Heinemann.
- Kuhn, M., & Schwanenflugel, P. J. (2006). Fluency-oriented reading instruction: A merging of theory and practice. In K. A. Dougherty Stahl & M. C. McKenna (Eds.), *Reading research at work: Foundations of effective practice*. New York, NY: Guilford.
- Kuhn, M., & Stahl, S. (2003). Fluency: A review of developmental and remedial practices. *Journal of Educational Psychology, 95*, 3-21.
- Mason, L. H. (2004). Explicit self-regulated strategy development versus reciprocal questioning: Effects on expository reading comprehension among struggling readers. *Journal of Educational Psychology, 98*(2), 283-296.
- Mathes, P. G., Denton, C.A., Fletcher, J. M., Anthony, J. L., Francis, D. J., & Schatschneider, C. (2005). The effects of theoretically different instruction and student characteristics on the skills of struggling readers. *Reading Research Quarterly, 40*(2), 148-182.
- Moats, L. (2005). *Language essentials for teachers of reading and spelling, module 6. Digging for meaning: Teaching text comprehension*. Boston, MA: Sopris West.
- Moats, L. C. (2010). *The speech to print: Language essentials for teachers*. Baltimore, MD: Brookes.
- Morris, D., Trathen, W., Gill, T., Schlagal, R., Ward, D., & Frye, E. (2017). Assessing reading rate in the primary grades (1-3). *Reading Psychology 38*(7), 653-672.
- National Institute of Child Health and Human Development. (2000). *Report of the National Reading Panel. Teaching children to read: An evidence-based assessment of the scientific research literature on reading and its implications for reading instruction* (NIH Publication No. 00-4754). Washington, DC: U.S. Government Printing Office.
- National Institute for Literacy. (2007). *What content-area teachers should know about adolescent literacy*. Washington, DC: National Institute of Child Health and Human Development.
- National Institute for Literacy. (2006). *Put reading first: The research building blocks of reading instruction* (3rd ed.). Jessup, MD: ED Pubs.
- National Research CoUNCil. (1998). *Preventing reading difficulties in young children*. Washington, DC: National Academy Press.
- National Governors Association Center for Best Practices & Council for Chief State School Officers. (2010). *Common core state standards initiative: Preparing Americans students for college and career*. [www.corestandards.org](http://www.corestandards.org).
- Neuhaus, G., E. & Swank, P. R. (2002). Understanding the relations between RAN letters subtest components and word reading in first grade students. *Journal of Learning Disabilities, 35*(2), 158-174.
- North Carolina Department of Public Instruction, "North Carolina Standard Course of Study," available at: <http://www.dpi.state.nc.us/curriculum/>.
- O'Connor, R. E. (2014). *Teaching word recognition: Effective strategies for students with learning difficulties*. New York, NY: Guilford.

- O'Connor, R. E., Bell, K. M., Harty, K. R., Larkin, L. K., Sackor, S., & Zigmond, N. (2002). Teaching reading to poor readers in the intermediate grades: A comparison of text difficulty. *Journal of Educational Psychology, 94*, 474-485.
- O'Connor, R. E., Fulmer, D., Harty, K., & Bell, K. (2005). Layers of reading intervention in kindergarten through third grade: Changes in teaching and child outcomes. *Journal of Learning Disabilities, 38*, 440-455.
- Ogle, D. M. (1986). K-W-L: A teaching model that develops active reading of expository text. *The Reading Teacher, 39*(6), 564-570.
- Osborn, J., & Lehr, F. (2003). *A focus on fluency*. Honolulu, HI: Pacific Resources for Education and Learning.
- Ouellette, M. & Chang, Rossi. (2017). Improvements in spelling lead to gains in reading speed. *Scientific Studies in Reading, v. 21, no. 4, p. 350-357*.
- Paris, S. G., & Stahl, S. (2005). *Children's reading comprehension and assessment*. Mahwah, NJ: Lawrence Erlbaum.
- Pikulski, J. J., & Chard, D. J. (2005). Fluency: Bridge between decoding and reading comprehension. *Reading Teacher, 58*(6), 510-519.
- Pressley, M. (2006). *Reading instruction that works: The case for balanced teaching*. (2nd ed.). New York: Guilford Press.
- RAND Reading Study Group. (2002). *Reading for understanding: Toward a R&D program in reading comprehension*. Santa Monica, CA: RAND.
- Rasinski, T. (2004). *Assessing reading fluency*. Honolulu, HI: Pacific Resources for Education and Learning.
- Rasinski, T., Blachowicz, C., & Lems, K. (Eds.). (2006). *Fluency instruction: Research-based best practices*. New York, NY: Guilford.
- Rosenshine, B. (2012, spring). Principles of instruction: Research-based strategies that all teachers should know. *American Educator*.
- Seidenberg, M. (2017). *Language at the speed of sight: How we read, why so many can't, and what can be done about it*. New York: Basic Books.
- Shanahan, T., Callison, K., Carrier, C., Duke, N. K., Pearson, P. D. Schatschneider, C., & Torgesen, J. (2010). *Improving reading comprehension in kindergarten through 3<sup>rd</sup> grade: A practice guide* (NCEE 210-4038). Washington, DC: National Center for Education Evaluation and Regional Assistance, Institute of Education Sciences, U.S. Department of Education. Retrieved from [www.whatworks.ed.gov/publications/practice guides](http://www.whatworks.ed.gov/publications/practice-guides)
- Stahl, S. A., & Kuhn, M. R. (2002). Making it sound like language: Developing fluency. *Reading Teacher, 55*(6), 582-584.
- Torgesen, J. (2005). *Teacher knowledge of reading*. Tallahassee, FL: Florida Center for Reading Research.
- Tovani, C. (2000). *I read it, but I don't get it: Comprehension strategies for adolescent readers*. York, ME: Stenhouse.
- Vaughn, S. & Linan-Thompson, S. (2004). *Research-based methods of reading instruction Grades K-3*. Alexandria, VA: Association for Curriculum and Supervision.
- Vaughn, S., Wanzek, J., Murray, C. S., & Roberts, G. (2012). *Intensive interventions for students struggling in reading and mathematics: A practice guide*. Portsmouth, NH: RMC Research Corporation, Center on Instruction.

- Vaughn, S.; Chard, D. J., Pedrotty-Bryant, D., Coleman, M., Tyler, B. J., Linan-Thompson, S. & Kouzekanani, K. (2000). Fluency and comprehension interventions for third-grade students. *Remedial and Special Education, 21*(6), 325-335.
- Wigfield, A., & Guthrie, J. T. (2000). Engagement and motivation in reading. *Handbook of reading research, 3*, 403-422.
- Wolf, M., O'Brien, B., Adams, K. D., Joffe, T., Jeffrey, J., & Lovett, M. (2003). Working for time: Reflections on naming speed, reading fluency, and intervention. In B. R. Foorman (Ed.), *Preventing and remediating reading difficulties: Bringing science to scale*. (pp. 355-380). Timonium, MD: York Press.

## ABOUT THE REVIEWERS

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Beth Ann Bryan is an education consultant from Austin, Texas. She has had a long career in public education, including teaching in elementary classrooms, working with schools and families while in a private psychological practice, and working for teacher preparation programs. She served in both state and federal government roles and as the Senior Advisor to the US Secretary of Education, as a consultant to education-related clients at a national and state level, and as an initial member of the National Board for Education Sciences, advising the Institute for Education Sciences. Recently, she completed service as the Interim Director of Education for the George W. Bush Institute and continues to work as an advisor to the Meadows Center for Preventing Educational Risk at The University of Texas at Austin.

### **Martha “Marty” Hougen, Ph.D.**

Dr. Hougen is the Teacher Education Professional Development Leader with the Collaboration for Effective Educator Development, Accountability, and Reform Center (CEEDAR Center) at the University of Florida. The CEEDAR Center works with states to develop a Systems-wide approach to improve the achievement of students who struggle with learning. Dr. Hougen works with Educator Preparation Programs to ensure teachers and leaders are prepared to work with students with diverse needs. Her previous position was as the principal investigator for the Texas Higher Education Collaborative, working with educator preparation programs throughout Texas. Dr. Hougen presents at state and national conferences, publishes in peer-reviewed journals, and has written two textbooks on reading.

### **Karen Nelson, M.S., CCC/SLP**

Karen Nelson serves as the Executive Director for the Institute for Public School Initiatives at the University of Texas at Austin. Ms. Nelson is a member of the State Leadership Team for the Texas Literacy Initiative supporting the implementation of the Striving Readers Comprehensive Literacy federal grant. Previously Ms. Nelson was Vice President of Field Implementation Services at Voyager Expanded Learning. She also worked with the Texas Statewide Initiatives on the Texas Teacher Reading Academies and as a speech-language pathologist and reading specialist in private practice and public schools. Ms. Nelson is experienced in building consensus, planning and developing curriculum coaching infrastructure and professional learning, and working with school district administrators throughout the country in planning effective Systems for reading instruction and intervention.