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Investigating the Relevance and Importance of English Language Arts Content Knowledge Areas for Beginning Elementary School Teachers

Michelle P. Martin-Raugh

Clyde M. Reese

Geoffrey C. Phelps

Richard J. Tannenbaum

Jonathan H. Steinberg

Jun Xu

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**Investigating the Relevance and Importance of English Language Arts (ELA) Content
Knowledge Areas for Beginning Elementary School Teachers**

Michelle P. Martin-Raugh, Clyde M. Reese, Geoffrey C. Phelps, Richard J. Tannenbaum,
Jonathan H. Steinberg, and Jun Xu
Educational Testing Service, Princeton, New Jersey

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Corresponding author: Michelle P. Martin-Raugh, E-mail: mmartin-raugh@ets.org

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Abstract

The purpose of this report is to explore the content-related validity evidence supporting the English language arts (ELA) components of the *ETS® National Observational Teaching Exam (NOTE)* assessment series, a kindergarten through 6th-grade teacher licensure assessment. To establish the content knowledge required for the effective teaching of ELA in elementary school, we (a) identified content knowledge categories through the use of an expert panel and (b) surveyed a sample of 279 educators to verify that this body of content knowledge is indeed necessary and reasonable for the effective practice of beginning elementary school teachers teaching ELA. We report information regarding the importance and relevance of ELA content knowledge areas for both elementary school teachers and faculty members who prepare elementary school teachers. Implications of this work for the ELA components of the NOTE assessment series are discussed.

Key words: English language arts, content validity, teacher licensure, elementary school teaching, content knowledge for teaching

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Some of the content that appears in this report also is used in a companion report, entitled *Investigating the Relevance and Importance of High-Leverage Mathematical Content for Beginning Elementary School Teachers* (RM-16-10) by Clyde M. Reese, Michelle P. Martin-Raugh, Heather Howell, Richard J. Tannenbaum, Jonathan H. Steinberg, and Jun Xu.

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The purpose of this report is to explore the content-related validity evidence supporting the English language arts (ELA) content knowledge for teaching (CKT) components of the *ETS[®]* National Observational Teaching Exam (NOTE) assessment series. NOTE is a kindergarten through 6th-grade licensure assessment developed in a collaboration between Educational Testing Service (ETS) and TeachingWorks (<http://www.teachingworks.org>). The NOTE assessment series is designed to measure a prospective elementary school teacher's ability to translate his or her knowledge of content and of teaching into effective teaching practice. The NOTE assessment series includes two components. One component includes standardized performance assessments that focus on three high-leverage practices (HLPs) for teaching: modeling and explaining content, evaluating student thinking, and leading a classroom discussion. TeachingWorks defines HLPs as “the basic fundamentals of teaching. These practices are used constantly and are critical to helping students learn important content. These high-leverage practices are used across subject areas, grade levels, and contexts” (2016b, para. 2). The NOTE assessment series assesses high-leverage content, defined as the specific topics, practices, and texts that have been put forward by TeachingWorks as foundational to the K–12 curriculum and crucial for beginning teachers to be able to teach (TeachingWorks, 2016a). This content, organized by subject area and grade level, is rooted in national and state standards for student learning that have been crafted with the involvement of key professional groups.

The second component focuses on CKT. CKT is a theory derived via job analysis and based in practice that outlines the content knowledge required for teaching a subject (ETS, 2011). Each component must include tasks that identify CKT necessary for the effective teaching of ELA. According to the *Standards for Educational and Psychological Testing* (American Educational Research Association [AERA], American Psychological Association [APA], National Council on Measurement in Education [NCME], 2014), a critical element of licensure assessments that focus on beginning teaching proficiency in subjects such as ELA is valid frameworks that define the ELA CKT domains.

The remainder of this report is organized as follows. The first section provides a brief overview of the role of content-related validity evidence in licensure assessment. The second section describes the process we used to generate the ELA CKT framework. The third section describes the study design, methods, and results. Finally, we conclude by discussing the implications of this work for the ELA components of the NOTE assessment.

Content-Related Validity Evidence

A chief function of licensure assessments is to differentiate between candidates who possess the knowledge and skills required for beginning practice and those who do not (Clauser, Margolis, & Case, 2006; Smith & Hambleton, 1990). Passing scores on licensure assessments indicate that candidates possess the necessary abilities to teach effectively and in a way that ensures public welfare (AERA, APA, & NCME, 2014; Raymond & Luecht, 2013).

Licensure assessments often measure the knowledge, skills, and abilities (KSAs) required for performing elements of a job rather than performance on actual job tasks (Wang, Schnipke, & Witt, 2005). Test specifications can describe assessment content and the KSAs that should be measured by the assessment (Raymond, 1996) as well as provide a critical foundation for validity evidence (Ebel & Frisbie, 1991). Consequently, it is essential to pinpoint the KSAs necessary for performing job tasks to design test specifications that are clearly related to performance in a given profession.

One job-analytic strategy that is often used to define the content domain for a licensure assessment involves having a panel of subject matter experts develop a compilation of KSAs linked to the effective execution of job tasks (Rosenfeld & Tannenbaum, 1991; Tannenbaum & Wesley, 1993; Wang et al., 2005). Surveys of a large sample of qualified practitioners in a given profession are commonly used to then verify the judgments about KSAs made by a panel of subject matter experts (Rosenfeld & Tannenbaum, 1991; Tannenbaum & Wesley, 1993). This sample of experts is often asked to rate elements of the content domain regarding their relevance and importance (Kane, Kingsbury, Colton, & Estes, 1989; Raymond, 2005; Tannenbaum & Wesley, 1993) so that this information can contribute to the development of empirically derived specifications for a licensure assessment.

The process of generating KSAs involves consulting with a diverse set of subject matter experts that span a variety of work backgrounds and job positions (Raymond, 2001; Raymond & Luecht, 2013). Attributes such as race, ethnicity, gender, urban/rural setting, and geographic location should be considered when selecting qualified subject matter experts for this purpose (Clauser et al., 2006; Tannenbaum & Wesley, 1993), as it is critical that the experts provide perspectives from a diverse array of demographic groups.

It is crucial that all pertinent subgroups of experts agree on the KSAs that are relevant and important for performing the job (Tannenbaum & Rosenfeld, 1994). Moreover, it is possible

that the group of experts as a whole may indicate that a KSA is not especially relevant or important, suggesting that the KSA in question may not be suitable for a licensure assessment. However, group comparisons may show that the same KSA is perceived as being both relevant and important by most of those in a particular subgroup or geographic region, indicating that the KSA should indeed be measured by the licensure assessment (Raymond, 2005). Similarly, different constituencies of experts, such as practicing teachers and faculty members at teacher preparation programs, may differ in their judgments of the relevance and importance of particular KSAs.

To establish the CKT for ELA in elementary school, we used this process by first establishing CKT categories through the use of an expert panel and then surveying a larger sample of educators to verify that this body of content knowledge is indeed necessary and reasonable for the effective practice of beginning elementary school teachers teaching ELA.

Establishing a CKT Framework for ELA

As part of the development process for NOTE, an advisory panel of 10 literacy experts proposed a framework that defines the CKT needed for effective beginning teaching in elementary ELA. The advisory panel included leading literacy scholars representing expertise in early literacy, writing, comprehension, multicultural issues in ELA, English language learners, literacy in content areas, student assessment, accreditation, and teacher education.¹ The advisory panel recognized that part of their charge was to winnow the huge range and depth of knowledge required for teaching ELA to propose the most critical content that both is needed for initial entry into the profession and could serve as the basis of a framework for a licensure exam.

The development process was guided by the current research and best practices about the defining characteristics of ELA CKT. As an academic subject, the CKT for ELA is best described as a set of related practices rather than a body of knowledge to be acquired. Reading, writing, speaking, and listening are not so much subjects that one learns about as they are tools that one learns how to use in the acquisition of specific knowledge, usually knowledge that is viewed as the province of another domain, such as science, history, or literature. All CKT domains entail elements of practice; for example, science and history each possesses its own rules of evidence in making arguments. However, ELA stands out from other elementary school subjects as one in which processes and practices dominate. First, a set of practices, usually taught in grades K–3, defines what the Common Core State Standards (CCSS) document (National

Governors Association Center for Best Practices & Council of Chief State School Officers [NGA Center & CCSSO], 2010) refers to as foundational skills. These are the fundamental discrete skills that allow students to deal with the *cipher*—the code that allows students to decode written language into spoken language (e.g., the phonemic awareness and phonics skills that lead to accurate, fluent oral reading) or encode oral language into its written form (spelling, grammar, usage, and conventions of written language). Beyond these foundational skills, ELA is more about applying and enriching a set of literacy tools across genres, disciplines, and contexts (Goldman et al., 2016; NGA Center & CCSSO, 2010; Pearson, Moje, & Greenleaf, 2010). These tools include not only the basic skills to read, comprehend, and compose written text, but also general literacy skills in areas such as reasoning, exposition, narration, argumentation, and so forth (Goldman et al., 2016). Further, competence in literacy also includes nurturing critical dispositions and the habits in reading, writing, speaking, and listening (e.g., stamina, risk taking, regular practice) that drive student effort and motivation (CCSS, 2010). Thus, ELA CKT includes, and arguably is defined by, literacy practices and their associated language tools (National Research Council, 2012).

The ELA advisory panel recognized that the content that students are expected to learn is the primary basis for identifying the ELA CKT that defines the work of teaching. However, student content and CKT are not isomorphic. Many professional aspects of ELA CKT bear strong consequences for what and how students are taught (Snow, Griffin, & Burns, 2005; Wong-Fillmore & Snow, 2005). ELA CKT includes many types of content-related tasks and knowledge that extend beyond the student curriculum, such as understanding how literacy skills are leveraged across content areas; the developmental progressions of content across grade levels; the variation in student development; and how racial, cultural, and language background shape literacy practice (Pearson, Griffo, & Phelps, 2015). Teachers may use this elaborated knowledge to inform student evaluation and support. For example, teacher knowledge of dialect interference between an English vernacular and academic English helps inform whether to attribute language errors to language interference, student misconceptions, or developmental delays (Godley, Sweetland, & Wheeler, 2006). Thus, teachers must possess broader and deeper ELA CKT that frames what components are most important, how they are interrelated, and a trajectory of instruction.

Attention to both ELA CKT and the additional professional knowledge about ELA that is used in teaching this content guided the development of an ELA CKT framework for the NOTE assessment. The CKT development was organized into three phases (Pearson et al., 2015). In Phase 1, a subgroup of the full ELA advisory committee considered a variety of ways to organize literacy content for teaching. The goal of this stage of work was to lay out a reasonable set of viable possibilities and consider the advantages and disadvantages of different taxonomies. After reviewing a number of organizations, the panel decided to focus on categories that aligned with widely used student standards with attention to both the content students are expected to master and the content that defines the work of teaching that student content. This stage of development produced a preliminary set of eight CKT categories based on the committee's professional knowledge and a review of pertinent literature in the field: word analysis, fluency, vocabulary, reading comprehension, listening and speaking, oral and written language conventions, writing strategies and applications, and genre analysis.

Each of these areas was then evaluated to ensure that the CKT strand met the criteria developed by TeachingWorks (2016a) to identify content that is foundational to the K–12 curriculum and critical for beginning teachers to be able to teach skillfully. Criteria identified CKT that meet the following conditions: (a) foundational to the ideas and skills of the K–12 curriculum, (b) taught in some form or another across several K–6 grade levels, (c) occupies substantial space in the curriculum, (d) fundamental to students' learning and is often a site for students' difficulties when it is not well taught and learned, and (e) often known only superficially by prospective teachers or is new to them (i.e., content that they may have never had the opportunity to learn). The advisory panel identified two additional criteria specific to ELA: highly transferable across ELA modalities and other disciplines and highly transferable from school to nonschool settings.

In Phase 2 of the development, these categories were further refined to bring them into close alignment with the CKT categories widely used in student standards. To elaborate these categories and refine the language used in the accompanying descriptions, subteams of the ELA committee conducted an extensive review of the literature and existing ELA-related frameworks (e.g., CCSS [NGA Center & CCSSO, 2010], InTASC [CCSSO, 2011], International Reading Association/National Council of Teachers of English [IRA/NCTE, 1996] standards). The subgroups followed a recursive process of research and review, drafting, discussing, and revising

potential frameworks based on feedback from members of the ELA committee, validity researchers at ETS, and members of the ETS development team.

In Phase 3, the CKT standards from Phase 2 were revised based on concerns raised by the full ELA committee. The committee suggested that the focus on student standards that had guided the initial development had overlooked important content aspects of student learning such as literacy acquisition, student literacy dispositions, and language variation. Also, the focus on student content had failed to adequately represent CKT specific aspects of professional practice and knowledge. Additional categories were suggested by the full committee including, for example, interactions among the literacy modalities of reading, writing, speaking, and listening; reading processes and literacy development; children's literature; text difficulties and readability; and technology integration. To ensure that the CKT areas were comprehensive, another subteam was formed to systematically review widely used professional standards for teaching ELA (e.g., the International Reading Association [2010] and the International Dyslexia Association [IDA, 2010]). This review led to an expanded set of 24 CKT areas. Through subsequent review and revision, the full ELA committee revised and expanded the descriptors for each category to ensure that the full range of ELA CKT was referenced in the content knowledge framework. Descriptions of the 24 CKT areas are included in the appendix.

We surveyed educators in the field of ELA to establish the importance of the 24 CKT areas for beginning elementary school teachers identified by our panel of experts. The study draws on a sample of practicing teachers and teacher educators to collect evidence of endorsement for the CKT categories. Results are presented for overall endorsement and by relevant subgroups including professional role, race, professional experience, and grade level emphasis.

Method

Sample

A mailing list of 8,841 educators was sampled from a large, national database of teachers and teacher preparation faculty provided by an educational marketing firm. The sample included elementary school teachers and college faculty who prepare elementary school teachers. An approximately equal number of teachers were sampled from each of the four United States Census regions. Black or African American and Hispanic/Latino teachers and faculty from

minority-serving institutions were oversampled to increase the likelihood of having sufficient sample sizes to conduct group analyses.

Teachers were assigned to one of two versions of a survey (one for mathematics and one for ELA) depending on their current teaching assignments, as this study was part of larger investigation. Teachers who only taught mathematics were assigned to the mathematics version, and teachers who only taught ELA were assigned to the ELA version. Teachers who indicated they taught both ELA and mathematics (more than 75% of the sample) or neither (approximately 4% of the sample) were randomly assigned to one of the two versions. Faculty also were randomly assigned to one of the two versions.

Of the original 8,841 educators contacted, 700 emails were not deliverable. Therefore, the number of educators successfully contacted was 8,141. Of these, 607 (or 7.5%) completed one of the two versions of the survey. An additional 31 educators were forwarded the survey by colleagues and completed it. In total, 638 educators completed either the mathematics or ELA version of the online survey. Of the respondents, 387 (or 61%) indicated they were elementary school teachers and 202 (or 32%) indicated they were college faculty. The remaining 49 respondents (or 8%) indicated they were administrators, held other education-related positions, or preferred not to provide information regarding their current position. Given the purpose of the survey, the 49 respondents who did not indicate they were teachers or faculty were removed from the sample.

The resulting sample—currently licensed teachers and college faculty currently preparing elementary school teacher candidates—includes 569 respondents, comprising 385 teachers and 184 college faculty across the two versions (mathematics and ELA) of the survey. The ELA subsample for the following analyses includes currently licensed teachers and college faculty currently preparing elementary school teacher candidates ($n = 279$). Of the respondents, 197 (or 71%) indicated they were teachers (elementary school) and 82 (or 29%) indicated they were college faculty.

While the overall response rate² for the survey was 7.5%, the sample of elementary school teachers reasonably reflects the composition of the national population when compared to the National Center for Education Statistics (NCES) 2011–12 School and Staffing Survey (SASS), taking into account the sampling design considerations mentioned above. The sample of teachers slightly overrepresents the percentage of Black teachers (10% in the sample compared

to 7.1% nationally) and Hispanic teachers (10% in the sample compared to 8.7% nationally) compared to the latest SASS results (Goldring, Gray, & Bitterman, 2013). The sample approximately mirrors elementary school teachers nationally in terms of gender, with approximate 90% of elementary school teachers being female nationally, compared to 85% in this sample (Goldring et al., 2013). Table 1 provides a summary of background information for the ELA teachers and faculty comprising the sample.

Administration Procedure

An online survey was used to contact educators via email and letter, to invite them to complete the survey. Participants were paid \$25 via a gift card in exchange for their participation in the study, which took approximately 45 minutes to complete. Three email follow-up reminders were sent during the data collection period.

Survey Instrument

Participants were asked to provide relevance and importance judgments for each of the 24 ELA CKT areas. For both relevance and importance judgments, participants were asked to consider the importance for a beginning teacher's ability to effectively teach the subject. For each of the 24 ELA CKT areas, the two content-related validity questions posed to educators were as follows:

1. Is knowing how to teach this content area **relevant** to a beginning elementary school teacher's ability to be a safe and effective ELA teacher?
2. If knowing how to teach this content area is relevant, how **important** is it to a beginning elementary school teacher's ability to be a safe and effective ELA teacher?

If an educator indicated a CKT area was relevant, the educator then rated the importance of the CKT area using a 6-point judgment scale ranging from 1 (*not at all important*) to 6 (*extremely important*). Therefore, importance ratings were only collected from respondents who judged the CKT as relevant. Judgments about relevance were dichotomous, such that a CKT was deemed either relevant or irrelevant.

Table 1. Background Information—Overall Sample (N = 279)

Item	Teachers (N = 197)	Faculty (N = 82)
Gender		
Female	174 (88%)	63 (77%)
Male	16 (8%)	18 (22%)
Missing/prefer not to answer	7 (4%)	1 (1%)
Race/ethnicity		
American Indian or Alaska Native	2 (1%)	0 (0%)
Asian or Asian American	0 (0%)	3 (4%)
Black or African American	21 (11%)	8 (10%)
Hispanic/Latino	24 (12%)	3 (4%)
Native Hawaiian or Other Pacific Islander	1 (1%)	0 (0%)
White	135 (69%)	64 (78%)
Two or more races	2 (1%)	2 (2%)
Other/prefer not to answer/missing	12 (6%)	2 (2%)
Geographic region		
Northeast	37 (19%)	14 (17%)
Midwest	55 (28%)	22 (27%)
South	63 (32%)	31 (38%)
West	42 (21%)	15 (18%)
Current teaching assignment ^a		
Lower (Grades K–3)	103 (52%)	—
Upper (Grades 4–6)	75 (38%)	—
Years of experience		
3 years or less	10 (6%)	6 (7%)
4 to 9 years	40 (20%)	24 (29%)
10 to 14 years	44 (22%)	24 (29%)
15 years or more	102 (52%)	28 (35%)
Missing	1 (<1%)	
Mentored or supervised student teachers		
Yes	96 (49%)	49 (60%)
No	99 (50%)	32 (39%)
Missing	2 (1%)	1 (1%)
Type of school		
Public (noncharter)	173 (88%)	—
Public (charter)	12 (6%)	—
Private	11 (6%)	—
Missing	1 (<1%)	—
School or institution location		
Urban	67 (34%)	26 (32%)
Suburban	82 (42%)	31 (38%)
Rural	48 (24%)	25 (30%)
Minority-serving institution		
Yes	—	25 (30%)
No	—	53 (65%)
Designation not available	—	4 (5%)

^aThe number of teachers teaching at the lower and upper elementary grades does not sum to the number of elementary school teachers, as some teachers taught across the lower (Grades K–3) and upper (Grades 4–6) elementary grades or taught prekindergarten.

After completing the relevance and importance ratings for the 24 CKT categories, participants were asked to select the five most and five least critical CKT items from the list. This rating procedure provided insight into which smaller set of CKT items are viewed as most and least critical for initial practice.

Analysis

The analyses in this report were focused in two main categories. The first category was to describe patterns in average relevance and importance judgment ratings in various ways, starting with all participants, and then make comparisons between teachers and faculty, lower elementary and upper elementary teachers, teachers across race/ethnicity groups, and teachers across geographic regions. Comparisons were made using effect sizes (Cohen, 1988) where the mean difference between two groups was divided by a combination of group sample sizes and standard deviations. In the case of race/ethnicity, White teachers were used as the reference group and in the case of geographic region, Northeastern teachers were used as the reference group. The second category of analyses was to index agreement between relevance and importance using intraclass correlations (ICC[2]; Shrout & Fleiss, 1979).

Results

Overall Agreement Concerning Relevance and Importance Judgments

Across the 24 ELA CKT categories, the majority of educators, more than three quarters, agreed that the CKT areas are relevant for effective practice for beginning elementary school teachers teaching ELA. The ICC[2] (Shrout & Fleiss, 1979) indexing agreement among educators regarding their relevance ratings across the 24 CKT areas is .92 (95% CI [.86, .96]).

The importance judgments, averaged across both teachers and faculty, exceeded the threshold of 4.2 recommended by Tannenbaum and Rosenfeld (1994) for each of the 24 ELA CKT categories.³ Because respondents only made ratings for importance if they indicated a CKT area was relevant, this limitation resulted in some missing cases. However, given the range in average importance judgments and associated levels of variation, there was no substantive evidence of floor or ceiling effects in the data. To compute intraclass correlations, we made the assumption that if a CKT area was not considered relevant, it would also be considered not at all important. Therefore, we imputed a value of 1 for missing cases. The ICC[2] (Shrout & Fleiss,

1979) indexing agreement among educators regarding their importance ratings across the 24 CKT areas is .98 (95% CI [.96, .99]).

Group Differences in Relevance and Importance Ratings

The percentages of educators indicating each CKT area was relevant were above 90% for both teachers and faculty for 23 of the 24 CKT categories. One CKT area, sources of language variability (CKT 17), was judged relevant by 76% of teachers and 91% of faculty. Relevance judgments for this one CKT area were the lowest, and it was the only area where teachers and faculty differed by more than 10 percentage points.

Table 2 summarizes educators' judgments regarding the importance of each of the 24 CKT categories. Results are presented for teachers, faculty, and the total sample. The absolute value of the differences in average importance judgments between teachers and faculty was lower than 0.25 (on the 6-point scale) for 18 of the 24 categories. Effect sizes (ES) were lower than 0.20 (Cohen, 1988) for 15 of the 24 categories. Teachers and faculty differed most on CKT 4: Phonics and Word Recognition (diff. = 0.31; ES = 0.41); CKT 15: Integration and Application of Knowledge (diff. = 0.29; ES = 0.33); CKT 17: Sources of Language Variability (diff. = 0.26; ES = 0.27); CKT 20: Role of Engagement in Reading and Writing (diff. = 0.28; ES = 0.31); CKT 22: Development of Word Reading (diff. = 0.25; ES = 0.28); and CKT 24: Development of Early Oral Language (diff. = 0.28; ES = 0.29). Teachers, on average, judged CKT 4: Phonics and Word Recognition and CKT 22: Development of Word Reading more important than faculty did; faculty judged the remaining four areas (CKT 15, CKT 17, CKT 20, and CKT 24) to be more important.

Table 2. Summary of Importance Judgments for Content Knowledge for Teachers (CKT) Areas for Teachers, Faculty, and Overall

CKT area	Teachers	Faculty	Overall
1	5.28 (0.86)	5.16 (0.78)	5.24 (0.84)
2	5.53 (0.74)	5.30 (0.77)	5.46 (0.75)
3	5.43 (0.81)	5.20 (0.84)	5.36 (0.82)
4	5.57 (0.70)	5.26 (0.85)	5.48 (0.76)
5	5.23 (0.82)	5.28 (0.69)	5.24 (0.78)
6	5.11 (0.79)	5.18 (0.74)	5.13 (0.77)
7	5.26 (0.77)	5.33 (0.76)	5.28 (0.77)
8	4.79 (0.86)	4.74 (0.85)	4.77 (0.85)
9	4.81 (0.86)	4.75 (0.86)	4.79 (0.86)
10	4.83 (0.88)	4.75 (0.81)	4.81 (0.86)
11	4.99 (0.86)	5.10 (0.88)	5.03 (0.87)
12	5.27 (0.74)	5.09 (0.82)	5.22 (0.77)
13	4.84 (0.85)	4.96 (0.81)	4.88 (0.84)
14	5.12 (0.89)	5.20 (0.80)	5.14 (0.86)
15	4.69 (0.89)	4.99 (0.90)	4.79 (0.90)
16	4.71 (0.90)	4.77 (0.90)	4.73 (0.90)
17	4.30 (0.93)	4.56 (1.00)	4.39 (0.96)
18	5.13 (0.90)	5.25 (0.78)	5.17 (0.86)
19	4.68 (0.89)	4.84 (0.95)	4.72 (0.91)
20	4.90 (0.90)	5.18 (0.87)	4.98 (0.90)
21	5.05 (0.95)	4.97 (1.04)	5.03 (0.98)
22	5.04 (0.84)	4.79 (0.99)	4.97 (0.89)
23	4.67 (0.95)	4.51 (0.93)	4.62 (0.94)
24	5.07 (1.02)	5.35 (0.88)	5.15 (0.99)
Minimum	4.30	4.51	4.39
Maximum	5.57	5.35	5.48
Sample size	149–194	75–82	224–275

Note. The importance scale is a 6-point scale: 1 (*not at all important*), 2 (*of little importance*), 3 (*of some importance*), 4 (*moderately important*), 5 (*very important*), 6 (*extremely important*); respondents who judged the practice not relevant are not included in the calculation of the average importance judgment. The 24 CKT areas are summarized in the appendix.

In addition to considering the importance judgments of teachers overall, average judgments for teachers who are currently teaching lower (kindergarten through Grade 3) and upper (Grades 4 through 6) elementary grades were examined. Table 3 summarizes teachers' judgments, disaggregated by current grade levels taught. Respondents to the survey were instructed to consider the full range of elementary grades when making their judgments; disaggregating teachers by current teaching assignment revealed small differences, less than 0.25, in importance judgments by current experiences for 20 of the 24 CKT categories. The remaining four CKT categories—CKT 3: Phonological Awareness; CKT 22: Development of Word Reading; CKT 23: Development of Word Spelling; and CKT 24: Development of Early Oral Language—had importance judgment differences greater than 0.25, with all being higher

for teachers currently teaching at the lower grades. Effect sizes less than 0.20 were present for 16 of the 24 CKT categories, but for the four listed here, effect sizes were 0.37 or higher.

Table 3. Summary of Importance Judgments for Content Knowledge for Teachers (CKT) Areas by Current Grade Level Taught

CKT area	Lower (K–3)	Upper (4–6)	Difference
1	5.30 (0.85)	5.23 (0.89)	0.06 (0.07)
2	5.58 (0.64)	5.41 (0.90)	0.18 (0.23)
3	5.54 (0.69)	5.25 (0.95)	0.30 (0.37)
4	5.63 (0.64)	5.51 (0.75)	0.12 (0.18)
5	5.28 (0.80)	5.16 (0.86)	0.12 (0.15)
6	5.10 (0.76)	5.08 (0.87)	0.02 (0.02)
7	5.20 (0.78)	5.35 (0.77)	0.15 (0.20)
8	4.85 (0.86)	4.67 (0.88)	0.19 (0.21)
9	4.82 (0.78)	4.76 (0.95)	0.06 (0.07)
10	4.88 (0.88)	4.77 (0.89)	0.11 (0.12)
11	5.04 (0.80)	4.90 (0.95)	0.14 (0.16)
12	5.25 (0.73)	5.32 (0.76)	0.07 (0.10)
13	4.82 (0.79)	4.83 (0.96)	0.01 (0.01)
14	5.13 (0.84)	5.08 (0.90)	0.05 (0.05)
15	4.73 (0.79)	4.66 (0.96)	0.07 (0.08)
16	4.68 (0.81)	4.73 (0.98)	0.05 (0.06)
17	4.28 (0.86)	4.24 (1.04)	0.04 (0.04)
18	5.19 (0.86)	5.08 (0.92)	0.10 (0.12)
19	4.62 (0.84)	4.68 (0.97)	0.06 (0.07)
20	4.94 (0.87)	4.88 (0.93)	0.06 (0.07)
21	5.12 (0.91)	4.90 (1.05)	0.22 (0.23)
22	5.16 (0.77)	4.81 (0.91)	0.35 (0.42)
23	4.88 (0.82)	4.42 (1.05)	0.46 (0.50)
24	5.22 (0.86)	4.80 (1.15)	0.42 (0.43)
Minimum	4.28	4.24	0.01
Maximum	5.63	5.51	0.46
Sample size	83–102	50–75	

Note. The importance scale is a 6-point scale: 1 (*not at all important*), 2 (*of little importance*), 3 (*of some importance*), 4 (*moderately important*), 5 (*very important*), 6 (*extremely important*); respondents who judged the practice not relevant are not included in the calculation of the average importance judgment. The 24 CKT areas are summarized in the appendix.

Importance judgments broken down by educator ethnicity are shown in Table 4.

Importance judgments by Hispanic respondents differed most from White respondents on CKT 8: Forms and Functions of Language; CKT 10: Text Types; CKT 15: Integration and Application of Knowledge; CKT 17: Sources of Language Variability; CKT 20: Role of Engagement in Reading and Writing; and CKT 22: Development of Word Reading; differences on these areas ranged from 0.37 to 0.58 on a 6-point scale with effect sizes ranging from 0.42 to 0.70. Two of these importance judgments by Black respondents also differed most from White respondents

(CKT 10 and CKT 22) ranging from 0.25 to 0.42 on a 6-point scale with effect sizes of 0.27 and 0.47, respectively.

Table 4. Summary of Importance Judgments for Content Knowledge for Teachers (CKT) Areas by Race/Ethnicity

CKT area	African American	Hispanic/Latino	White	Overall
1	5.14 (1.01)	4.96 (0.88)	5.32 (0.86)	5.25 (0.88)
2	5.60 (0.60)	5.38 (0.77)	5.57 (0.74)	5.54 (0.73)
3	5.30 (0.73)	5.58 (0.65)	5.42 (0.85)	5.43 (0.81)
4	5.45 (0.69)	5.63 (0.65)	5.58 (0.72)	5.57 (0.70)
5	5.35 (0.88)	5.38 (0.71)	5.17 (0.83)	5.22 (0.82)
6	5.05 (0.83)	5.30 (0.70)	5.06 (0.80)	5.09 (0.79)
7	5.10 (0.91)	5.50 (0.66)	5.22 (0.78)	5.24 (0.79)
8	4.68 (0.89)	5.27 (0.70)	4.69 (0.86)	4.76 (0.86)
9	4.94 (0.87)	5.09 (1.00)	4.76 (0.83)	4.83 (0.86)
10	4.55 (0.89)	5.21 (0.72)	4.80 (0.91)	4.82 (0.89)
11	5.00 (1.11)	5.13 (0.81)	4.95 (0.86)	4.98 (0.88)
12	5.25 (0.85)	5.50 (0.59)	5.22 (0.77)	5.26 (0.76)
13	4.84 (1.01)	5.17 (0.58)	4.79 (0.86)	4.85 (0.85)
14	5.05 (1.02)	5.26 (0.69)	5.08 (0.92)	5.10 (0.91)
15	4.61 (1.24)	5.10 (0.70)	4.61 (0.88)	4.68 (0.91)
16	4.65 (1.04)	5.00 (0.87)	4.67 (0.90)	4.71 (0.91)
17	4.21 (0.89)	4.80 (0.70)	4.22 (0.97)	4.31 (0.94)
18	5.05 (0.92)	5.17 (0.78)	5.17 (0.92)	5.16 (0.90)
19	4.50 (0.95)	4.83 (0.94)	4.70 (0.88)	4.70 (0.90)
20	5.06 (1.11)	5.26 (0.62)	4.80 (0.92)	4.89 (0.92)
21	5.00 (0.88)	5.35 (0.78)	5.05 (0.99)	5.08 (0.95)
22	5.37 (0.76)	5.32 (0.72)	4.95 (0.89)	5.05 (0.87)
23	4.95 (0.97)	4.73 (0.94)	4.63 (0.96)	4.68 (0.96)
24	4.95 (0.97)	5.35 (0.88)	5.08 (1.04)	5.10 (1.02)
Minimum	4.21	4.73	4.22	4.30
Maximum	5.60	5.63	5.58	5.57
Sample size	14–21	20–24	103–133	137–177

Note. The importance scale is a 6-point scale: 1 (*not at all important*), 2 (*of little importance*), 3 (*of some importance*), 4 (*moderately important*), 5 (*very important*), 6 (*extremely important*); respondents who judged the practice not relevant are not included in the calculation of the average importance judgment. The 24 CKT areas are summarized in the appendix.

Importance judgments broken down by educator region are shown in Table 5. The differences in average importance judgments between regions (Northeast, Midwest, West, and South) differed most on CKT 8: Forms and Functions of Language; CKT 9: Text Craft and Structure; CKT 13: Presentation of Knowledge and Ideas; and CKT 17: Sources of Language Variability; differences on these areas ranged from 0.52 to 0.59 on a 6-point scale. Average importance judgments on all of these categories were higher for those from the Northeast compared to the Midwest with small to medium effect sizes ranging of 0.32 to 0.72. Average judgments for CKT 9 were also higher for those from the Northeast compared to those in the

South ($ES = 0.43$) and West ($ES = 0.61$) regions. Average judgments for CKT 13 were higher for those from the Northeast compared to those from the West ($ES = 0.44$), while average judgments for CKT 17 were lower for those from the Northeast compared to those from the South ($ES = 0.29$).

Table 5. Summary of Importance Judgments for Content Knowledge for Teachers (CKT) Areas by Geographic Region

CKT area	Northeast	Midwest	South	West	Overall
1	5.25 (0.91)	5.19 (1.06)	5.31 (0.71)	5.37 (0.75)	5.28 (0.86)
2	5.47 (0.88)	5.42 (0.84)	5.58 (0.67)	5.63 (0.54)	5.53 (0.74)
3	5.43 (0.83)	5.25 (0.90)	5.58 (0.71)	5.44 (0.78)	5.43 (0.81)
4	5.54 (0.84)	5.49 (0.80)	5.68 (0.54)	5.52 (0.63)	5.57 (0.70)
5	5.30 (0.81)	5.15 (0.88)	5.37 (0.77)	5.05 (0.79)	5.23 (0.82)
6	5.06 (0.68)	4.96 (0.88)	5.27 (0.73)	5.08 (0.83)	5.11 (0.79)
7	5.32 (0.75)	5.09 (0.88)	5.40 (0.56)	5.22 (0.88)	5.26 (0.77)
8	4.88 (0.91)	4.48 (0.79)	5.03 (0.79)	4.74 (0.89)	4.79 (0.86)
9	5.21 (0.84)	4.62 (0.80)	4.83 (0.89)	4.70 (0.81)	4.81 (0.86)
10	4.92 (0.91)	4.72 (0.90)	4.89 (0.90)	4.82 (0.79)	4.83 (0.88)
11	5.09 (0.89)	4.81 (0.95)	5.10 (0.78)	5.00 (0.82)	4.99 (0.86)
12	5.32 (0.71)	5.23 (0.85)	5.32 (0.62)	5.20 (0.82)	5.27 (0.74)
13	5.08 (0.77)	4.56 (0.87)	5.02 (0.75)	4.70 (0.94)	4.84 (0.85)
14	5.11 (1.04)	5.06 (0.98)	5.15 (0.79)	5.14 (0.78)	5.12 (0.89)
15	4.88 (0.95)	4.46 (0.92)	4.71 (0.89)	4.79 (0.77)	4.69 (0.89)
16	4.62 (0.89)	4.71 (0.91)	4.68 (0.88)	4.83 (0.93)	4.71 (0.90)
17	4.31 (0.88)	4.02 (0.88)	4.58 (0.99)	4.24 (0.85)	4.30 (0.93)
18	5.34 (0.91)	5.00 (1.01)	5.13 (0.78)	5.12 (0.89)	5.13 (0.90)
19	4.82 (0.83)	4.41 (0.89)	4.79 (0.91)	4.71 (0.87)	4.68 (0.89)
20	4.94 (0.92)	4.72 (0.99)	4.95 (0.82)	5.03 (0.86)	4.90 (0.90)
21	5.29 (0.83)	4.82 (1.07)	5.07 (0.87)	5.12 (0.98)	5.05 (0.95)
22	5.03 (0.90)	4.91 (0.88)	5.27 (0.71)	4.93 (0.88)	5.04 (0.84)
23	4.84 (0.93)	4.69 (1.01)	4.78 (0.86)	4.35 (0.95)	4.67 (0.95)
24	4.97 (1.01)	5.00 (1.03)	5.23 (0.95)	4.97 (1.14)	5.07 (1.02)
Minimum	4.31	4.02	4.58	4.24	4.30
Maximum	5.54	5.49	5.68	5.63	5.57
Sample size	26–37	41–54	48–63	34–42	149–194

Note. The importance scale is a 6-point scale: 1 (*not at all important*), 2 (*of little importance*), 3 (*of some importance*), 4 (*moderately important*), 5 (*very important*), 6 (*extremely important*); respondents who judged the practice not relevant are not included in the calculation of the average importance judgment. The 24 CKT areas are summarized in the appendix.

Table 6 summarizes the most and least importance judgments for teachers and faculty members. Comparing relative importance judgments for teachers and faculty, the percentages differed by up to 16 percentage points; however, for most, the differences were less than 10 percentage points. For least important, four CKT categories differed by more than 10 percentage points; for most important, four differed by more than 10 percentage points.

Table 6. Summary of Least and Most Important Judgments for Content Knowledge for Teachers (CKT) Areas

CKT area	Least important		Most important	
	Teachers	Faculty	Teachers	Faculty
1	15.2%	14.6%	26.9%	28.0%
2	10.2%	12.2%	28.4%	26.8%
3	4.6%	6.1%	55.3%	40.2%
4	4.1%	9.8%	56.9%	43.9%
5	16.2%	14.6%	43.1%	37.8%
6	16.2%	18.3%	17.8%	15.9%
7	5.6%	2.4%	49.2%	43.9%
8	34.5%	37.8%	5.6%	3.7%
9	37.1%	42.7%	8.1%	7.3%
10	39.6%	40.2%	4.1%	6.1%
11	14.7%	9.8%	14.7%	15.9%
12	8.6%	11.0%	27.9%	19.5%
13	24.4%	20.7%	12.7%	15.9%
14	21.3%	17.1%	14.7%	14.6%
15	19.3%	8.5%	8.1%	19.5%
16	39.6%	51.2%	3.0%	8.5%
17	71.1%	57.3%	1.0%	3.7%
18	15.2%	14.6%	25.4%	23.2%
19	30.5%	28.0%	8.1%	13.4%
20	17.3%	14.6%	19.8%	20.7%
21	2.5%	3.7%	31.0%	29.3%
22	8.1%	9.8%	11.7%	14.6%
23	25.4%	35.4%	5.6%	11.0%
24	18.8%	19.5%	20.8%	36.6%
Minimum	2.5%	2.4%	1.0%	3.7%
Maximum	71.1%	57.3%	56.9%	43.9%

Note. The 24 CKT areas are summarized in the appendix.

To more easily digest the relative importance judgments, the judgments for *least* and *most* were combined to identify the top 10 CKT categories perceived to be most important for beginning elementary school teachers. First, the CKT categories were ranked by the percentage of teachers who identified the CKT areas as one of the five least important; the highest percentage received a rank of 24 and the lowest a rank of 1. Second, the CKT categories were ranked by the percentage of teachers who identified the CKT areas as one of the five most important; the highest percentage received a rank of 1 and the lowest a rank of 24. Then the two rankings were summed with the lower value indicating the more relative importance.

Eight of the top 10 ELA CKT categories⁴ were common between teachers and faculty. However, two CKT categories (CKT 11: Discussion and Collaboration and CKT 18: Programs, Routines, and Method for Language Arts Instruction) were flagged by teachers among their top 10 but not by faculty. Faculty identified CKT 15: Integration and Application of Knowledge and

CKT 24: Development of Early Oral Language as being in the top 10, whereas teachers did not. While the orders varied, the top four CKT categories were the same for the two groups.

While all 24 CKT categories were judged to be important (average judgment 4.2 or higher on a 6-point scale) by both teachers and faculty, the relative importance points out some differences between the two groups of educators, which are summarized in Table 7.

Table 7. Top English Language Arts (ELA) Content Knowledge for Teachers (CKT) Areas and Practices by Relative Importance

ELA CKT area	Teachers	Faculty
1: Print Concepts	8	7(T)
2: Alphabetic Principle	5 (T)	7 (T)
3: Phonological Awareness	2	2 (T)
4: Phonics and Word Recognition	1	2 (T)
5: Fluency	7	5
7: Vocabulary	4	1
11: Discussion and Collaboration	10 (T)	9
12: Key Ideas and Details	5 (T)	10 (T)
15: Integration and Application of Knowledge	16	6
18: Programs, Routines, and Methods for Language Arts Instruction	9	10 (T)
21: Basic Processes of Reading and Writing	3	4
22: Development of Word Reading	10 (T)	13 (T)

Note. The 24 CKT areas are summarized in the appendix. (T) indicates a tie in the ranking of the relative importance.

Discussion

This study was designed to verify via a survey of a sample of educators that the ELA CKT measured by the ELA CKT component of the NOTE assessment series is relevant and important for the effective practice of beginning elementary school teachers teaching ELA. An online survey of educators—practicing elementary school teachers and college faculty who prepare teachers—judged the relevance and importance of 24 ELA CKT categories for beginning teachers. The content-related validity questions were couched in teaching ELA across the elementary school grade span. Across both groups of educators, each of the 24 CKT categories were judged to be relevant and important for beginning elementary school teachers, providing content validity evidence crucial for licensure examinations (cf. Ebel & Frisbie, 1991).

This study design is not without limitations. Although our sample consisted of educators from around the country, our sample was neither nationally representative of beginning teachers, practicing teachers, or teacher education faculty. Generalizations from the sample provided to educators in general or to subgroups of interest need to be made with caution. We also recognize

that the ELA content framework includes a relatively large number of content dimensions and that the content defined under each dimension is itself extensive and complex. The data collected on agreement would be strengthened by evidence that participants understand the content dimensions as intended.

When examining the relative importance of CKT, differences between elementary school teachers and college faculty who prepare elementary school teachers became apparent. Teachers identified CKT 11: Discussion and Collaboration and CKT 18: Programs, Routines, and Methods for Language Arts Instruction as two of the top 10 CKT categories; however, these two areas were not identified by faculty. In contrast, faculty identified CKT 15: Integration and Application of Knowledge and CKT 24: Development of Early Oral Language as two of their top 10, but teachers did not. Viewed separately, teachers and faculty viewed these four areas as important—at or above an average judgment of 4.0, or *important*, on a 6-point judgment scale. Findings such as these are consistent with prior research that has shown individuals in different positions may differentially weight the importance of varying aspects of performance for a given job (Motowidlo & Peterson, 2008).

However, despite differences in ratings across teachers and faculty members, the relatively high level of agreement in deeming all 24 measured CKT categories relevant and important suggests this subset of content knowledge indeed represents information requisite for effective beginning practice. Overall, the content-related validity evidence collected supports the complete set of ELA content knowledge areas as important for a beginning elementary school teacher’s ability to be an effective educator. Each CKT was judged to be relevant and important, with 12 of the 24 areas receiving an average judgment of 5.0 or higher (*very important* on the 6-point scale) by both teachers and faculty.

Although sample sizes by ethnicity were relatively small, there were some differences across ethnicities in average importance judgments. Nonetheless, all three groups of respondents (White, Black, and Hispanic) indicated that each CKT area was at least moderately important. Similarly, while differences in average importance judgments between regions were observed, all regions reported that each content knowledge area was at least moderately important.

Conclusion

The agreement across the relevant subgroups of experts surveyed in this investigation suggests that all 24 CKT categories examined in this study are at least moderately important for

performing the job, suggesting each may be appropriate subject matter for a licensure assessment. Our results suggest that relevant subgroups of experts agree that having knowledge about these 24 CKT areas is reasonable for the effective practice of beginning elementary school teachers teaching ELA.

The first step in developing an assessment is defining the construct being measured (Sireci & Sukin, 2013). In this study, we have collected judgments from educators about the relevance and importance of CKT thought to be central to effective practice for ELA teachers beginning their careers. This source of content-based validity evidence may be used to develop test specifications characterizing and operationally defining the job domain (Raymond, 2001; Sireci & Sukin, 2013). Although this investigation is an important step in the assessment validation process, future research is warranted to explore the extent to which test items map back to their intended content, identified by the results of the current survey. In this regard, alignment studies should be conducted to obtain this necessary evidence for supporting the use of the NOTE assessment series for teacher licensure.

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Appendix. English Language Arts (ELA) Content Knowledge for Teaching (CKT) Areas**1. Print Concepts**

This topic area requires students to demonstrate knowledge about print, such as knowing that written words represent spoken language, words are separated by spaces, text is written in a particular direction, and that there are distinguishing features of a sentence (e.g., capitalization and punctuation). Students should also be able to differentiate between the pictures and printed words on a page.

2. Alphabetic Principle

This topic area requires students to demonstrate knowledge that print is a representation of sound and that words are made up of both individual sounds as well as patterns of groups of sounds. This awareness consists of knowledge of the alphabet's uppercase and lowercase letter names, letter shapes, and corresponding sounds. Students should understand that the individual phonemes (the smallest units of sound) they hear in words are represented by graphemes (the alphabetic letters) and that those sounds can be analyzed and synthesized in the decoding and encoding process.

3. Phonological Awareness

This topic area requires students to demonstrate implicit and explicit knowledge about the lexical and sublexical structure of oral language. Students understand that speech is composed of various phonological units (phonemes, morphemes, syllables, and words) that vary in size. Students have phonological awareness and can detect and manipulate speech sounds at several levels: word parts (e.g., the parts of compound words), syllables (e.g., “cow-boy”), onset and rime (e.g., for “ball,” the onset is the beginning sound /b/ and the rime is the ending sound /all/), and phonemes (e.g., /b/, /a/).

4. Phonics and Word Recognition

This topic area requires students to decode unfamiliar words using grade-appropriate phonics and word-analysis skills. Students should pronounce unfamiliar words by systematically applying knowledge of letter-sound correspondence and orthographic patterns and by making word analogies (e.g., “bolt” sounds like “colt” but starts with /b/). Along with understanding basic one-to-one letter-sound correspondences, students accurately read multisyllabic words in and out of context by breaking words into syllables, identifying affixes (i.e., prefixes and suffixes), and using strategies such as word analogies. Students should also read grade-appropriate high-frequency words by sight.

5. Fluency

This topic area requires students to translate (or read) text orally and silently with accuracy and automaticity in the service of text comprehension. Students are able to read grade-level text with purpose and understanding as well as read appropriate texts with accuracy, at the appropriate

rate, and with prosody (i.e., resembling natural speech in stress, pitch, phrasing, and timing) on successive readings. Students should also use context to confirm or self-correct word recognition and understanding, rereading words and phrases when necessary. Fluency also includes demonstration of sufficient stamina to finish a reading task.

6. Conventions of Standard Academic English

This topic area requires students to demonstrate knowledge of the academic English that characterizes both oral discourse and texts of schooling (in addition to having competence in their first language and/or dialect). Thus, students must demonstrate command of academic English grammar, capitalization, punctuation, and spelling. Grammar content involves the structural rules that govern clauses, phrases, and words, including conventional use of word tense, parts of speech (e.g., nouns, verbs, adjectives), subject-verb agreement, and correlative conjunctions (e.g., “either/or,” “neither/nor”). Students should also have knowledge of how to produce simple, compound, and complex sentences. Students learn to spell grade-appropriate, irregularly spelled words by applying conventional knowledge of alphabetic spelling, common orthographic patterns, syllables and affixes, as well as derivational suffixes (“compete” versus “competition”).

7. Vocabulary

This topic area requires students to demonstrate knowledge of a depth and breadth of words through listening, speaking, reading, and writing. Students know the denotative meanings and uses of academic words, domain-specific vocabulary, and words central to understanding and writing about topics they are studying as well as connotative meanings represented through figurative and idiomatic language. However, students also take an active role in analyzing and working out the meanings of unfamiliar words or new uses of familiar words by using key strategies: clarifying unknown word meaning through context (e.g., through semantic and syntactic cues), using knowledge of word parts (e.g., morphological parts, such as affixes and roots), making word associations (e.g., antonyms, synonyms, cognates), and utilizing external resources (e.g., dictionaries and feedback from peers) to aid in pronunciation, meaning, and word usage in reading and writing.

8. Forms and Functions of Language

This topic area requires students to demonstrate knowledge about how language and its conventions affect meaning; this knowledge supports comprehension (reading and listening) and making effective choices for meaning and style in speaking and writing. Students must discern the appropriate level of formal language use across various contexts as well as analyze the use of English dialect and register within and across texts. In their own speaking and writing, students must reach beyond conventional appropriateness and select words, phrases, and punctuation for effect and precision. Students also make choices in how to expand, reduce, and combine sentences in order to infuse meaning, interest, and style.

9. Text Craft and Structure

This topic area requires students to demonstrate knowledge about the language of written texts as a matter of craft. It entails analysis of how printed language, such as specific word choice, is used to convey meaning and tone. This topic also includes analysis of how parts of a text (e.g., paragraphs, chapters, scenes) relate to one another or how text features help readers locate relevant information efficiently. It also includes cross-text analysis, for example, in narrative text, comparing how authors convey point of view differently for the same event or topic or, in informational text, comparing the overall structure (comparison, chronology, cause and effect) of an event or topic across multiple texts.

10. Text Types

This topic area requires students to demonstrate knowledge about different genre types—conventional macrostructures for organizing texts that are related to unique purposes (e.g., narrative, descriptive, persuasion, exposition, and directions). It also includes knowledge of typical elements of different genres (e.g., narration, dialogue, description, quotations, concrete facts and details, and examples). Across all text types, it includes use of microstructures such as transitional words, phrases, and clauses to link ideas (e.g., “first,” “next,” “then,” “consequently,” “specifically”) and rhetorical predicates (i.e., midlevel organizational structures or frames, such as problem and solution, conflict and resolution, label and list). Additionally, it includes using formats for introducing, sequencing, and concluding all types of texts. Within narratives, it includes communicating real or imagined experiences or events using effective techniques, such as providing descriptive details and concrete, sensory detail and sequencing events through a narrator, a dialogue, or a description. Within opinion pieces and informative or expository text, the topic area includes developing a clear introduction topic with supporting facts and providing concrete details that are logically grouped and organized.

11. Discussion and Collaboration

This topic area requires students to prepare for and participate in a range of conversations and collaborations with diverse peers. Participating in collaborative discussion includes using social knowledge of discourse conventions such as how to enter and hold a conversation (e.g., taking turns, acknowledging others’ comments, clarifying information, and building on others’ ideas), being considerate and respectful of others, as well as knowing how to use the conventions to communicate clearly and persuasively. Beyond abiding by the conventions for conversing, students utilize group discussions to build knowledge and comprehension. They are able to paraphrase and summarize a text or the speaker’s main points, reasons, and evidence. They are also able to express their own ideas and feelings and build on the ideas of others clearly and persuasively. Additionally, they integrate and evaluate information by posing and responding to discussion questions and by explaining how evidence, reasoning, and point of view are connected to another’s claim. They regulate their interpretation of texts or sources of information by reflecting on and evaluating others’ perspectives.

12. Key Ideas and Details

This topic area requires students to read closely to determine what the text explicitly says and to make logical inferences and cite specific textual evidence in support of conclusions. For example, students should be able to ask and answer questions to determine understanding of a text and refer to the text as support for answers. It also includes determining central ideas or themes and summarizing or paraphrasing the key supporting details, evidence, and ideas. Students should be able to recount stories to determine the central message, lesson, or moral and explain how those are conveyed through details. This topic also includes establishing relationships within a text between characters or individuals, settings, events, ideas, or concepts based on specific text information (for example, determining a connection between a theme and a series of events or noting how different characters respond to challenges).

13. Presentation of Knowledge and Ideas

This topic area requires students to present information in an organized and stylistic manner appropriate to the audience and purpose. For example, students should sequence ideas logically, use appropriate facts and relevant descriptive details to support main ideas, establish a line of reasoning and organization, and speak clearly at an understandable pace. This topic also includes adapting the level of formal speech appropriate to a variety of contexts and tasks, such as speaking in complete sentences or selecting the appropriate dialect or register. Additionally, this topic encompasses students' strategic use of digital and visual media displays to enhance expression and comprehensibility of ideas.

14. Production of Written Texts

This topic area requires students to effectively produce and distribute writing. It includes the production of clear and coherent writing by adapting the organization and style of written information to the audience, task, and purpose. It also includes taking a piece of written work through the stages of the writing process (e.g., planning, drafting, revising, editing, and rewriting) as well as producing first draft, on-demand writing. Students should demonstrate the ability to sustain fluent writing long enough to produce required products. Part of effective writing production includes the ability to produce and publish texts using a keyboard or digital device.

15. Integration and Application of Knowledge

This topic area requires students to integrate and evaluate information and ideas across various individuals, formats, and media. Students should be able to understand and critique the validity of arguments, evaluate the validity of reasoning, determine the relevance and sufficiency of evidence, and identify the relationship between evidence and reasoning and a claim. Students should also be able to integrate information across multiple texts in order to synthesize the information quickly and efficiently, compare different author approaches or ideas, or analyze how various formats contribute to the meaning, tone, or beauty of text. Students should be able

to apply information and ideas to new contexts and problems and integrate information in order to write or speak about a subject knowledgeably.

16. Research to Build and Present Knowledge

This topic area requires students to conduct research in order to gather relevant information around a subject under investigation. This includes locating, selecting, gathering, recalling, categorizing, and reorganizing relevant information from different text types to support analysis. The topic also includes analyzing and reflecting on evidence by comparing and contrasting characters, settings, and events (for narrative texts), explaining how an author uses reasons and evidence to support particular points (for informational texts), as well as identifying corresponding reasons and evidence. It also includes the ability to determine the credibility, accuracy, and bias of sources.

17. Sources of Language Variability

This topic area includes knowledge about why and how language variations influence literacy development and participation. It requires knowing the many factors that contribute to language variability among individuals, such as having expertise in both a home language (if different from English) and a second language (i.e., English), the use of a dialect, and/or experience with the registers of oral and written academic English used in school settings. It also includes understanding the linguistic implications (e.g., pronunciation) and the cultural implications (e.g., cultural norms) of language variability and how it affects student performance across literacy activities. It also includes having knowledge about the instructional practices that best utilize home language competence to further develop school language competence.

18. Programs, Routines, and Methods for Language Arts Instruction

This topic area includes knowledge of general approaches for teaching literacy (e.g., basal and core reading programs, language experience, balanced literacy), routines and activity structures for teaching reading (e.g., guided reading, book clubs, read-alouds), writing (e.g., writing workshop, genre study), oral language (e.g., Socratic seminars, discourse routines, literature circles), and other widely used methods (e.g., use of mentor texts, fluency-building activities, comprehension-strategy instruction, vocabulary instruction, word-recognition activities, phonics instruction).

19. Interaction of Knowledge, Language Processes, and Learning

This topic area includes knowledge about the essential role that content knowledge plays in comprehending and composing texts. It also includes knowledge about the synergistic relationship between content knowledge and language comprehension. World and topical knowledge facilitate both oral and written language comprehension, which, in turn, enables learning, leads to changes in content knowledge, and thereby supports subsequent cycles of comprehension, language development, and knowledge growth. This topic also includes knowledge about direct and indirect instructional approaches for developing students' content

knowledge, making explicit connections between new information and students' background knowledge, and promoting additional student learning by encouraging wide reading.

20. Role of Engagement in Reading and Writing

This topic area includes knowledge about the fundamental intrapersonal and interpersonal factors that influence cognition and learning. Included are factors of motivation (both intrinsic and extrinsic), interest (both personal and situational), metacognitive processes (e.g., self-assessment, comprehension monitoring), and conscientiousness (i.e., the capacity to maintain stamina and persistence in the face of challenge and difficulty), and literate identity (i.e., a sense of self-efficacy in language activities). This topic area also includes knowledge of how to facilitate motivation, engagement, efficacy, and stamina through choice (of books to read, topics for writing, and artifacts to represent one's learning), encouragement (to promote persistence, situational interest, and literate identity), feedback (to enhance self-assessment and self-efficacy), collaboration (to enhance literate and community identities), and curricular coherence (to promote literate identity and self-efficacy).

21. Basic Processes of Reading and Writing

This topic area includes knowledge about skilled reading and writing performance. In reading, it involves the understanding of how processing at various levels of orthography (letters, letter clusters, syllables, morphemes, and words), language (phonological, phonemic, morphemic, lexical, semantic, syntactic, rhetorical, and pragmatic), and knowledge stored in long-term memory results in accurate decoding, fluent oral and silent reading, and text understanding. In writing, it involves all the same levels of processing knowledge, language, and orthography, but in the reverse order—from knowledge to language to orthographic representation. This topic also includes the understanding that these factors interact in complex and nonlinear ways in both comprehension and composition.

22. Development of Word Reading

This topic area includes knowledge about the typical ways in which reading and writing develop along with an understanding that the stages in typical development must be regarded as flexible heuristics rather than rigid, sequential phases. The stages may vary from theory to theory, but they usually include a pre-alphabetic stage (students attend to idiosyncratic aspects of word form, such as the long tail in “monkey”), an alphabetic stage that is often divided into partial (attending to salient or initial letters) and full (attending to all the letter information), and a consolidated stage (balancing orthographic, phonological, contextual, and conceptual information to achieve fluent decoding on the way to comprehension). It also includes the knowledge that fluent readers have many ways to read words accurately: as sight words (little attention is paid to the component orthographic features), sequential decoding (students decode each letter and blend the sounds together into a word), analogical decoding (the word is recognized as a member of a family of familiar endings: “goad,” “road,” “toad”), and employing context clues with letter-sound knowledge (e.g., “I know it means ‘to spur on,’ and it ends like ‘road,’ so it must be ‘goad’”).

23. Development of Word Spelling

This topic area includes knowledge about the general course of spelling development from precommunicative (such as when scribbling and drawing reveal a sensitivity to representation but not necessarily communication) through a partial phonetic stage (in which marks made on paper reveal an attempt to represent sounds) through a phonetic stage (where both errors and accurate representations reveal an attempt to represent sounds) through a transitional stage (in which patterns of letters are predominant in children's representations of sounds) and into an integrated stage (where sensitivity to syllabic and morphemic-base words and affixes are salient). Also included is the understanding that progression through these stages is flexible and variable across students and the sequence is governed by children's perceptions of patterns of regularity in sound-symbol mappings at every stage.

24. Development of Early Oral Language

This topic includes knowledge about the foundational role that oral language development plays in virtually every aspect of written language development. Early oral language performance both predicts and explains later written language performance. The implication for preschool and primary grade instruction is that teachers must provide substantial opportunities for students to engage in word work (e.g., rhyming, alliteration, and elision activities) and substantive talk about ideas, experiences, and activities that students encounter in home and school life.

Notes

¹ The advisory panel included the following members: P. David Pearson, advisory chair, UC Berkeley; Devon Brenner, Mississippi State; Joanne Carlisle, University of Michigan; Carol Connor, Arizona State; Vicki Benson Griffo, UC Berkeley; Virginia Goatley, University at Albany; James Hoffman, UT Austin; Barbara Kapinus, NEA, Smarter Balance; Jeannette Mancilla-Martinez, UC Irvine; and Julie Washington, Georgia State University. In addition, assessment experts and content research staff from ETS provided input and contributed to the development of the framework: Gary Sykes, Andrew Croft, Sally Gillespie; David Kirui, and Geoffrey Phelps (Understanding Teaching Quality Center); Allison Brettschneider and Eric Steinhauer (Assessment Development).

² Response rate for the emailed surveys delivered to sampled educators.

³ Tannenbaum and Rosenfeld (1994) recommended that an average importance judgment of 3.5 on a 5-point scale was sufficient to determine importance for licensure. Translating this finding to a 6-point scale would result in a threshold of 4.2.

⁴ Due to ties in the rankings, 11 CKT categories were identified for teachers and for faculty.