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Examining vocabulary, reading comprehension, and content knowledge instruction during fourth grade social studies teaching

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Abstract

Teaching vocabulary and reading comprehension during social studies instruction is critical for reading development and the acquisition of content knowledge. This study systematically investigated how elementary teachers integrate vocabulary and reading comprehension instruction during social studies teaching, as well as the extent to which this instruction aligned with evidence-based practices. Thirty-three fourth grade teachers from 12 schools across three school districts recorded their social studies instruction for a total of 2429 min. Findings revealed that two-thirds of social studies instructional time integrated practices for developing vocabulary and reading comprehension. Yet, the approaches for teaching comprehension and methods for instructional delivery (e.g., explicit instruction, high-quality feedback) teachers used infrequently aligned with those identified as effective in previous research. We present opportunities for improving content-area instruction and future research.

Keywords Elementary education · Reading · Content-area instruction · Social studies · Vocabulary · Reading comprehension

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Introduction

The consistent finding that many students in late elementary are unable to read and understand grade-level text remains a serious educational challenge (National Center for Education Statistics, 2019). Although there is agreement about the scope and significance of this problem and there have been substantial investments to identify evidence-based practices (for example, see Douglas & Albro, 2014; Pearson, Palincsar, Biancarosa, & Berman, 2020), the proportion of U.S. students who achieve a basic level of proficiency in Grade 4 has not significantly changed over the last decade (National Center for Education Statistics, 2019). One solution to the problem of underdeveloped reading proficiency in the upper elementary grades and beyond is to dedicate more instructional time to understanding complex texts by integrating effective reading practices during content-area teaching.

There are reciprocal benefits to integrating reading instruction within content-area teaching for reading proficiency and content acquisition. For one, developing students' knowledge is central to supporting reading comprehension proficiency (Cervetti & Hiebert, 2018; Hirsch Jr., 2010). Cognitive theories of reading comprehension (e.g., Kintsch, 1988) indicate comprehension involves the continuous integration of text propositions with the reader's background knowledge to build a coherent mental representation of text, highlighting the critical role knowledge plays in reading comprehension. Empirical research also consistently demonstrates a strong relation between knowledge and reading comprehension (e.g., Talwar, Tighe, & Greenberg, 2018). In fact, some studies show that students' knowledge is one of the strongest contributors to reading comprehension (e.g., Ahmed et al., 2016). For these theoretical and empirical reasons, some have suggested that reading instruction should not only focus on the development of word reading skills and reading comprehension strategies, but also focus on systematically aim to develop students' knowledge and vocabulary through a knowledge-focused curriculum (e.g., Hirsch Jr., 2010; Biancarosa, Afflerbach, & Pearson, 2020). Put simply in the words of cognitive scientist Daniel Willingham, "Teaching content is teaching reading" (2009, January 9).

Conversely, targeting reading comprehension during content-area teaching advances students' understanding of the informational texts that students are expected to use to develop content expertise (RAND Reading Study Group, 2002). Enhancing students' reading comprehension proficiency is critical because content-area texts are typically more complex and difficult to understand than narrative texts because they: (a) include a variety of text structures (Saenz & Fuchs, 2002), (b) are conceptually dense (e.g., Gersten, Fuchs, Williams, & Baker, 2001), (c) contain discipline-specific vocabulary (Beck, McKeown, & Kucan, 2013), and (d) rely heavily on prior knowledge (e.g., Carr & Thompson, 1996). Thus, we contend there is a symbiotic relation between content knowledge and reading comprehension, which underscores the value of integrating reading instruction within their content-area teaching. This assertion is supported by a series of studies funded by the Research for Understanding Initiative which found

that interventions that merged reading and discipline-specific content knowledge instruction "can yield benefits for both domains, and address the perennial concern of teachers who have had to choose between teaching one or the other" (p. 222; Afflerbach, Biancarosa , Hurt, & Pearson, 2020).

Contemporary state standards reflect the importance of integrating vocabulary and reading comprehension practices within content area instruction beginning as early as second grade. This integration is apparent in the Common Core elementary grade standards, as the social studies standards are embedded within the reading standards (National Governors Association Center for Best Practices & Council of Chief State School Officers [NGAC & CCSSO], 2010). Despite these standards and the evidence in support of merging reading and content instruction, it is not clear the extent to which elementary teachers integrate vocabulary and reading comprehension instruction into content area teaching, nor the degree to which this instruction aligns with evidence-based practices. In fact, with the exception of Durkin's (1978–1979) seminal study examining comprehension practices during social studies and reading instructional time for students in Grades 3–6, we are not aware of a systematic observation study examining vocabulary and reading comprehension practices during content-area instruction in the elementary grades. We sought to address this gap in the literature by examining vocabulary, comprehension, and other content knowledge instruction implemented during fourth grade social studies instruction.

Evidence-based approaches to content-area reading instruction

Much is known about effective content-area instruction that blends content learning and reading comprehension instruction. Expert panels have identified evidence-based practices through the examination of empirical research (e.g., Biancarosa & Snow, 2006; Kamil et al., 2008; Pearson et al., 2020). Recommended practices involve providing students with explicit vocabulary and comprehension strategy instruction embedded within content knowledge teaching that includes modeling (i.e., teacher describes and models the skill or concept), guided practice (i.e., students practice the new skill with support of the teacher), and independent practice (i.e., students practice the skill independently with high quality feedback). Sufficient practice opportunities with high quality feedback (e.g., teacher provides immediate and detailed positive or corrective feedback; Hattie & Timperley, 2007) are important practices within the explicit instruction framework to shape students' content learning and text comprehension. Other high impact teaching practices that are associated with student learning include (a) multiple opportunities to practice reading and discussing diverse texts, (b) setting a clear learning goal or objective for the lesson (e.g., By the end of our social studies lesson, you should be able to…), (c) asking a range of questions that can be answered directly from the text (e.g., What? When? Where?) or by synthesizing information in multiple places in the text or among two text sources (e.g., Why? How?), and (d) promoting active engagement and time on task such that all students have an opportunity to respond (e.g., response cards, turn-and-talk, note-taking; e.g., Berrong, Schuster, Morse, & Collins, 2007).

Recent intervention studies examining the use of evidence-based vocabulary and reading comprehension practices within content area instruction (i.e., social studies) resulted in improved reading and content learning outcomes for students across elementary and secondary grade levels (e.g., Simmons et al., 2010; Vaughn et al., 2011; Williams et al., 2016). The interventions in these studies used vocabulary and reading comprehension practices before, during, and after content-area text reading to support students' reading comprehension and content knowledge understanding. Effective vocabulary practices included explicit vocabulary instruction with simple definitions and examples sentences, opportunities to practice new words with multiple meanings (e.g., the river 'bank' versus the 'bank' where you go to deposit money), and using morphology and context clues to determine the meaning of unknown words (Simmons et al., 2010). Reading comprehension practices included building background knowledge to support students' construction of a coherent situation model, paraphrasing to identify the main idea of the text, utilizing text structure to organize information in the text and support connections among ideas, and questioning to check for understanding and promote discussion (e.g., Vaughn et al., 2011; Williams et al., 2016).

In addition to identifying evidence-based instructional practices for developing vocabulary and reading comprehension with content-area texts, previous research also identifies features for effective instructional delivery. Explicit instructional techniques, high-quality feedback, scaffolded instruction, frequent checks for understanding, and active engagement are among the features of effective instruction associated with improved student learning (e.g., Archer & Hughes, 2011). Although these high-impact teaching practices are not unique to content-area instruction, they are critical to implementing robust content area reading instruction.

Social studies instruction in the elementary grades

Social studies knowledge is important for students because it provides an opportunity for students to develop academic language, gain knowledge about other cultures, understand their place in history, and inform and support civic competence (e.g., National Council for the Social Studies, 1994). For teachers, social studies also provides them an opportunity to teach content, vocabulary, and reading comprehension skills. However, research demonstrates that social studies instruction is often marginalized relative to reading and mathematics instruction, particularly in the elementary grades (e.g., Banilower et al., 2013; VanFossen, 2005). Survey research revealed elementary teachers spent 90 min or less per week teaching social studies (VanFossen, 2005). In fact, more than half of the elementary teachers surveyed by Rock et al. (2006) reported dissatisfaction with the amount of time devoted to social studies instruction in schools, with only 23% of teachers providing social studies instruction daily.

Teachers have identified several reasons for the lack of social studies instruction in elementary classrooms (Boyle-Baise, Hsu, Johnson, Serriere, & Stewart, 2008). First, social studies instruction gets displaced in favor of reading and mathematics instruction in order to prepare students for high stakes assessments in these areas.

Second, teachers do not view social studies instruction as an opportunity to blend reading comprehension and content teaching; rather, instructional time during the day must be devoted to one content area or the other. Teachers also highlight that planning for social studies instruction is limited, particularly given the emphasis on reading and mathematics. Finally, some have speculated that social studies (and science) texts have been marginalized in elementary grades due to the implementation of a "literacy block" because the core reading curriculum teachers are expected to follow during this time typically exclude content-area texts (Connor et al., 2017).

Teachers' implementation of reading comprehension and vocabulary practices embedded within social studies instruction is critical. Supporting students' reading comprehension during social studies teaching is particularly important because social studies texts (a) contain complex vocabulary from multiple disciplines history, geography, sociology (National Council for the Social Studies, 1994); (b) require previous knowledge more than other content areas because history is understood in relation to other events, places, and times (Massey & Heafner, 2004); and (c) involves a variety of text sources (e.g., primary and secondary sources, non-fiction, and fiction; Ness, 2009). Although social studies texts present challenges for students, they also present engaging content that is ideal for sustained instruction focused on developing students' reading comprehension.

Existing observation studies related to elementary content-area reading instruction

Observation studies provide a way of examining the extent to which teachers allocate time to content-area reading instruction and implement evidence-based practices during this instruction. Observational research examining content-area instruction have been conducted almost exclusively with teachers in secondary grades. Swanson et al. (2016) examined social studies instruction at the secondary level (Grades 7–12), finding students accessed text approximately 10% of the time, with limited opportunities to discuss the text beyond responding orally to the teachers' questions. When text was used during instruction, it was often read aloud by the teacher, indicating teachers were not supporting the development of reading comprehension by providing students opportunities to read and understand the text (Swanson et al., 2016). Swanson and colleagues observed vocabulary instruction in about half of the lessons observed but was typically limited to presenting definitions. Further, comprehension strategy instruction was not consistently used to support content area reading comprehension (Swanson et al., 2016). These findings in social studies are generally consistent with a recent study conducted examining literacy practices in high school science classes (Wexler, Mitchell, Clancy, & Silverman, 2017). Wexler et al. (2017) found science teachers rarely used multiple paragraph expository texts during instruction and hardly implemented any vocabulary or comprehension strategy instruction.

Little research exists examining content-area literacy in the elementary grades. Scott, Jamieson-Noel, & Asselin (2003) examined the prevalence vocabulary instruction in the upper elementary grades in Canada, finding that only 1.4% of

instructional time in math, science, art, and social studies was devoted to vocabulary development. The authors also found that most time spent on vocabulary involved "mentioning and assigning rather than teaching" vocabulary words (p. 269). Durkin's seminal study (1978–1979) examined reading instruction during the "reading period" and social studies for students in Grades 3–6 (p. 494). Durkin reported that during social studies, teachers did not incorporate any comprehension instruction.

Study purpose

Researchers (e.g., Cervetti & Hiebert, 2018; Williams et al., 2016), policy reports (e.g., Biancarosa & Snow, 2006), and contemporary state standards (e.g., NGAC & CCSSO, 2010) call for the implementation of vocabulary and reading comprehension instruction during content-area teaching beginning in the elementary grades. Therefore, to improve our understanding of how teachers implement content-area reading instruction in Grade 4, we conducted a systematic study to examine the vocabulary and reading comprehension practices that occur within general education, fourth grade social studies instruction. In doing so, we addressed two questions: (1) How much and what type of vocabulary, reading comprehension, and other content knowledge instruction do fourth grade teachers provide during social studies instruction? (2) To what extent is this instruction consistent with features of effective instruction identified in previous research?

Method

Study procedures

We conducted a study using instructional audio recordings collected from teachers participating in a large randomized control trial (RCT) investigating the effects of a professional development model for fourth-grade general education teachers (Swanson et al., 2020). We collected audio recordings from 33 fourth grade teachers whose schools were randomly assigned to the no-treatment, business-as-usual condition in the broader study. Similar to past studies that have coded audio recordings to document instruction (e.g., Swanson et al., 2016; Wexler et al., 2017), we provided participating teachers with audio recording devices and asked them to record their "typical" social studies instruction in English. In particular, we asked teachers to record all social studies lessons implemented during 1 week in December, February, and April, respectively. In some cases, teachers provided daily social studies instruction, resulting in 15 total audios for that classroom over the 3 weeks of recording. Other teachers provided only one to two social studies lessons each week, resulting in three to six audios for those classrooms across the three time periods. On average, teachers recoded and submitted eight audiorecorded lessons across three time points, indicating that teachers taught about two to three social studies lessons a week. A total of 266 audiorecorded lessons were recorded in all.

We conducted a stratified random sample designed to yield a representative view of the extent to which fourth grade teachers implement vocabulary and reading comprehension practices within social studies instruction. Consistent with previous reading observation studies that have included three observations distributed over time (Ciullo et al., 2016; Klingner, Urbach, Golos, Brownell, & Menon, 2010; Schumm, Moody, & Vaughn, 2000; Swanson & Vaughn, 2010; Swanson, Solis, Ciullo, & McKenna, 2012), we randomly sampled one audio recorded lesson from each teacher for each time point that was at least 20 min in length (3 lessons per teacher). After accounting for missing recordings (11 lessons across all teachers) and removing lessons not taught in English (1 recording), 87 total lessons were coded, which represents about one-third of the total sample of lessons recorded. Coded recordings ranged from 20 to 60 min in duration ($M = 29$ min; $SD = 10$ min).

Setting and participants

Fourth grade teachers from twelve schools across three large districts and one charter school in the southwestern United States participated in this study. All schools were located in two major cities and served a diverse population of students. We collected audio recordings from 33 general education teachers who provided social studies instruction to a total of 647 fourth grade students. All teachers were female and had an average of 8.35 years of total teaching experience (SD = 6.89 years; range 1–25 years). Teachers had, on average, 3.26 years of experience teaching fourth grade (SD = 3.11 years; range 0–13 years) and 7.53 years of experience (SD = 6.79; range 0–25 years) teaching social studies in any grade. Additional teacher information and student demographic information are presented in Tables 1 and 2, respectively.

Table 1 Teacher demographic information

Characteristic	*n*	Percent
Gender		
Male	0	0
Female	33	100
Certification		
Elementary	30	91
Secondary	4	12
Special education	3	9
ESL	5	15
Bilingual	9	27
Highest degree earned		
Bachelors	20	61
Master's	10	30
Not reported	3	9

Three teachers did not report their years of experience, certifications, or highest degree earned

Table 2 Student demographic information

	n	%
Gender		
Male	319	49.7
Female	323	50.3
Ethnicity		
Caucasian	70	10.9
African American	35	5.6
Hispanic	515	80.2
Asian	1	0.1
Two or more	6	0.9
Not reported	15	2.3
Free or reduced-price lunch		
Yes	458	71.3
No	152	23.6
Not reported	32	4.9
Special education		
Yes	41	6.4
No	601	93.6
Limited English proficiency		
Yes	151	23.5
No	491	76.5

Measurement

Coding document development

A two-phase process was employed to (a) draft the coding document and then (b) iteratively test and refine it to allow us to systematically extract and organize information related to our research questions. In the first phase, we drafted a coding document based on two existing observation protocols that have been used frequently in previous observations studies: Instructional-Content Emphasis–Revised (ICE-R; Edmonds & Briggs, 2003) and the Writing and Reading Observational Tool (WROT; Bryant et al., 2013). Consistent with several past studies (e.g., Bryant et al., 2013; Ciullo et al., 2016), we adapted the ICE-R to collect information related to vocabulary, reading comprehension, and other content knowledge instruction taking place during fourth grade social studies instruction (Research Question 1). In doing so, we removed codes that pertained to components of reading instruction that would be unlikely to occur during social studies (e.g., phonemic awareness, phonics). We also collected information about the frequency of features of effective instruction (Research Question 2) present in the audiotapes based on the WROT developed by Bryant et al. (2013). We identified 13 evidence-based practices from the WROT that were most relevant to fourth grade content-area reading instruction (e.g., teacher modeling, high-quality feedback, supporting active engagement, use of learning strategies, and use of graphic organizers).

In the second phase, the first three authors employed a three-step iterative process to refine the coding document: (1) independently coded two randomly selected audio recordings, (2) met to discuss discrepancies and areas for code sheet improvement, and (3) refined the coding document to enhance reliability. After three rounds of iterative development, we were unable to identify additional areas for improvement in our modified ICE-R and WROT.

Coding instrument

The final version of our coding document allowed coders to identify instructional activities within lessons and then define activities according to five dimensions: (1) main instructional component, (2) instructional subcomponents and a description of these subcomponents, (3) instructional grouping, (4) reading materials used, and (5) how texts were read (text reading information was also collected through teacher surveys). First, coders identified the main instructional component: vocabulary (teacher's purpose was teaching the meaning of words), reading comprehension (instruction focused on helping students to understand text), other content knowledge (this teaching did not involve a text or focus on vocabulary but did focus on social studies content [e.g., teacher lecture]), or non-social studies instruction (this instruction referred to instruction not focused on vocabulary, reading comprehension, or other content knowledge; e.g., grammar instruction). Next, coders indicated an instructional subcomponent that falls within the main instructional component. For example, the main instructional component of vocabulary contained three subcomponents: direct vocabulary instruction, vocabulary learning strategies, and other vocabulary instruction. For each instructional subcomponent, coders recorded important information related to instruction provided. During direct vocabulary instruction, for instance, coders recorded whether teachers taught definitions, examples and non-examples, dictionaries, morphology, etc. Additionally, after selecting codes pertaining to instructional components, coders noted how students were grouped within the classroom (e.g., whole class, small group, pairs, independent), what text materials, if any, were used (e.g., textbook, primary source) and texts were read (e.g., independent silent reading, teacher reads aloud, choral reading) for each instructional activity. Using 13 items from the WROT, coders then identified the presence of each feature of effective instruction within each instructional activity using a "1" or "0." Each feature of effective instruction was operationally defined in the coding manual to support coders in selecting accurate codes and to prevent observer drift. Last, the code sheet included a global teacher quality rating. To complete the quality rating, coders considered the prompt, "Overall, I consider this teacher's instruction to be" and identified a rating using a 7-point rating scale in (low scores indicated poor quality and high scores indicated high quality). The final version of the coding document is available upon request.

Coding training and reliability

The first author provided a training to three researchers (including the second and third authors who participated in the iterative development process) and served as

the gold standard for reliability checks. In the training, coders practiced classifying instruction within each dimension, and the first author provided detailed feedback to all coders throughout the training process. To establish reliability, the first author then assigned three coders an audio file not selected for the study for coding. Coders met 94% agreement with the gold standard on the first attempt (92–97%). Finally, the four researchers (including the gold standard) coded all audios to extract and classify information related instruction. To check for observer drift and maintain inter-coder reliability, 20% of the all files were double coded. Reliability between coders during double coding ranged from 92 to 100% ($M = 97\%$). When discrepancies were present, coders resolved disagreements using the coding manual before deciding upon a final code, reaching 100% agreement across all code sheets.

Data analysis To address how much and what type of vocabulary, reading comprehension, and other content knowledge instruction occurred social studies instruction (Research Question 1), we calculated the number of lessons that included each instructional component (i.e., vocabulary, comprehension, content teaching, or non-social studies time) and the number of minutes dedicated to each component. We also report for the frequency of instructional practices within each instructional component (e.g., explicit vocabulary instruction and word learning instruction for vocabulary). To further describe instruction, we also reported information about instructional groupings (e.g., individual, pairs, whole class) and the texts read during instruction (e.g., primary social studies text, secondary source). To attend to the extent to which instruction was consistent with features of effective instruction identified in previous research, (Research Question 2), consistent with Ciullo et al. (2016), we calculated means and standard deviations for each feature of effective instruction identified from the WROT.

Results

Thirty-three fourth grade teachers recorded their social studies instruction across a total of 87 lessons comprising 2429 min. Similar to past studies using the ICE-R (Swanson & Vaughn, 2010; Swanson et al., 2012), we calculated the number of lessons that included each instructional component (i.e., vocabulary, comprehension, content teaching, or non-social studies time), the time spent on each component, and detailed how each component was addressed. Additionally, we present means and standard deviations for each feature of effective instruction (e.g., high-quality feedback) identified from the WROT. As shown in Table 3, we recorded reading comprehension instruction during a majority (67%) of instructional lessons. The next most common instructional activities were other content knowledge instruction (teaching did not involve a text or focus on vocabulary but did focus on social studies content; 40%), vocabulary instruction (25%), and non-social studies instruction (3%). Table 4 supplies information on the main instructional components by teacher. Results illustrate teachers varied considerably in their instructional foci. For instance, some teachers (T6, T21, T27) did not incorporate vocabulary or reading comprehension during any of their instructional lessons whereas other teachers

Table 3 Main instructional components recorded during social studies instruction

Main instructional components	Number of lessons with component recorded	Percent of lessons with component recorded	Minutes recorded	Percent of total time
Vocabulary	22	25	353	15
Reading comprehension	58	67	1233	51
Other content knowledge	35	40	768	31
Non-social studies instruction	3	3	75	3

A total of 87 lessons were coded. The percent of lessons with component observed do not sum to 100% because lessons often addressed multiple instructional components

(T5, T16, T18) focused on vocabulary or reading comprehension during all of their instruction. Across teachers, it appears there may be an association between the type of instruction provided and the total time engaged in social studies instruction. Although this limited sample does not warrant significance tests, descriptive analyses suggest that there was a positive association between the total time spent on social studies instruction percentage of time on vocabulary ($r = .29$) and comprehension instruction ($r = .39$), respectively. Conversely, the percentage of total time dedicated to content knowledge teaching that did not include vocabulary and comprehension instruction was negatively associated ($r = -.36$) with the total time spent providing social studies instruction. In the sections to follow, we present detailed information about the vocabulary, reading comprehension, and content-knowledge instruction recorded and the degree to which teachers implemented features of effective instruction.

Vocabulary instruction

As shown in Table 3, across the 87 lessons, we coded vocabulary instruction in 25% of all lessons and found teachers dedicated 15% of all instructional time to vocabulary learning. Seven lessons (8% of all lessons; 216 min) focused solely on vocabulary development. As shown in Table 4, teachers spent a majority of this time providing direct vocabulary instruction (75%). During direct vocabulary instruction, teachers most often defined words for students and used examples and/or non-examples of the word in a sentence. Teachers often identified 2–3 vocabulary words and would tell students the definitions, provided 1–2 example sentences, and then led a group conversation about the word. In some cases, teachers would ask students to write the words in a notebook or graphic organizer; however, teachers infrequently used dictionaries to teach words, and we did not document instruction focused on morphology or mnemonics to teach vocabulary. Teachers typically identified social studies vocabulary that would surface in a later text reading activity or teacher lecture. For example, a teacher was recorded saying, "We have five vocabulary words… The first word is mission. What do you think a mission is?" After a brief discussion in which students shared out responses (none of which were accurate), the teacher

Table 4 Main instructional components recorded during social studies instruction by teacher

Teacher	Vocabulary (Vocab.)				Comprehension (Comp.)				Content knowledge (CK)				Total non-social studies mins	Total time
	# of lessons with Vocab	% of lessons with Vocab	Total Vocab mins	% of total time on Vocab	# of lessons with Comp	% of lessons with Comp	Total Comp mins	% of total time on Comp	# of lessons with CK	% of lessons with CK	Total CK mins	% of total time on CK		
T1	1	33	19	20	2	67	40	41	1	33	38	39	0	97
T2	2	67	37	38	2	67	33	34	0	0	0	0	28	98
T3	0	0	0	0	2	67	36	60	2	67	24	40	0	60
T4	2	67	39	28	2	67	54	38	1	33	48	34	0	141
T5	1	33	21	31	2	67	46	69	0	0	0	0	0	67
T6	0	0	0	0	0	0	0	0	2	100	41	100	0	41
T7	1	33	33	35	1	33	37	39	1	33	24	26	0	94
T8	1	33	7	12	2	67	24	40	2	67	29	48	0	60
T9	0	0	0	0	3	100	44	51	1	33	26	30	17	87
T10	0	0	0	0	2	67	38	58	1	33	27	42	0	65
T11	0	0	0	0	3	100	94	93	0	0	7	7	0	101
T12	1	33	9	9	2	67	72	73	1	33	18	18	0	99
T13	2	67	34	50	1	33	34	50	0	0	0	0	0	68
T14	1	33	5	10	1	33	15	30	3	100	30	60	0	50
T15	1	33	20	27	3	100	41	56	1	33	12	16	0	73
T16	2	67	61	53	2	67	55	47	0	0	0	0	0	116
T17	2	67	14	22	2	67	31	48	2	67	20	31	0	65
T18	1	33	3	10	2	67	27	90	1	33	0	0	0	30
T19	0	0	0	0	2	100	44	67	1	50	22	33	0	66
T20	0	0	0	0	1	33	19	35	2	67	35	65	0	54
T21	0	0	0	0	1	100	0	0	1	100	27	100	0	27

Table 4 (continued)

Teacher	Vocabulary (Vocab.)				Comprehension (Comp.)				Content knowledge (CK)				Total non-social studies mins	Total time
	# of lessons with Vocab	% of lessons with Vocab	Total Vocab mins	% of total time on Vocab	# of lessons with Comp	% of lessons with Comp	Total Comp mins	% of total time on Comp	# of lessons with CK	% of lessons with CK	Total CK mins	% of total time on CK		
T22	0	0	0	0	2	67	77	56	1	33	60	44	0	137
T23	0	0	0	0	2	100	62	83	0	0	13	17	0	75
T24	0	0	0	0	2	100	17	36	1	50	30	64	0	47
T25	1	50	3	5	2	100	36	62	0	0	19	33	0	58
T26	1	33	25	29	1	33	35	41	2	67	25	29	0	85
T27	0	0	0	0	0	0	0	0	3	100	51	100	0	51
T28	0	0	0	0	3	100	77	64	2	67	43	36	0	120
T29	1	50	19	36	2	100	29	55	0	0	5	9	0	53
T30	0	0	0	0	3	100	42	58	2	67	30	42	0	72
T31	0	0	0	0	0	0	0	0	0	0	0	0	30	30
T32	1	33	4	4	3	100	71	65	0	0	35	32	0	110
T33	0	0	0	0	1	100	3	9	1	100	30	91	0	33

provided the definition, "We have the definition right here. It's a settlement where religion is taught." After discussing and defining the five words, the teacher handed out pictures associated with the words, asked the students to match the words up to their visual representations, and then provided the students with the vocabulary words in a sentence. This is an illustrative example because it includes a few components commonly observed: (a) teacher identified multiple words to teach that were later found in the text the class read together, (b) the teacher defined the words for students, and (c) the teacher used a visual representation and the word in a sentence. However, though the teacher promoted active engagement through discussion and the brief activity asking students to match pictures to words, the instruction was not identified as including other features of effective instruction (e.g., explicit instruction, high-quality feedback, sufficient practice opportunities; further discussion of the presence of features of effective instruction is provided below).

There were no examples of teachers providing word learning strategy instruction. The remaining 25% of instructional time devoted to vocabulary learning was coded as "other vocabulary instruction." This instruction included a few indirect methods of teaching words. For example, teachers called on students to discuss and/or draw vocabulary words in small groups or read a passage to find new vocabulary.

Reading comprehension instruction

As shown in Table 3, we recorded reading comprehension instruction in 58 sessions (67% of all lessons) and found teachers dedicated 51% of the total instructional time recorded to reading comprehension. Table 5 highlights the ways teachers provided reading comprehension instruction. Pre-reading comprehension support was coded in 27 instructional lessons and spanned 27% of the total comprehension time. As shown in Table 5, the most common pre-reading strategies included connecting new learning goal to past learning goals (recorded in 12 lessons), building background knowledge (9), activating background knowledge (11), and making predictions (3).

Comprehension monitoring instruction—that is instruction that occurred during or just after reading intended to monitor and support students' understanding of text—was the most common comprehension practice document. Specifically, teachers spent 69% of reading comprehension instruction monitoring students' comprehension of text. The most common approach to monitoring comprehension was teacher questioning (documented during 95% of comprehension monitoring activities), which typically involved teachers posing questions to the class and engaging in discussion about the read text. The majority of teacher questions were about important facts from the text reading; however, teachers did incorporate a mix of factual and inferential questions during 35% of reading comprehension activities. We also did not document teachers supporting students to independently generate and answer questions. Moreover, when students were unable to correctly recall information from the text or make inferences, teachers most often would explain concepts from the reading to support students' text comprehension. The teachers did not frequently encourage students to return the text to find relevant information.

Table 5 Features of vocabulary instruction recorded

Vocabulary instructional components	Number of lessons with component recorded	Minutes	Percent of vocabulary time
Direct vocabulary instruction	16	265	75
Definitions	16		
Examples and/or nonexamples	12		
Dictionary	2		
Semantic knowledge/morphology	0		
Mnemonics	0		
Discussion	3		
Other	3		
Vocabulary learning strategy instruction	0	0	0
Context clues	0		
Morphology	0		
Using resources	0		
Other	0		
Other vocabulary instruction	7	88	25

The subcomponents of direct vocabulary instruction (e.g., definitions, examples and/or nonexamples, etc.) do not sum to the total number of lessons (16) because teachers often incorporated more than one of these subcomponents during a lesson

There was limited evidence of comprehension strategy instruction or structured discussions across the 1233 min of reading comprehension instruction. No teachers were recorded providing instruction on how to use a step-by-step reading comprehension strategy during social studies instruction (e.g., no teachers were recorded modeling or using think aloud procedure to introduce reading or reteach a comprehension strategy). Teachers did infrequently prompt students to apply a reading comprehension strategy to monitor comprehension, such as identifying the main idea (recorded in 5 lessons), summarizing (4), taking notes (10), or evaluating text structure (0). When teachers referenced reading comprehension strategies, the teachers did not often reference the steps involved in a reading comprehension strategy. Examples of teachers referring to a reading comprehension strategy included: (a) "What's the main idea of what we just read?" (b) "Who can summarize that?", and (c) "Read this section and take notes, then I'm going to ask you some questions." Lastly, 4% of comprehension instruction time involved students reading and answering written questions independently.

Other content knowledge instruction

Teachers dedicated 31% of the total time recorded to content knowledge activities that did not include vocabulary or text comprehension instruction (see Table 3). Thirty-five lessons (40% of all lessons) included this instruction. And, one in five lessons was dedicated entirely to content knowledge instruction without

vocabulary or text comprehension practice. As shown in Table 6, teacher-led presentations of new social studies content were the most common approach to content-knowledge instruction. The most common teacher-led presentations used multimedia presentations (e.g., Microsoft PowerPoint) followed by teacher lectures combined with class discussions, and video or audio presentations to present new content. Examples of introductions to content-area teaching included "You do not need your textbook today. You'll be writing notes from a PowerPoint." Teachers were also recorded asking students to watch a video and "jot down" notes. This content knowledge instruction also took the form of knowledge application or enrichment activities and extended writing activities to content learning (4%). Knowledge application and enrichment activities occurred in twelve lessons and lasted a total of 216 min (28% of content knowledge time). Knowledge application activities frequently occurred in small groups and covered a variety of topics, including asking students to develop their own plans and supply lists as if they were explorers, to compare and contrast their own living conditions to those experienced by Native Americans, or consider mock applications for people to join their colony.

Table 6 Features of comprehension instruction recorded

Comprehension instructional components	Number of lessons with component recorded	Minutes	Percent of comprehension time
Pre-reading comprehension instruction	27	333	27
Connect new learning to past learning	12		
Building background knowledge	9		
Activating background knowledge	11		
Making predictions	3		
Posing a guiding question	0		
Other	10		
Comprehension monitoring instruction	44	845	69
Answering question	42		
Summarizing	4		
Main idea	5		
Text structure	0		
Writing to support reading comprehension	5		
Note taking	10		
Other	8		
Students read independently and answer questions	6	55	4

Similar to Table 4, the subcomponents of pre-reading comprehension instruction do not sum to the total number of lessons with pre-reading comprehension instruction (27) because some lessons included multiple subcomponents. This is also true for comprehension monitoring

Instructional groupings

To better understand instructional groupings, we coded all instructional activities as occurring with the whole class, in small groups or pairs, independently, or individually. Teachers most often used whole class instruction (83% of total instruction recorded), followed by small groups or pairs (12%). Small group and student pairs occurred slightly more frequently during comprehension instruction (6%) than during vocabulary (3%) and content knowledge (3%) teaching. No individualized instruction was documented and independent seatwork occurred during 5% of all instruction.

Text reading

Text reading occurred in 60 lessons (69% of total lessons). We most often documented text reading during reading comprehension instruction. Text reading seldom occurred during vocabulary instruction and did not occur during other content knowledge instruction. Students completing a vocabulary cloze activity of previously taught vocabulary is one example of text reading that occurred in the service of vocabulary learning. Except for two lessons that included primary sources, teachers exclusively used secondary source reading materials (i.e., social studies textbooks or other secondary source curriculum materials) for reading comprehension practice. Results showed four types of text reading occurred during lessons: (1) teacher reads aloud while students had access to the text source (67%), (2) students read aloud (e.g., read aloud to class or in pairs; 20%), (2), independent silent reading (9%), and (4) choral reading (i.e., multiple students reading simultaneously; 4%).

Implementation of evidence-based practices and instructional quality

Table 7 presents results about the extent to which teacher instruction was delivered using features of effective instruction. The values in Table 7 represent the proportion of vocabulary, reading comprehension, and other content knowledge activities in which each evidence-based practice were present. Overall, the proportion of instructional activities with evidence-based practices were consistently low across instructional components. Only two features of effective instruction were recorded in more than 25% of all instructional activities (promoting active engagement = 45%; asking a range of questions = 30%). During vocabulary instructional activities teachers most often promoted active engagement and used graphic organizers. During comprehension and other content knowledge instructional activities, they most often promoted active engagement and asked a range of questions. High quality feedback was most often used during other content knowledge instructional activities, but even then was only recorded in 26% of the recorded instructional activities. High quality feedback was almost never used during vocabulary instructional activities. Graphic organizers were more often used during vocabulary (21%) and other content knowledge (22%) instructional

Table 7 Features of content-knowledge instruction recorded

Content-knowledge components	Number of lessons with component recorded	Minutes	Percent of content-knowledge time
Building or activating background knowledge before content knowledge instruction	10	65	8
Teacher-led presentation of new content	22	423	55
Teacher lecture using multimedia presentation	12		
Teacher lecture with video or audio clips	7		
Teacher lecture with discussion	9		
Writing activity to support content knowledge	2	39	5
Knowledge application or enrichment activity	12	216	28
Other	2	25	3

Akin to Tables 4 and 5, the subcomponents of teacher-led presentation of new content do not sum to the total number of lessons with teacher-led presentation of new content (22) because some lessons included multiple subcomponents

activities than in comprehension instructional activities (13%). The use of explicit instruction (i.e., modeling and guided practice) was rarely used across all types of instructional activities. Teachers rarely to never scaffolded instruction, monitored progress, provided sufficient practice opportunities, or engaged students in peer assisted instruction (Table 8).

The limited implementation of features of effective instruction aligns with the very low score for instructional quality (2.87) on a Likert-type scale that ranges from 1 to 7. According to the quality score rubric, this score reflects instruction that (a) used indirect or implicit language, (b) provided little or no modeling, (c)

Table 8 Proportion of instructional components with features of effective instruction

Evidence-based practices	Vocabulary (%)	Comprehension (%)	Content-knowledge (%)	Overall (%)
Clear lesson goal	7	6	8	7
Explicit instruction: modeling	7	1	0	2
Explicit instruction: guided practice	4	4	8	5
High-quality feedback	4	15	26	16
Scaffolded instruction	0	2	6	3
Range of questions	11	35	30	30
Frequent checks for understanding	7	9	14	11
Monitoring progress	4	2	4	3
Promoting active engagement	61	35	50	45
Sufficient practice opportunities	4	4	4	4
Peer-assisted instruction	0	1	0	1
Use of graphic organizers	21	13	22	17
Use of strategies	0	3	0	1

provided insufficient opportunities for practice, (d) did not provide adequate scaffolding among other characteristics.

Discussion

Documenting current instructional practices provides valuable insights informing efforts related to teacher preparation, professional development, instructional materials development, and future research. This article reports the findings from a study designed to examine the vocabulary, comprehension instruction, and other content knowledge instruction during fourth grade social studies teaching, and the degree to which their instruction aligned with evidence-based practices for features for effective instruction. Findings from this study suggest that fourth grade teachers frequently engage students in vocabulary learning and use text sources during social studies instruction. In fact, we found teachers spent two-thirds of instructional time dedicated to vocabulary learning or engaging students with text sources in the service of comprehending content. These findings are in contrast to the findings from Durkin's (1978–1979) original observation study examining elementary social studies instruction and a recent study conducted in secondary social studies classrooms (Swanson et al., 2016), which found text was rarely accessed during content learning. Yet, the practices teachers used to target reading comprehension in our study did not align with the practices identified as evidence-based (e.g., direct vocabulary and comprehension strategy instruction; Kamil et al., 2008; Shanahan et al., 2010). Moreover, teachers did not implement vocabulary, comprehension, and other content knowledge instruction using evidence-based features of effective instruction (e.g., explicit instructional routines, high-quality feedback; Archer & Hughes, 2011). Given the limited research investigating content-area instruction in the elementary grades, we consider these findings novel and informative though they represent only an initial inquiry into understanding current teacher practices in this area. In the sections to follow, we contextualize our findings related to prior research, identify study limitations, and suggest ways this study may inform future research and practice.

Vocabulary instruction

Vocabulary is a critical instructional component for improving reading comprehension and content expertise, particularly when taught in support of understanding content-area informational texts that include high-levels of academic vocabulary (Beck et al., 2013). The Institute of Education Sciences What Works Clearinghouse practice guide for upper elementary and secondary literacy instruction (Kamil et al., 2008) recommends (a) classroom lessons dedicate a portion of instruction to explicit vocabulary instruction, (b) students have repeated exposures and sufficient and varied opportunities to use vocabulary in discussion, writing, and extended reading, and (c) students are taught knowledge and skills for independent vocabulary learning (e.g., morphology or using context clues). Unlike a previous upper elementary study which found almost no vocabulary instruction occurred during upper

elementary content-area teaching (Scott et al., 2003), our findings indicated that teachers addressed vocabulary in one-quarter of all lessons and vocabulary served as the primary focus of instruction during 15% of all instruction recorded. Yet, the prevalence of vocabulary instruction was low relative to Swanson et al.'s (2016) study of secondary social studies classes, in which about half of all classes included vocabulary instruction. Consistent with Swanson et al. our findings revealed that vocabulary instruction was largely limited to defining words and providing example sentences. We infrequently recorded teachers using explicit instructional routines or providing rich vocabulary instruction that allowed students to experience new words through multiple modalities (writing, speaking, listening). However, this does represent an improvement from the findings of Scott et al. (2003), who found the little vocabulary instruction that occurred during content-area learning primarily involved mentioning and assigning words for study rather than teaching students' words directly. We did observe teachers using graphic organizers during about one-fifth of the vocabulary instruction; however, instruction did not typically pair the use of graphic organizers with explicit instructional routines, as is commonly recommended (e.g., Beck et al., 2013). Whereas Swanson et al. found teachers provided some word learning instruction related to context clues and morphology, we did not document elementary teachers teaching students word learning strategies during content-area instruction. Based on these findings, it appears vocabulary instruction could be improved in several ways to align with evidence-based recommendations: (a) provide vocabulary instruction more frequently, (b) incorporate features of effective instruction, particularly explicit instructional routines and sufficient practice opportunities, and (c) teacher strategies for determining the meaning of unknown words using morphology and context clues.

Reading comprehension instruction

Research-based reports (e.g., Biancarosa & Snow, 2006) and contemporary state standards (NGAC & CCSSO, 2010) support the integration of reading comprehension instruction within social studies teaching. Evidence suggests teachers can enhance reading comprehension of upper elementary and secondary students by building background knowledge before text reading and using explicit comprehension strategy instruction and discussion-based approaches for enhancing reading proficiency and content acquisition during and after reading (e.g., Kamil et al., 2008). Unlike Durkin's (1978–1979) seminal observation study which found there was no comprehension instruction during social studies teaching, teachers in our study frequently viewed social studies as an opportunity for students to engage with text and develop reading comprehension. We found students were engaged with social studies text sources two-thirds of all instructional lessons and learning from social studies texts represented the primary instructional focus during just over half of the total time recorded. As we describe below in Text Reading section, it is worth noting though teachers primarily read text aloud as students' followed along.

Approximately half of the lessons with text comprehension instruction included a before-reading activity focused on connecting new learning to past

learning, activating or building background knowledge, or making predictions. The methods for activating and building knowledge prior to learning frequented aligned with those recommended in previous research (e.g., Kamil et al., 2008). The prevalence of pre-reading instruction aligned with the findings of Swanson et al.'s (2016) study of secondary social studies classrooms and findings from secondary science classroom (Ness, 2009; Wexler et al., 2017). Also consistent with the Swanson et al. study, we found the majority of during and after reading comprehension instruction involved teachers asking questions to monitor students' understanding. When students were unable to answer teacher questions, teachers infrequently directed students back to the text or encouraged students to draw on taught strategies to reconcile misunderstandings. Instead, we commonly documented teachers taking over responsibility for understanding the text by explaining the meaning of what was read. Findings indicated that teachers did not model or explain how to implement reading comprehension strategies (e.g., identify main ideas, ask and answer questions) during social studies instruction. Teachers occasionally prompted students to identify main ideas, summarize, and take notes to support their understanding; however, these prompts were typically brief and the references to the strategy were only nominal. All told, the reading comprehension instruction documented in this study did not align with the effective classroom practices for explicit comprehension instruction or structured and extended discussions identified as effective in previous research (Kamil et al., 2008).

The question that emerges is, why are elementary teachers infrequently implementing evidence-based practices for reading comprehension? In their study of secondary social studies instruction, Swanson et al. (2016) wondered if the limited use of comprehension strategy instruction may be due to a lack of pedagogical understanding among the secondary content-area teachers. Although limited pedagogical knowledge may be a factor, one might expect fourth grade teachers—most of whom are responsible for teaching reading/English language arts—to have greater pedagogical knowledge related to reading comprehension than secondary social studies teachers. Another possible explanation for the lack of comprehension strategy instruction may be that these teachers teach comprehension strategy instruction, but it occurs only during the reading/ELA instructional block. We did not code for instruction that occurred during the ELA instructional block, so it is possible these teachers taught comprehension strategy instruction at this time. However, if this is true, it still stands that teachers did not frequently reteach or ask students to apply the reading strategies taught during ELA during social studies instruction. As previously discussed, teachers were only recorded prompting students to use a readding comprehension strategy (e.g., main idea or summarization) in 5% of all lessons with comprehension instruction. Another possible explanation for the relative absence of strategy instruction is that the social studies curricula used did not offer guidance about how to support students' reading comprehension. Further research examining teachers' perception and decision-making and curriculum materials are required to better understand the factors influencing teacher behaviors.

Other content knowledge instruction

We also investigated other content knowledge instruction not focused on vocabulary development or reading comprehension. We found one in five lessons coded included social studies teaching without any vocabulary or reading comprehension instruction. Other content knowledge instruction most often included teachers lecturing using PowerPoints, showing an informational video or audiotape without text, or lecturing based on previously read text. Although these approaches may be an efficient method for developing students' content knowledge in the short term, they do not provide students the opportunity to practice acquiring information from texts, which is an important goal of elementary teachers and a primary method for developing content expertise in the secondary grades (e.g., Capin & Vaughn; 2017; Kamil et al., 2008). Given the reciprocal benefits of targeting reading comprehension and content knowledge, this instruction may represent a missed opportunity for elementary teachers aiming to meet reading and social studies standards.

It is also worth noting that descriptive analyses revealed there was a negative association between the proportion of time teachers spent providing content knowledge instruction (without vocabulary and reading comprehension instruction) and the total time spent providing social studies instruction. In other words, teachers who provided more content knowledge instruction spent less time teaching social studies overall. This may not be surprising given the content knowledge instruction recorded (teachers using PowerPoints or showing informational videos) represents a time-efficient way for teachers to impart social studies instruction, at least in the very short-term. However, given the concerns about the relegation of social studies instruction during elementary instruction (Banilower et al., 2013; VanFossen, 2005), it is worth considering the implications of not integrating vocabulary and comprehension instruction during social studies teaching on the amount of time students are able to engage in disciplinary learning.

Instructional groupings

Using a variety of instructional groupings aligned to teaching goals is an effective practice for all classrooms (Archer & Hughes, 2011; Kamil et al., 2008). In a general education setting, teachers can provide students additional opportunities to practice reading and understanding texts when they group students in pairs or small groups. Yet, the teachers in this study predominantly provided whole class instruction, dedicating only 12% of the class time to partner or small group groupings. The frequency of the whole class grouping format is reflective of the predominant approaches to teaching vocabulary (teacher-led explicit vocabulary teaching), comprehension (teacher reads aloud and asks question), and other content knowledge (teacher lectures using multimedia presentation).

Text reading

Given previous research suggests students have limited opportunities to practice reading expository texts in the elementary grades (e.g., Moss & Newton, 2002), we

were interested in the reading materials teachers used during social studies instruction and how these texts were read. To date, there is limited research examining the texts teachers use during upper elementary social studies instruction. Previous research suggests that over 75% of secondary teachers use history textbooks for reading materials (Swanson et al., 2016). In this regard, our findings resemble those from secondary studies. Nearly all instructional texts used during instruction were expository texts from social studies textbooks. In contrast to secondary social studies (Swanson et al., 2016) and science (Wexler et al., 2017) showing students were rarely engaged in multiparagraph text reading, we considered it encouraging that text reading occurred in nearly 70% of all lessons recorded and students had access to connected, multiple paragraph texts covering complex topics. However, we found teachers read aloud two-thirds of the time that text reading occurred though students had access to the text sources. When students did read, teachers employed a round robin approach in which one student read aloud at a time. These findings suggest that although teachers used multiple paragraph, informational texts often during class, they did not use these texts in ways that would optimally benefit students who need to improve their ability to read for understanding. For instance, assigning students to read social studies texts and practice using taught comprehension strategies in partners or small groups is an alternative approach that would provide students greater opportunity to develop reading comprehension proficiency (Kamil et al., 2008).

Features of effective instruction

Consistent with prior observation studies (e.g., Ciullo et al., 2016; Wexler et al., 2017), we investigated the degree to which teachers implemented features of effective instruction, including explicit instruction featuring modeling, guided practice, and independent practice (Archer & Hughes, 2011), high-quality feedback (Hattie & Timperley, 2007), graphic organizers (Dexter & Hughes, 2011), among others. The most common features of effective instruction documented included promoting active engagement (45%), asking a range of questions (17%), and providing high-quality feedback (16%). However, overall, fourth-grade teachers very seldom implemented features of effective instruction, particularly using explicit instructional routines, scaffolding instruction, and providing sufficient practice opportunities. These findings extend previous research conducted with other populations of teachers. For instance, studies with interventionists and special education teachers providing supplemental interventions (Ciullo et al., 2016; Klingner et al., 2010; Swanson, 2008) and secondary content-area teachers (Swanson et al., 2016; Wexler et al., 2017) providing general education instruction indicate these teachers also rarely use explicit instructional techniques during comprehension instruction. Considering the substantial evidence identifying these features of effective instruction as associated with improved student learning, it is concerning we rarely documented teachers using them. The results from this study suggest there is a clear need for professional development to enhance teachers' use of evidence-based features of effective instruction.

Limitations

The present findings should be interpreted in light of limitations. First, we were unable to include information pertaining to teacher ethnicity. The larger RCT from which we collected our data did not obtain this demographic information and we were unable to obtain it. We acknowledge the inclusion of this information would provide a more detailed description of teacher participants. Two limitations of the current study relate to the number of lessons coded (3) and number of teachers in the present study (33). Although previous studies have often chosen to conduct three observations over time to estimate the prevalence and quality of instruction (e.g., Ciullo et al., 2016; Klingner et al., 2010; Schumm et al., 2000; Swanson & Vaughn, 2010; Swanson et al., 2012) and the number of teachers in the current study compares favorably in terms of the number of teachers and total observations to other reading observation studies conducted over the past two decades (Magiera & Zigmond, 2005; Moody, Vaughn, Hughes, & Fischer, 2000; Schumm et al., 2000; Swanson & Vaughn, 2010; Swanson et al., 2012; Wexler et al., 2017; see Klingner et al., 2010 and Swanson et al., 2016 for counter-examples), it is possible that coding additional audiotapes for this set of teachers or expanding the sample of teachers may have yielded different findings. This work was also limited by a lack of corroborating evidence to support the observational data. Interviews with teachers, examination of lesson plans, curricula, and texts would have strengthened the internal validity of the present findings. Another concern in conducting observational work is observer effects. We attempted to mitigate observer effects by audio recording all instruction that occurred over 3 weeks and then randomly sampling audio recordings for coding. Another limitation of this study relates to its scope. Given the limited number of teachers (33) within schools (12) and schools within districts (4), we were unable to reliably estimate associations between teacher instruction and other teacher related factors Given these limitations, it is clear the present study holds important implications for practice and research to the extent that these findings generalize beyond the present sample of 33 fourth-grade general education teachers from 12 schools and four school districts. Perhaps one reason to be optimistic about the external validity of the present findings is that the findings are generally consistent with previous research indicating that teachers do not consistently incorporate vocabulary and comprehension instruction within content-area teaching and when they do the quality of instruction is not typically high (Swanson et al., 2016; Wexler et al., 2017).

Implications for research and practice

In 2002, the influential RAND Reading Study Group report stated, “Reading instruction is seldom effectively integrated with content-area instruction” (p.29). The findings of this study coupled with observation studies conducted with students in the secondary grades in social studies (Swanson et al., 2016) and science (Wexler et al., 2017) suggest that this statement remains largely true nearly two

decades later. Our findings indicate that fourth grade teachers frequently integrate vocabulary and comprehension instruction during social studies teaching, which represents a positive shift from previous research (e.g., Fitchett, Heafner, & Lambert, 2010). However, our results also indicate that the reading comprehension practices teachers incorporate and their methods for instructional delivery (e.g., explicit instructional routines) are rarely those identified as evidence based. These findings provide ample space for future research and improved practice. We recommend four lines of further research: (a) additional observation studies to determine whether the present findings replicate and generalize to other elementary grade levels and content areas; (b) survey and interview research with teachers to corroborate and elaborate on observational work and better understand the barriers to improved content-area instruction in the elementary grades; (c) examination of other sources data such as examination of teacher lesson plans, curricula, or text to confirm findings, (d) research that examines teacher-, school-, district-, and state-level predictors of teachers' implementation of content-area literacy practices; and (e) intervention studies that examine the effects of professional development and/or instructional materials on teachers' uptake of evidence-based practices during content instruction and student learning.

We recommend future pre- and in-service teacher development efforts seek to develop teachers' knowledge of the specific approaches for improving vocabulary and comprehension within social studies instruction, as well as the more general features of effective instruction that will benefit students. We recognize there are challenges to improving social studies reading instruction. Recent survey data with general education pre-service teachers suggests these teachers receive limited training on how to teach social studies or merge reading and social studies instruction (Hawkman, Castro, Bennett, & Barrow, 2015). Moreover, other qualitative research suggests that the role of social studies and content-area reading instruction may be marginalized due to the adoption of new certification tests for pre-service teachers that further emphasize reading and math pedagogy (e.g., Boyle-Baise et al., 2008; Fitchett et al., 2010). Given these challenges, we encourage teacher development efforts focus on a few key practices for content-area reading instruction that are frequently identified as evidence-based: (1) building background knowledge (Simmons et al., 2010; Vaughn et al., 2011), (2) teaching key academic vocabulary using graphic organizers (Beck et al., 2013; Simmons et al., 2010), (3) developing students' use of reading comprehension strategies (e.g., asking and answering questions, summarizing; Stevens, Park, & Vaughn, 2019; Vaughn et al., 2011), and (4) providing multiple and extensive opportunities for students to read and discuss content-area texts in peer groups (Swanson, Stevens, & Wexler, 2019; Vaughn et al., 2011). We also encourage teacher development practices to focus on a few critical features of effective instruction associated with improved outcomes. Supporting active engagement through frequent opportunities to respond and practice, providing specific and immediate feedback, and using an explicit instructional sequence that features modeling and slowly releases responsibility to students may be particularly important as teachers support students in understanding complex texts during content-area instruction.

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Compliance with ethical standards

Conflict of interest We have no known conflict of interest to disclose.

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