Text Dependent Analysis: 2015-2016 Research Report

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Introduction

Text dependent analysis (TDA) is a college and career ready item on the Pennsylvania System of School Assessment (PSSA) which is administered to students in grades 4-8. This item is aligned to the standard that expects students to write in response to text, and specifically asks students to "draw evidence from literary or informational texts to support analysis, reflection, and research." Text dependent analysis requires students to read a literary or informational text and then use effective communication skills to write an essay in response to a complex prompt, response making inferences about the author's meaning by drawing evidence from the text, both explicit and implicit, to support an overall analysis of the reading elements. Text dependent analysis prompts clearly move beyond the general reading comprehension expectations associated with the open-ended items previously found on the PSSA in these grades. TDA prompts ask students specific questions about the interaction of reading elements, such as how the *theme* is revealed through the *characters* thoughts, actions, and words. These prompts require much more than simply locating text evidence to support a response to a question. They necessitate an understanding of the author's presence in the text as it relates to the specified reading elements. The reading comprehension expectations are reflected in the content standards and assessment anchors and eligible content associated with each grade level. For example, the specific content expectations for grade 6 are provided in Table 1 below.

Table 1. Content Expectations for Text Dependent Analysis

CC.1.4.6.S Draw evidence from literary or informational texts to support analysis, reflection, and research, applying **grade-level reading standards** for literature and literary nonfiction.	
Grade 6 Eligible Content	**Literature Text**
E06.A-K.1.1.1	Cite textual evidence to support analysis of what the text says explicitly as well as inferences and/or generalizations drawn from the text.
E06.A-K.1.1.2	Determine a theme or central idea of a text and how it is conveyed through relevant details; provide a summary of the text distinct from personal opinions or judgments.
E06. A-K.1.1.3	Describe how the plot of a particular story, drama, or poem unfolds, as well as how the characters respond or change as the plot moves toward a resolution.
E06. A-C.2.1.1	Determine an author's purpose in a text and explain how it is conveyed in the text; explain how an author develops the point of view of the narrator or speaker in a text; describe the effectiveness of the point of view used by the author.
E06. A-C.2.1.2	Analyze how a particular sentence, chapter, scene, or stanza fits into the overall structure of a text and contributes to the development of the theme, setting, or plot.
E06. A-C.2.1.3	Determine how the author uses the meaning of words or phrases, including figurative and connotative meanings, in a text; analyze the impact of a specific word choice on meaning and tone.

E06. A-C.3.1.1	Compare and contrast texts in different forms or genres (e.g., stories, dramas, poems, historical novels, fantasy stories) in terms of their approaches to similar themes and topics.
Grade 6 Eligible Content	**Informational Text**
E06.B-K.1.1.1	Cite textual evidence to support analysis of what the text says explicitly as well as inferences and/or generalizations drawn from the text.
E06.B-K.1.1.2	Determine a central idea of a text and how it is conveyed through relevant details; provide a summary of the text distinct from personal opinions or judgments.
E06.B-K.1.1.3	Analyze in detail how a key individual, event, or idea is introduced, illustrated, or elaborated in a text (e.g., through examples, anecdotes, or sequence of steps).
E06.B-C.2.1.1	Determine an author's point of view or purpose in a text and explain how it is conveyed in the text.
E06.B-C.2.1.2	Analyze how a particular sentence, paragraph, chapter, section, or text feature fits into the overall structure of a text and contributes to the development of the ideas.
E06.B-C.2.1.3	Determine how the author uses the meaning of words or phrases, including figurative, connotative, or technical meanings, in a text.
E06.B-C.3.1.1	Trace and evaluate the argument and specific claims in a text, distinguishing claims that are supported by reasons and evidence from claims that are not (e.g., fact/opinion, bias).
E06.B-C.3.1.2	Compare and contrast one author's presentation of events with that of another (e.g., a memoir written by and a biography on the same person).

Text Dependent Analysis Research Explorations

In order to understand the text dependent analysis construct and its implications on instruction, the Center for Assessment and the Pennsylvania Department of Education (PDE) began an initiative to study this construct. During the 2011-12 school year, a proof of concept study was developed to determine whether responding to a text dependent analysis (TDA) prompt draws solely on reading comprehension and writing skills, or if it is a new construct that combines those two skills with a third analytic skill. Analysis is defined as "a detailed examination of the elements or structure of text, by breaking it into its component parts to uncover interrelationships in order to draw a conclusion." This study convened fifth grade teachers whose students had responded to a TDA prompt. Three rubrics were developed: one for reading comprehension, one for essay writing ability, and one for analysis. The teachers were divided into three groups and assigned one of the three rubrics to use for scoring student responses. Each group scored student work based on the descriptors found in the rubric assigned to them. The scores were then analyzed to determine if there was a relationship between these three skills. The results showed a strong relationship between analysis and reading comprehension scores, but only a moderate relationship between analysis and writing scores. At the time, however, it could not be

determined whether these results were an artifact of the scoring rubrics developed to support the study or something unique to the TDA construct.

The study of the TDA construct continued in 2013-2014 to explore 1) how the key knowledge and skills underlying student performance on a TDA prompt (reading comprehension, essay writing, and analysis) interact and 2) to evaluate the impact of TDA professional development for teachers on student performance and teacher understanding of instruction of the TDA skills. Specifically examined were the following questions:

1) How are the skills underlying high quality TDA performance (reading comprehension, essay writing, and analysis) related to one another?
2) Do teachers benefit from targeted training on the development and instruction of student writing to TDA prompts?
3) Do students of teachers who participated in TDA training perform better on these types of items than their peers, as reflected in their performance on TDA field-test items administered in 2013-14?
4) Do students of teachers who participated in TDA training perform better on the PSSA reading test (overall and looking specifically at reading comprehension items) than their peers, as reflected in their performance on 2013-14 PSSA?

For this exploratory study, the PSSA scoring rubric for TDAs was used in combination with educator judgements to determine which skills were represented in students' TDA responses. Results suggested that the skills underlying TDA performance can be uniquely distinguished and evaluated, and that evidence of analysis was not consistently exhibited in student TDA responses in the absence of evidence of reading comprehension. While this research did not result in significant, short-term improvements in student performance (i.e., as evidenced by differential performance on the PSSA reading assessment or TDA field-test prompt for those students associated with teachers participating in the study), face-to-face and survey feedback indicated that participation served to significantly improve teacher understanding of the TDA construct and student expectations for TDA performance.

Purpose

During the 2015-16 school year, the Center for Assessment worked with the PDE to better understand of the impact of professional development on teacher instruction of and student performance on TDA. This exploratory study evaluated how the type and amount of TDA professional development provided to teachers influenced the instructional strategies used by teachers in the classroom (close reading strategies employed, scaffolded essay writing, instruction of scoring guidelines, etc.), and gains in student performance in response to the PSSA TDA item.

Specific research questions included the following:

1) Do the participating teachers feel that the professional development was useful for deepening their knowledge about TDAs?
2) How does the quality of the lessons compare across the groups of professional development?

3) Are teachers who received professional development more accurate at scoring student work?
4) Are there differences across groups in the improvement of PSSA scores from 2015-2016?
5) What are the teachers' perceptions of the professional development in terms of the impact on their instruction?

Participants

In order to make inferences regarding the impact of professional development, three groups of teachers in grades 4, 6, and 8 were included in this study. The researchers and PDE believed that the differences in instruction and student responses would be most significant between these grades with only nuanced differences between two consecutive grades (e.g., grade 4 and grade 5).

Group 1: The eight (8) teachers included in this group were selected from those teachers who previously received professional development on the TDA item type from the Center for Assessment and PDE during the previous 2013-14 exploratory study. This group included two teachers of grade 4, three teachers of grade 6, and three teachers of grade 8. The teachers provided for a range of experience (i.e., in terms of years teaching and population served), and represented 7 districts and 8 schools from across the state, and were reported by the State as representing urban, rural, and suburban school districts. All participants were white women.

Group 2: This group of ten (10) teachers included educators who had received some TDA professional development in their districts by the Center for Assessment during the previous year. This group included four teachers of grade 4 (two of which were co-teaching the same students), three teachers of grade 6, and four teachers of grade 8. Similar to group 2, the teachers provided a range of experience. Five schools in 3 school districts, one urban, one rural, and one suburban, as reported by the State, were represented. Seven of the participants were white women, one participant was an African American woman, and two were white men.

Group 3: Teachers in this group had not received any formal professional development from the Center for Assessment or PDE prior to their involvement in this study. Any knowledge of this assessment type was through district training or the teacher's own reading and understanding. A total of nine (9) teachers were included in this study, four teachers of grade 4, two teachers of grade 6, and three teachers of grade 8. Six schools in 3 school districts--one urban and two suburban, as reported by the State--were represented. Four of the participants were white women, two were African American women, and three were white men.

Meetings

Participants in groups 1 and 2 were asked to attend three different meetings throughout the study to engage in professional learning related to the skills and elements associated with TDA. The teachers in group 3 were not involved in any formal component of the professional development research activity. All participants from each group were asked to administer a formal TDA prompt to their students, to score the student work, and to submit samples of student work to the researchers for back-scoring and comparison of student results. All participants were asked to

allow the researchers to observe two class lessons that focused on a teacher-selected aspect of TDA instruction during the instructional year, and all were asked to participate in a focus group interview toward the end of the study. An overview of the goals for each of these meetings, and the dates they were held, is provided below.

Group 1
Group 1 teachers met three times during the school year with each meeting extending for two full days. The overarching goals of these three meeting were to:
- Deepen their understanding of TDA reading and writing components,
- Deepen their understanding of the impact of text complexity on student responses to a TDA prompt and to make revisions to text selections and prompts for use during the study,
- Develop DRAFT Learning Progression which encompassed the underlying components of the TDA construct,
- Analyze student work to inform the development of the DRAFT Learning Progression
- Calibrate the scoring of student work,
- Deepen their understanding of close reading and the development of instructional TDA prompts.

This group met on October 8-9, 2015, January 19-20, 2016, and on March 8-9, 2016; all meetings were held in Harrisburg, Pennsylvania and no participants were able to commute to these meetings on a daily basis.

During the previous (2013-14) TDA study, each of the grade-level groups was provided with three texts that were selected by PDE, Center for Assessment, and Data Recognition Corporation (DRC) – the Pennsylvania state assessment contractor. Teachers drafted TDA prompts for these texts, which were reviewed to ensure they reflected the type and range of skills expected from a TDA prompt at that grade. The prompts sought to evaluate the underlying components of a TDA as reflected by student responses. When necessary, edits and modifications were made. Once finalized, the prompts were sent to the teachers to administer to all of the students in their classes. These prompts were referred to as Research Prompt #1, Research Prompt #2, and Research Prompt #3. Although the texts and prompts were vetted by the researchers, PDE, and DRC, each prompt focused on different aspects of the eligible content and grade level curriculum and were not considered to be comparable in difficulty or complexity. For example, the first prompt for grade 8 asked students to analyze how the author's use of dialogue reveals aspects of a character in a literary text, the second prompt asked students to analyze the way the author changes the tone throughout a literary text, and the third prompt asked students to analyze the author's techniques (e.g., figurative language, flashbacks, imagery) to reveal a character's motivation.

Since these teachers had administered the research prompts to their students during the previous study, they were able to reflect on the quality of responses from students in order to make recommended changes. As part of this study, teachers were asked to review the passages for appropriate qualitative text complexity and if necessary, locate a more appropriate passage. Additionally, teachers were asked to develop a TDA prompt for any new text selections, reexamine, and revise when necessary the previously developed prompts, while considering the

time of year the prompts were administered and their prior analyses of student work. The new and revised prompts were again reviewed and vetted by the Center for Assessment, PDE, and DRC. These finalized prompts were used as the formal prompts to be administered by all three groups.

As part of this professional development, the teachers engaged in understanding how the implementation of close reading instruction could aide students in demonstrating the underlying components and necessary skills associated with TDAs. Since one focus of this research was to analyze the quality of TDA instruction and how it impacts student achievement, teachers collaborated on the selection of an instructional text, the development of a TDA prompt associated with the text, and the development of close reading instructional TDA lessons leading to a modeled response to the TDA prompt. The intent of these instructional TDA lessons was to mirror the expectations found in the formal prompts. For example, when the formal prompt expected students to analyze the reading elements of dialogue and a character change, teachers selected a text and developed a lesson that instructed students on these same two elements. Throughout the year-long professional development, grade-level teachers developed three instructional prompts with associated close reading lessons.

After the first meeting, all teachers were observed in their classroom between October 20th and December 15th. These TDA lessons ranged between 45 minutes to 65 minutes. After the observation, but before the second meeting, the newly developed/revised formal research TDA prompts were administered to the students in each of the teacher's class. A similar procedure was repeated for the second observation; however, not all observations were able to occur prior to the administration of the second formal research TDA prompt. However, all observations were completed prior to the administration of the third formal research TDA prompt. Using the analysis of student responses to the formal TDA prompts, teachers began to draft grade-level learning progressions which focused on the different skills associated with the underlying components of a TDA (reading comprehension, analysis, and essay writing). Information about the vetting and use of these learning progressions can be found in the Discussion section of this report.

All student work was scored by the classroom teacher and recorded on a provided spreadsheet. These scores were submitted to the researcher after each administration. All student work was back-scored by the Center for Assessment, PDE, and/or DRC.

Group 2
These teachers met three times during the school year with each meeting extending for two days. The overarching goals of these three meeting were to:
- Level set understanding of the underlying components of TDA questions (reading, analysis, and essay writing),
- Ensure understanding of the TDA scoring guidelines and to calibrate the scoring of student responses to TDA questions,
- Understand how to analyze text for quantitative and qualitative features of text complexity and the impact of text complexity on student responses to a TDA prompt,
- Consider close reading as an instructional strategy for teaching TDA to students and the development of instructional TDA prompts and lessons,

- Analyze student work in order to make instructional decisions which allow students to demonstrate the ability to respond to a TDA prompt.

Group 2 met on November 4-5, 2015, January 21-22, 2016, and on March 10-11, 2016. The first meeting was held in Hershey, Pennsylvania, and the subsequent meetings were held in Harrisburg, Pennsylvania. No participants were able to commute to these meetings on a daily basis.

A major component of the professional development for this group was to ensure that the teachers had a common understanding of the underlying components and the expectations of a TDA prompt, including appropriate grade-level reading elements that students would be expected to analyze in a TDA prompt (see Table 2 below). Although the participants in this group had received some professional development in their districts related to TDA by the researchers and PDE, the amount of training and discourse differed between districts.

Table 2. Grade Level Appropriate Reading Elements for Analysis in a TDA Prompt

Grade 4	Grade 6	Grade 8
- Theme - Characterization - Setting - Plot: pattern of events - Figurative language : similes, metaphors, idioms, adages, proverbs - Word choice and nuances - Main idea - Point of View - Genre structure of stories, myths, traditional literature - Text structure: chronology, comparison, cause/effect, problem/solution - Author's argument - Text Features: headings, graphics, charts, timelines, diagrams	- Theme - Central idea - Plot - Characters' response to plot - Setting - Author's purpose & how it is conveyed - Point of View - Genres structure: stories, dramas, poems, historical novels, fantasy, memoir, biography - Figurative language: simile, metaphor, personification, hyperbole - Central idea - Author's argument - Fact/opinion/bias - Word choice	- Theme - Central idea - Plot - Characters - Setting - Dialogue/incidents - Points of view - Suspense - Humor - Text structure: myths, traditional stories - Figurative language: - Figures of speech: verbal irony, puns - Tone - Analogies - Allusions - Pattern of events - Character types - Word choice

Similar to Group 1, these teachers focused on understanding how the implementation of close reading instruction could aide students in demonstrating the underlying components and necessary skills associated with TDAs. To ensure valid observations, these teachers also

collaborated on the selection of an instructional text, the development of a TDA prompt associated with the text, and the development of close reading instructional TDA lessons leading to a modeled response to the TDA prompt. These teachers were informed of the expectations found in the formal prompts so that they could develop lessons that focused on the same reading elements. Throughout the year-long professional development, grade-level teachers developed three instructional prompts with associated close reading lessons.

Also similar to Group 1, all teachers were observed in their classroom after meeting 1, but before the first formal research TDA prompt was administered to the students in their class. The TDA lessons ranged between 45 minutes to 65 minutes. After the observation, but before the second meeting, the formal research TDA prompts were administered and a similar procedure was repeated for the second observation, with observations occurring between the administration of the second formal research TDA prompt and the administration of the third formal research TDA prompt. The student responses to the formal TDA prompts were used for two purposes, which included calibrating the scoring of student work to ensure that the teachers had common grade-level expectations for students and to help teachers develop their instructional close reading lessons which focused on the different skills associated with the underlying components of a TDA (reading comprehension, analysis, and essay writing). All student work was scored by the classroom teacher and recorded on a provided spreadsheet. These scores were submitted to the researcher after each administration. All student work was back-scored by the Center for Assessment, PDE, and/or DRC.

During the second and third meetings for both Groups 1 and 2, general feedback was provided to the teachers based upon the researcher's classroom observations. The feedback included information about a) the knowledge and skills that should be modeled and taught to students in order for them to appropriately respond to a TDA prompt, and b) what happens to student performance if these knowledge and skills are not taught or coherently connected to the text. The lesson preparation and instructional elements that seemed to have the greatest impact on student engagement and understanding of the underlying components of a TDA included:

- *Knowing the text well* – impacted the teacher's ability to model writing a response and supporting students' choice of selecting evidence.
- *Completing the instructional TDA lesson plan and answering the prompt in advance*– impacted the teacher's ability to model writing a response and supporting students' choice of selecting evidence.
- *Teaching the specific reading elements that students are expected to analyze* – impacted supporting students' ability to accurately respond to the prompt and supporting students' choice of selecting evidence.
- *Providing students with accurate and explicit feedback* – impacted accurate comprehension, insight as to why students are correct or incorrect in their understanding, and supporting students' accurate selection text evidence.
- *Balancing modeling and student involvement* – impacted the regular engagement and focus of all students in the close reading and TDA lesson and the ability of students to make inferences and independently demonstrate analysis.
- *Understanding and using the elements of a focused close reading lesson* –supported students' understanding of the instructional pathway to analyzing the reading elements in the text and ability to answer a TDA prompt.

Group 3
The participants in this group did not engage in any formal professional development sessions. Teachers received the formal research TDA prompt at the same time as the participants in Groups 1 and 2 and were instructed when to administer the prompt, score the student work using the TDA Scoring Guidelines, and to send the student work and scores to the researchers.

Data

Both quantitative and qualitative data were collected throughout the study. The multiple measures of professional development effectiveness are used together to answer the set of research questions and provide a nuanced and complete picture of the impact of the professional development on participants' teaching and learning.

Survey Data
A survey was administered at the end of each of the first two professional development sessions for Groups 1 and 2. In addition to gathering information regarding teacher perceptions of the effectiveness of the professional development at increasing their knowledge relative to TDAs, the survey data were also used throughout the study to inform and improve the professional development. The formative evaluation questions included inquiries into the most and least effective activities and asked participants to identify lingering questions and persisting gaps in knowledge. The surveys were identical across the two research groups but were different for the first and second meetings. The two surveys are provided in Appendix D.

Classroom Observations
Every participating teacher across the three groups was scheduled to be observed teaching a TDA lesson in their own classrooms twice throughout the 2015-2016 school year. An observation protocol was developed and calibrated by the Center for Assessment and used to capture relevant aspects of the observed lessons. This protocol can be found in Appendix E. The first lesson observation for each teacher was completed jointly by both Drs. Jeri Thompson and Susan Lyons, while the second observations were generally completed by a single researcher. Once all lesson observations were complete, performance level descriptors for describing three levels of lesson quality (i.e., strong, moderate, and weak) were developed. The final performance level descriptors are provided in Appendix F. The strength of each lesson was rated on this three-point scale by consensus using the completed observations protocols and the performance level descriptors.

Independent Classroom TDA Prompts
Every teacher across the three groups was asked to administer three TDA prompts in their classrooms throughout the year. The prompts were to be administered after instruction of TDAs and to be completed independently by the students as a formal assessment. Though the prompts varied by grade level, the prompts, associated texts, and the order of the prompts were standardized across all three groups of teachers. The teachers were asked to score their students' responses and submit the scores along with a sample of the student work. The student work was then back-scored by the Center for Assessment, PDE, and/or DRC. The teacher scores and the back-scores could then be reconciled to gain insight into the accuracy of teacher scoring.

2015 and 2016 PSSA Scores

Data from the Pennsylvania state assessments in 2015 and 2016 were collected for the students of the participating teachers in order to evaluate any differences in student performance across the three groups.

Focus Groups

At the conclusion of the study, a series of focus groups were conducted by the Center for Assessment to gain insight into the impact of the TDA professional development, resulting changes in their instruction or barriers to implementation, and potential next steps for the participating teachers. While the questions for Groups 1 and 2 were the same, the questions for Group 3 were different in nature due to the fact that they had not received any formal professional development through this study. The focus group for Group 3 instead centered on understanding the teachers' level of knowledge regarding TDA, what resources the teachers relied on to teach TDA, and what additional supports would be useful for these teachers in the future. The semi-structured protocols for the focus groups are contained in Appendix G.

Analysis and Results

The data analyses and results are presented below and organized by research question.

Research Question 1

Do the participating teachers feel that the professional development was useful for deepening their knowledge about TDAs?

Figure 1 shows the distribution of responses to the first post-meeting survey for Groups 1 and 2. The data are from the first three questions from the survey that asked participants to rate their level of agreement with the following three statements:

- Q1.   This workshop deepened by knowledge about what analysis is and how to recognize it.
- Q2.   I have new ideas about how to teach the elements of TDAs to my students after participating in this workshop.
- Q3.   After participating in this workshop, I am better equipped to help explain the elements of TDAs to my colleagues.
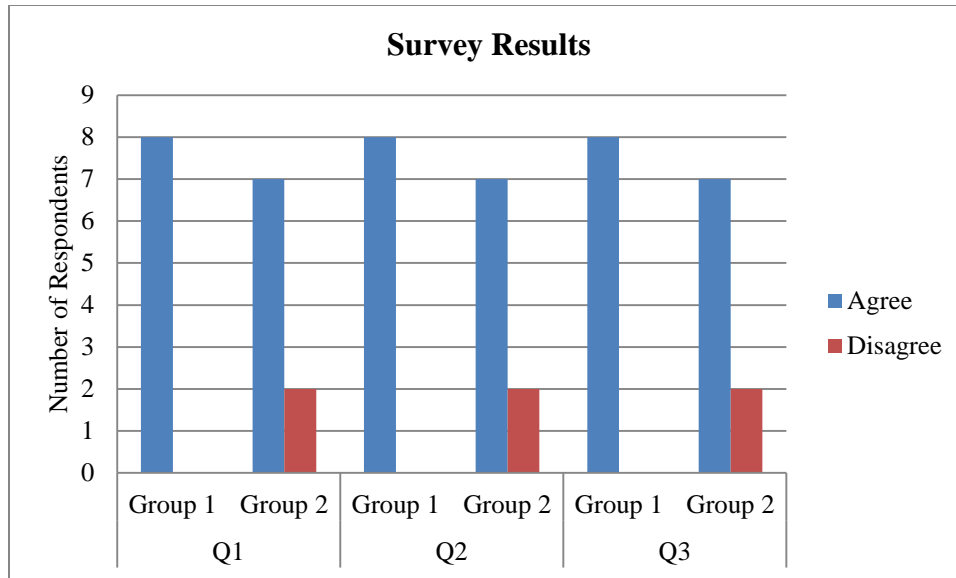
Figure 1. Survey Responses by Group

Teachers of both groups overwhelmingly agreed with the sentiment that the professional development deepened their knowledge of TDAs. All of the Group 1 teachers agreed with the three statements and the majority of those teachers indicated strong agreement. Of the Group 2 teachers, all but two of the teachers consistently agreed or strongly agreed with the statements.

Research Question 2
How does the quality of the lessons compare across the groups of professional development?

Figure 2 shows the average lesson quality by group, as rated on a 3-point scale during 48 lesson observations. Likely due to the small sample size of 26 teachers, differences in average lesson quality for teachers across the different groups is not statistically significant. However, this does not mean that the observed qualitative differences in the lessons observed are not meaningful.
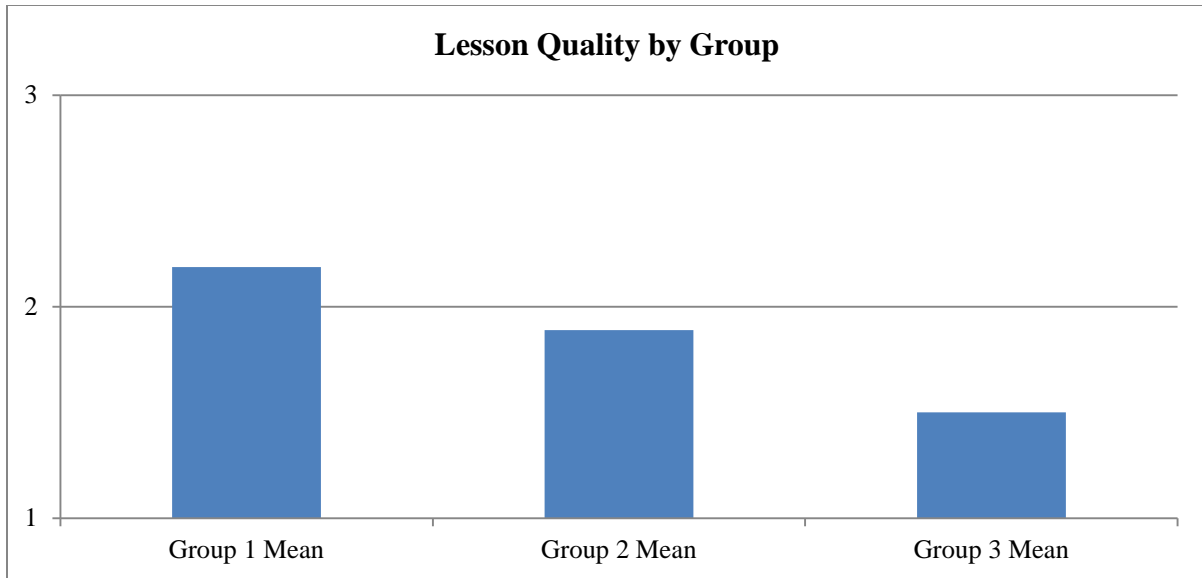
Figure 2. Average Lesson Quality by Group

While there is room for improvement in the lesson quality across all three groups, overall, lesson quality seems to improve with the degree of professional development received.

Research Question 3

Are teachers who received professional development more accurate at scoring student work?

A univariate analysis of variance was run to examine the variability in scoring accuracy across the three study groups. Results revealed that teachers in groups 1 and 2 are statistically significantly more accurate at scoring TDA's than teachers in Group 3. Teachers in Groups 1 and 2 had an average scoring difference from the expert scorer of about ½ point on a 4-point scale, while Group 3 had an average scoring difference of almost 1 point. The average scoring discrepancies for the three groups are provided in Table 3.

Table 3. Average Lesson Quality by Group

Group	Mean	N	Std. Deviation
1	.5751	131	.48754
2	.5179	168	.57215
3	.9496	129	.71553

The researchers subsequently conducted a repeated measures analysis of variance to examine differences in scoring accuracy across the three independent prompts for the three groups of teachers. Results revealed a statistically significant interaction effect between the study group and the prompt. The interaction effect is illustrated by Figure 3.
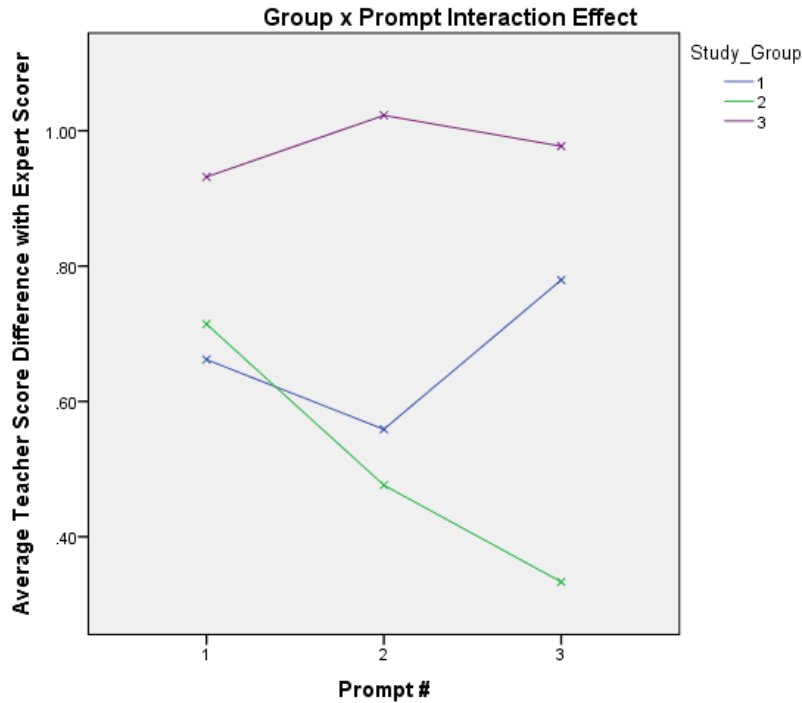
Figure 3. Average Score Discrepancies by Group and Prompt

While it is clear from Figure 3 that Group 3 has consistently higher score discrepancies than the other two groups, the interaction effect seems to be driven by the differences in scoring accuracy between Groups 1 and 2 for prompt 3. A closer look at the scoring of prompt 3 for Group 1 reveals that this mean is drawn upwards by a positive skew. There were 46 scores that had a discrepancy of 0, 46 scores with a discrepancy of 1, and only 11 scores with a discrepancy of 2. Those scores with a discrepancy of 2 were driven by only two of the Group 1 teachers. This suggests that while, overall, Groups 1 and 2 scored significantly more accurately than Group 3, for this last prompt, two of the Group 1 teachers struggled. This suggests that despite the increase in scoring accuracy due to the professional development, these two teachers may benefit from additional support.

Research Question 4
Are there differences across groups in the improvement of PSSA scores from 2015-2016?

To understand the effect of the professional development on student scores on the TDA section of the PSSA, the researchers fit a hierarchical linear model. Group differences in TDA scores on the 2016 PSSA were analyzed using dummy coded variables for Group1 and Group 2, with Group 3 as our control group. In order to control for prior achievement, the 2015 PSSA ELA scale scores were entered into the model as a covariate. ELA scores are an appropriate control variable since overall ELA scores and TDA scores for 2015 have a correlation of .682—which is slightly attenuated due to the ordinal nature and low variability in the TDA scores. TDA scores were not used directly as the control because the TDA item type does not begin until 4th grade, so not all students is our 2016 sample have prior TDA scores.

A hierarchical linear model was fit to avoid violating the independence of errors assumption of the general linear model due to the nested nature of students within classrooms. There were 358 students as the level-1 units and 19 teachers as the level-2 units. Only 19 teachers were used due to incomplete teacher and district submission of the student identifiers needed to access the state data. We had PSSA data for the students of seven Group 1 teachers, eight Group 2 teachers, and four Group 3 teachers. The model as specified is shown in Equations 1-3 below.

Level 1 Model:
$$PSSA\_TDA\_2016_{ij} = \beta_{0j} + \beta_{1j}*(PSSA\_ELA\_2015_{ij}) + r_{ij}$$
(1)

Level-2 Model:
$$\beta_{0j} = \gamma_{00} + \gamma_{01}*(GROUP1_i) + \gamma_{02}*(GROUP2_i) + u_{0i} \tag{2}$$
$$\beta_{1j} = \gamma_{10} \tag{3}$$

The final estimates of the fixed and random effects are shown in Table 4. The model converged after six iterations using restricted maximum likelihood estimation.

Table 4. Final Estimation of Fixed Effects and Variance Components

Fixed Effect	Coefficient	S.E.	t-ratio	d.f.	p-value
For Intercept, β_0					
Intercept, γ_{00}	-1.780	0.429	-4.154	16	<0.001
GROUP1, γ_{01}	0.278	0.263	1.054	16	0.307
GROUP2, γ_{02}	0.002	0.257	0.010	16	0.992
For PSSA_ELA slope, β_1					
Intercept, γ_{10}	0.003	0.0003	9.853	338	<0.001
Random Effect	**S.D.**	**Var Component**	**d.f.**	**$\chi 2$**	**p-value**
Intercept, u_0	0.401	0.161	16	161.125	<0.001
level-1, r	0.556	0.309			

The results reveal that there are not statistically significant differences by group in the scores on the 2016 PSSA TDA item, after controlling for prior achievement. The result is unsurprising given the small sample size, which limits the power to detect an effect. However, an examination of the unconditional[1] group means shows that there are differences in student performance on the PSSA TDA item across groups. Table 5 shows the average TDA performance on the 2016 PSSA for the three groups. Group 1 students performed, on average, about a third of a rubric point higher than students in Groups 2 and 3.

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[1] These means do not control for any differences in prior achievement.

Table 5. 2016 PSSA TDA Item Group Means

Group	Mean	N	Std. Deviation
1	2.25	118	.808
2	1.82	153	.762
3	1.96	94	.747

Research Question 5

What are the teachers' perceptions of the professional development in terms of the impact on their instruction?

The qualitative data resulting from the recorded focus group sessions for Groups 1 and 2 were transcribed and coded. A theme that emerged from both of the groups was that as a result of this professional development, teachers experienced a shift in their expectations for students regarding TDAs, and therefore, teachers made subsequent changes to their instructional approach. The qualitative findings regarding the impact of the professional development on instruction are presented for each group separately in the following sections.

Group 1
Group 1 teachers described a new recognition in the shift in expectations on the state test. As a result of this professional development, Group 1 teachers expressed a better understanding of what is expected from students on the TDA versus what had previously been expected on the more traditional open-ended response items. In turn, this has raised their own expectations of themselves and their students. In the beginning, some Group 1 teachers in the younger grade levels acknowledged that they didn't think their students would be able to demonstrate analysis, but by the end of the professional development, they reported having seen tremendous growth in this area. Sandra[2] remarked, "We really didn't know what a TDA was and I struggled with how do I get 6th graders to analyze something and it seemed like an undoable task and through our work we have all learned how to get students to analyze different types of texts." Group 1 teachers began seeing a shift in their students' work from summarizing text to an awareness of the author's purpose and presence. Deirdre reflected, "You have to slow down and remind yourself that it is not the amount of product but it is the depth of understanding. That is a sea change. There is no way to do this if you just zoom through, there is so much more that we need to do with that text." Sandra added, "I feel like there wasn't a lot of focus on what the author does, as we work through more TDAs you shift from what the text is about to why the author is making the choices he is making." Some teachers reported that given these shifts in their expectations, they saw the most growth from their lowest students.

Group 1 teachers expressed that they have become more meta-cognitive about their own teaching practice—more reflective about their instruction. Deirdre described an increase in her reflective practice and purposeful lesson planning, "I want to think about metacognition, about the underpinnings of my daily teaching. People in my district see me living a philosophy that has its

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[2] Pseudonyms are used throughout the qualitative analysis to protect the identities of the research participants.

roots here in these meetings where I am thinking deeply about what I do. I have a reason behind what I do."

<u>Group 2</u>
While Group 1 reported great depth of understanding, Group 2 is just beginning to deepen their understanding about TDAs and to realize the profound impact their instruction has on student learning. This kind of realization is a necessary precursor to becoming a reflective practitioner. Through learning about TDAs, the teachers were awakened to the fact that the thoughtfulness of their instruction impacts the depth at which students are able to learn and apply their new knowledge. Linda commented, "When we had to work through a TDA and think like a student, we realized how much students rely on our instruction." Esther added, "Having to dig deep and plan so much helps me understand—it is easier for me to teach when I understand it." Group 2 teachers also reflected on the new awareness that they can use student work to inform their instructional next steps. Jonathan remarked, "Looking at student work can lead to assessment driven instruction. Instruction should be based on what students can and cannot do."

The Group 2 teachers shared that they didn't think their students would be able to do the analysis, but the professional development raised their expectations and student work improved. Nakita reflected, "We initially thought that kids cannot do this, but when we changed our teaching and our thinking, our students changed." Peter echoed this idea, "I changed my whole teaching outlook due to the TDA study. I started off pessimistic about students ability to learn to analyze, but I now believe that a culture of change with regard to teaching and learning is eminently possible as well as broadly beneficial for student success."

Additional Qualitative Findings
The qualitative data did not only reveal changes in teacher instruction as a result of this professional development, but several other potent themes emerged as well. These themes are outlined in Table 6 and then discussed, by group, in the sections which follow.

Table 6. Qualitative Analysis Findings by Group

Group	Emergent Themes from Qualitative Analysis
1	• Effective Characteristics of the Professional Development • Deeper Understanding of all aspects of a TDA • Shifts in Expectations and Instruction (discussed in Research Question 5) • Challenges
2	• Effective Characteristics of the Professional Development • Basic Understanding of TDA and Improved ELA Content Knowledge • Shifts in Instruction—moving towards reflective practice—and Raising Expectations (discussed in Research Question 5)
3	• Low-level Understanding and Misunderstanding of TDA • Low Expectations for Students and Frustrations with Difficulty of Standards • In-Need of High-Quality Resources and Support

Group 1
Effective Characteristics of the Professional Development
Group 1 teachers appreciated the active nature of the professional development and the ability to collaborate across districts and grade levels. Jill noticed, "The difference is the active participation. We are writing responses to prompts, we are creating lesson plans. Everyone wants to be here, learn, and participate." Bonnie contributed, "Working across grade levels has been tremendous. When we shared papers across the grade levels, that was a huge help." The sustained nature of the work led to deep levels of respect among the Group 1 participants and also a feeling of accountability to implement the TDA lessons and prompts in their own classrooms in order to bring back student work. The work was inherently practical for the participants; they felt they were working on lesson plans that would be immediately relevant to their teaching.

Deeper Understanding of all aspects of a TDA
When Group 1 teachers speak with colleagues in their districts they realize how much deeper their understanding of TDAs is than those who have not received this professional development. These aspects of deeper understanding include: text selection, close reading, writing of the prompt, a focus on the two reading elements, and scoring of student work. Lily remarked, "It is really about looking at student work." Jill added, "The greatest clarity this year was looking at the two reading elements and trying to figure out what we want to focus on so that students are prepared to connect and explain their analysis."

Challenges
One of the major challenges articulated by Group 1 teachers was the rampant misinformation and misunderstandings about TDAs from other professional development organizations around the state and online (e.g., Pinterest). Deirdre noted, "There is a lot of misinformation that I am fighting against." Group 1 teachers expressed concern that what is readily available may actually be doing more harm than good. The teachers shared frustration with the lack of high quality resources available to teachers on this topic, and explained that it may partly have to do with TDA being considered a writing standard in the PA Core Standards, while in actuality, is a reading and writing test item on the ELA assessment of the PSSA.

Group 1 teachers expressed challenges with the district curricula, resources, and scope and sequence. District administrators in general were behind in their knowledge about TDAs, including what they are and what they involve for students. Deirdre explained, "We are years ahead of many of our colleagues and sometimes I forget that…. It is a matter of managing expectations at the administrative level and among other teachers. We need to scaffold this for teachers as well as for students and administration." Additionally, Group 1 teachers noted some structural barriers that inhibit teaching of TDA, such as the separation of reading and writing periods.

Group 2
Effective Characteristics of the Professional Development
The Group 2 teachers articulated that this professional development was particularly effective due to the multiple meeting sessions. Not only was the professional development relevant practice, but there were follow-up meetings to see the impact of the learning on practice. The

Group 2 teachers also acknowledged the benefit of the cognitive dissonance they experienced associated with thinking critically about their own teaching practice. Nakita recalled, "The meetings required study participants to use our brains to make use of the tools we were given. The sustained collaboration and trust amongst the participants kept me coming back." Jonathan noted, "Changing your thinking doesn't happen without a struggle, professional development should make you struggle. If you are not struggling, you're not developing."

Basic Understanding of TDA and Improved ELA Content Knowledge
Group 2 teachers now have a basic understanding of what a TDA is. Grace reflected, "Initially, I didn't even understand what analysis meant—I thought it was just explanation, now I understand it is the connection of two reading elements." The Group 2 teachers now understand TDAs are not a lesson you can come in and do one day, you have to plan a complex series of lessons throughout the year to prepare students. Linda reported, "I now understand that you have to be very proactive and plan things out in order to teach the concepts underlying TDAs." Joan added, "It is no longer one and done, you have to introduce those elements with multiple exposures." Jade supported this idea, "It is about instructional practices all year, I am rethinking my entire practice and the resources I am using and why." It integrates many of the elements of the ELA curriculum and requires a deep understanding on the teacher's part before it can be effectively taught to the students. Coming in, some Group 2 teachers did not clearly understand what a TDA was, but the knowledge they gained was revealing and eye-opening.

Group 2 teachers also reported a changed and improved relationship with the content and standards. Rather than relying on their curricular resources, they now use the depth and complexity of the standards to develop their own instructional pathways and materials. Jonathan explained, "The standards lead us to complexity. If we go by a prescribed curriculum, we miss the content and the deeper understanding." Joan added, "I don't hate common core because I think it promotes thinking."

Group 3
Low-level Understanding and Misunderstanding of TDA
For Group 3 teachers, there is a surface level understanding that TDAs involve reading comprehension and analysis, but writing seems to be the major focus for their understanding. Some teachers reported that their districts had not focused on TDAs and they didn't know what they were until they were asked to be part of this study. Natalie said, "When I was asked to be part of this study, I had known about the TDA questions, but we really hadn't done much with them the year before. This year when I was asked to be part of the study, I just literally googled Text Dependent Analysis. I kind of got the gist of what they were looking for and how it would fit with an elementary school student's capability and I just kind of worked from there." Some Group 3 teachers remarked that participating in this study was helpful because they received three TDA prompts. This helped them understand how TDA prompts are worded and what they ask students to do. These teachers continually referred to TDAs as five-paragraph essays, which they are not. Group 3 teachers seem to be focusing on the writing aspect of the TDAs at the expense of the reading content. Kendall explained, "The kids were lacking in writing. For them to respond to the prompt, where do you even begin? You have to get them to write, write, write." The Group 3 teachers understand TDAs require analysis, but they are unclear in explaining what that means or what it looks like in student work. When asked to discuss analysis and how to

recognize it in their students' writing, the teachers were unable to coherently respond. Additionally, Group 3 teachers didn't really understand how to use the rubric or score student work. Julia remarked, "We found the rubric a little difficult to use… the second TDA we did was really tough, we don't even know what they were looking for. I did not focus on the rubric with the students at all; I wasn't going to harp on that yet. They saw it but we didn't do a whole lot with it."

Low Expectations for Students and Frustrations with Difficulty of Standards
Among Group 3 teachers, there is a lack of clarity about the expectations of the standards and consequently there is a belief that they are not age appropriate for the students. The teachers thought the TDA standard was too difficult for third and fourth graders. Julia expressed this sentiment, "The teachers are frustrated and saying [their students] are not developmentally ready for it. The tasks are inappropriate and they are feeling the frustration." Even in eighth grade, the Group 3 teachers did not see progress with their students and felt that this was out of their control. Kathy explained, "I was frustrated with the kids that continued to score 1 and 2. The same two students through the year didn't grow. They have a bad attitude about writing." These teachers questioned students' ability to understand the prompts, find text evidence, and write and analysis. Kendall remarked, "TDAs are time consuming, and for our population, that is hard for them. Having them returning to the text is hard for them. You have to use the text for your evidence. That was tricky for them to go back to the text to see."

In-Need of High-Quality Resources and Support
The Group 3 teachers do not feel that they have received clear, coherent professional development that explains what instruction is needed for responding to a TDA and what is expected in a response. Kathy confided, "I felt in the dark, how can we help teachers select texts that are TDA worthy? How do I create the TDA from selecting the text to writing the prompt?" Group 3 teachers are unclear about what instructional practices they should be using to teach a TDA. Kendall said, "I really did all of this on my own, it would be nice to have professional development on how it is supposed to be done, on how to really teach the kids how to do this, from the beginning to the end." Some Group 3 teachers compensated by using internet resources, which they lamented didn't provide much help. Sam remarked, "It's hard to find good stuff out there, there is a lot of stuff, but there is just not good stuff. Some things are so basic, there is quantity but not quality." These teachers reported that they would find student example responses especially helpful. Natalie added, "I want to know what an analysis sounds like in fourth grade writing, how am I supposed to be getting them to think about this text? Do certain pieces at the fourth grade level lend themselves to deeper analysis than others? I need to see a prompt and an example of how a fourth grader would analyze it. I am not sure how deep is deep enough." This feeling was echoed by the Group 3 teachers of the other grade levels as well.

Limitations

While teachers across groups exhibited statistically significant differences in the accuracy of their scoring and qualitatively revealed promising differences among the teacher groups, there was limited statistical power to show quantitative differences in lesson quality and student performance on the PSSA by research group. Three main limitations to the study design could have contributed to this lack of statistical significance. First, the sample size of teachers is quite

small. The number of teachers participating in each group does not exceed ten. On top of this already limited pool of teachers, not all of the teachers submitted samples of student work to be back scored, nor student identification numbers so that performance on the PSSA could be tracked. Due to the small sample size and loss of student work, the power of the study to detect differential effects of the professional development across groups was limited. The second limitation that may have reduced the size of the effect across groups was the inability to control for outside professional development that the teachers in any of the groups may have been receiving. The teachers were asked about other professional development they had received during the focus group meetings, and teachers' experiences in this regard varied widely within each of the groups. Without being able to control for the amount and quality of other professional development experiences the teachers may have encountered, true differences across groups may have been reduced. The third limitation that may have contributed to a lack of statistical significance in our findings was the time limited nature of the professional development. Though the professional development was more extensive and deep than traditional, one-off workshops, it is certainly possible that teachers would benefit from even more in-depth and personalized instruction/coaching on TDAs. Given there was only a limited time with each of the groups (6 days), the effect size of the professional development may have been smaller than if more extensive work was planned for with the Group 1 and 2 teachers. However, despite the three clear limitations, differences across groups are still evident. The exploratory research described in this report provides promising evidence that high-quality professional development in TDAs is not only needed, but may be effective at improving teacher practice and student outcomes.

Discussion

In all, the exploratory research detailed in this report revealed that teachers believe that high-quality professional development on TDAs is useful for deepening their knowledge and impacting their instruction. The classroom observations of the three groups of teachers revealed meaningful qualitative differences in the quality of instruction, with those teachers receiving more in-depth professional development presenting a stronger command of TDA instruction in their classrooms. Similarly, teachers receiving the most in-depth professional development on TDAs were statistically significantly more accurate at scoring their students' work using the official PSSA TDA rubric than their peers who had not received professional development as part of this study. While the students of teachers who received professional development as part of this study did not perform statistically significantly better than their peers in the control group, the mean of Group 1 students is about a third of a point higher than the students in the other groups. Lastly, and possibly most importantly, the qualitative focus groups gave the researchers insight into how effectively the instruction on TDAs was absorbed by the teachers and integrated into their classrooms. Group 1 teachers expressed deep knowledge of TDAs and started thinking beyond their own classrooms to discuss sharing their knowledge with their colleagues and administrators to more effectively move the system towards more effective instruction. Group 2 teachers expressed a sense of new purpose to their instruction and provided examples of how they have become more reflective practitioners. Perhaps most compelling were the results of the Group 3 focus group where teachers expressed a strong desire and need for access to high quality resources regarding TDAs. The following two sections provide insight into some of the

instructional and curricular implications for these findings and discuss the next steps to this work.

Instructional Implications

One of the primary goals of this exploratory research was to better understand how the quality of a TDA lesson is impacted by professional development. Although the participants in Groups 1 and 2 received some professional development, all participants expressed the need for high quality, on-going professional development related to the teaching of text-dependent analysis prompts and the analysis of student work to make appropriate instructional decisions throughout the year. The teachers who engaged in the professional development appeared to have a solid understanding of selecting complex texts and developing a TDA prompt. This enabled students to respond to a TDA where teachers are able to evaluate whether student responses focus on appropriate reading elements. However, there is a general lack of understanding of how to teach students to analyze and how to recognize analysis in student responses. Teachers expressed a desire to understand how to help students annotate text, use an organizer or set of organizers to plan responses to a TDA, and avoid formulaic responses to TDA prompts. Since reading anthologies that are purchased from various publishers and other literature do not include TDA prompts and close reading lessons leading to a TDA prompt, teachers are struggling with the instructional implications of this expectation in the standards. The *TDA Learning Progressions* described in the next section will be key resources for teachers as they work to incorporate the teaching of TDAs into their instructional plans.

Learning Progressions

Group 1 began the drafting of grade level TDA Learning Progressions focused on descriptors of underlying components of a TDA (reading comprehension, analysis, essay writing). The TDA learning progressions were being created for use as instructional tools that provide descriptions of student work at each performance level along a trajectory of learning from novice TDA writers to those who are exceeding expectations as defined by the PSSA scoring rubric. The learning progression could be used by both teachers and students to identify where writing samples fall on the learning continuum and more importantly, inform instructional decision-making that moves student writing to the next level.

In order to properly analyze student work relative to the TDA learning progressions, teachers and students must recognize that all TDA prompts are comprised of three parts (or aspects as they are referred to in the learning progressions) which are described below:

1. **The Focusing Statement:** This first sentence of the prompt is designed to draw the students in and give them a purpose for reading the text.

2. **The Task**: The second sentence of prompt directs students to write an essay analyzing the relationship between two reading elements which may be explicitly stated or implied. The following example of the task aspect of a TDA prompt highlights the two reading elements in bold.

> *Write an essay analyzing how the **author's use of dialogue** shows the change in the pizzeria owner's **character** throughout the story.*

The following example of the task part of a TDA prompt includes two reading elements, but the elements of **plot** and **character** are, to varying degrees, implied.

> *Write an essay analyzing how this quote demonstrates the change in Marisa's attitude toward her drawing.*

3. **The Evidence:** The third sentence of a prompt reminds students that they must use evidence from the text to support their analysis throughout their essays.

Several key aspects of these learning progressions were discussed throughout each of the three meetings. These aspects include whether the TDA learning progressions should be specified by grade level or grade span (e.g., grades 3-4, 5-6, 7-8), what criteria should be expected for each of the underlying components, the number of performance levels expected observed in student work, and how to label each of the levels. As teachers drafted the learning progressions they referred to student work to help develop the descriptors. At the end of the 2015-16 study, the teachers had identified five levels for the learning progressions (*Beginning, Emerging, Developing, Meeting,* and *Exceeding*). The decision to have five levels was partially based on what was seen in student work, but also on designing the learning progressions in such a way that would not be confused with the four levels of the TDA Scoring Guidelines. The criteria identified for each of the underlying components can be found in Table 7.

Table 7. Criteria for the Underlying Components of a TDA

Reading Comprehension	Analysis	Essay Writing
Focus on the Prompt	Textual Evidence	Organization
Basic Reading Understanding	Inferences	Word and Sentence Choice
	Explanation and Elaboration	Conventions of Spelling, Punctuation, and Grammar

After the third meeting, the researchers reviewed the learning progressions and student work and made revisions. The revised DRAFT TDA Learning Progressions will be vetted through the upcoming 2017-18 proof-of-concept study and further discussed in a subsequent report. In addition, once the TDA Learning Progressions are vetted through this upcoming study, the Center for Assessment will develop elementary and middle school level *TDA Learning Modules* that will be published for teacher use. These modules will include example close reading lesson plans, using appropriately complex text, leading to an instructional TDA prompt. The close reading lesson will include the teaching of the reading elements expected from the prompt, an analysis lesson, and the modeling of a response to the prompt. Annotated student work aligned to the TDA Learning Progressions will be included, along with recommendations for future lessons addressing students' strengths and needs as identified on the progressions. Additionally, the modules will include the rubric scores for each piece of student work along with a justification for the score.

Curricular Implications

In addition to the instructional implications, the researchers believe there are also curricular implications for districts to consider. Although this exploratory research included the development of instructional TDA prompts and close reading lessons leading students to a response to an independent prompt, many districts have purchased anthologies or have created a scope and sequence that employs the use of literature, whether novels or short stories, and informational text. The greater curricular concern focuses on the use of anthologies as the entire curricular program. In other words, if districts have purchased an anthology and teachers are expected to follow the publisher's lesson and assessment administration sequence, it begs the question as to when and how a TDA lesson is created and placed into the scope and sequence created by the publisher. Teachers can be trained on how to create a TDA; however, the texts in the anthologies may not be complex enough to support a response to a TDA. In addition, if a close reading lesson leading to a TDA is added periodically into the teaching of the anthology, then something must be taken out. The elimination of a story and the associated skills will impact the end of week or unit assessment. The results of these assessments are often used by districts to monitor student achievement and the results may be skewed by the implementation of a TDA lesson since analysis is not assessed on these tests. When districts provide teachers with the flexibility of selecting texts and creating a scope and sequence at each grade level, there is greater ability to successfully weave in the teaching of analysis and the modeling of a TDA response.

The teaching of the knowledge and skills associated with TDAs must be woven into the scope and sequence throughout an entire school year. Since the underlying components of a TDA include reading comprehension, essay writing, and analysis, a fairly large number of standards could be taught as part of a TDA prompt and close reading lesson that leads students to respond to the TDA. As part of the 2017-18 exploratory research, this issue will become the focus for district and Intermediate Unit (IU) leadership.

Conclusion and Next Steps

As previously noted, the results of this exploratory study have prompted PDE to request the Center for Assessment to continue to explore the overarching implications of TDA on both instruction and curriculum. This continued exploration will include teachers using the TDA Learning Progressions as a proof-of-concept and an exploratory study on the components necessary for making curricular and instructional changes in a district's ELA program. This second aspect of the 2017-18 exploration will bring together Intermediate Unit (IU) and district ELA curriculum leadership and will consider the following questions:

1) How effectively do the IU and district leaders deliver professional development to teachers in their district with respect to text dependent analysis expectations?
2) How well do teachers perceive their ability to use the information and strategies learning through the text dependent analysis professional development?
3) How does leadership professional development with respect to text dependent analysis curriculum and instruction impact the PSSA scores of students in their districts?

Appendix A:
2013-14 and 2015-16 TDA Research Grade Level Prompts

Grade Level	2013-14 TDA Research Prompt #1	2013-14 TDA Research Prompt #2	2013-14 TDA Research Prompt #3
Grade 4	The passage discusses people helping young seals. One of the helpers, Greg Early, states "We try to take Mom's place as best we can." Write an essay analyzing whether Greg and his staff do a good job of taking the place of a seal mom. Use evidence from the passage to support your response.	In the passage, "Northern Lights," Grandpa helps Sam by waking her when something interesting happens in the night sky. However, Sam also helps Grandpa in the passage. Write an essay analyzing the ways that Sam helps Grandpa. Use evidence from the passage to support your response.	At the end of the passage, *Drawing Horses*, Marisa states, "But I already know that when this drawing is finished, I'll be signing it Marisa." Write an essay analyzing why she makes this statement. Use evidence from the passage to support your response.
Grade 6	In the passage, Randy states that "Surfing is in here" and taps his chest. Write an essay analyzing how Randy's perspective helps Jeff realize that he can "Surf Iowa." Use evidence from the passage to support your response.	In the passage "The Secrets of Candy Making," the author explains how sugar has been transformed over the years. Write an essay that analyzes how modern science transformed sugar from a "magical" substance to an everyday treat. Use evidence from the passage to support your analysis.	Skye's emotions change throughout "The Perfect Swim." Write an essay analyzing how the shifts in Skye's emotions are revealed in the passage. Use evidence from the passage to support your analysis.
Grade 8	The author uses various techniques such as humor, sarcasm, and irony in the dialogue between the two main characters of the passage. Write an essay analyzing how the author's use of dialogue reveals aspects of each character. Use evidence from the passage to support your response.	An author creates tone in writing as a way to show the narrator's feelings or attitude about the topic. Write an essay analyzing how the author changes the tone of "The *Grace* of My Childhood" from the beginning to the end of the passage. Use evidence from the passage to support your response.	Authors use various techniques when developing and explaining the motivations of characters. Write an essay analyzing how the author of "The Raft" reveals Dewey's character and his motivations throughout the passage. Use evidence from the passage to support your response.

Grade Level	2015-16 TDA Research Prompt #1	2015-16 TDA Research Prompt #2	2015-16 TDA Research Prompt #3
Grade 4	In the passage, "Northern Lights," Grandpa helps Sam by waking her when something interesting happens in the night sky. However, Sam also helps Grandpa in the passage. Write an essay analyzing how the author shows that Sam helps Grandpa. Use evidence from the passage to support your response.	The following quote from *Drawing Horses* serves as a turning point for the story, "They'd never be free spirits like Euphemia's horses, but they did seem patient and strong." Write an essay analyzing how this quote demonstrates the change in Marisa's attitude toward her drawing. Use evidence from the passage to support your response.	Frank Morris escaped from Alcatraz and was never seen again. Write an essay analyzing the personality traits that may have helped Morris in his attempt to escape from Alcatraz. Use evidence from the text to support your response.
Grade 6	Skye's emotions change throughout "The Perfect Swim." Write an essay analyzing how the author reveals shifts in Skye's emotions. Use evidence from the passage to support your response.	In the passage, Randy states that "Surfing is in here" and taps his chest. Write an essay analyzing how Randy's perspective helps Jeff realize that he can "Surf Iowa." Use evidence from the passage to support your response.	The passage discusses people helping young seals. One of the helpers, Greg Early, states "We try to take Mom's place as best we can." Write an essay analyzing how the idea of human intervention for the purpose of helping animals is developed in the passage. Use evidence from the passage to support your response.
Grade 8	The author uses dialogue between the two main characters of the passage. Write an essay analyzing how the author's use of dialogue shows the change in the pizzeria owner's character throughout the story. Use evidence from the passage to support your response.	Authors use different text structures and text features to develop their articles. Write an essay analyzing the way the authors of *The Birth of the Blues* use text structure to develop the main idea. Use evidence from the passage to support your response.	Authors use various techniques when developing and explaining the motivations of characters. Write an essay analyzing how the author of "The Raft" reveals Dewey's character and his motivations throughout the passage. Use evidence from the passage to support your response.

Appendix B:
TDA Lesson Planning Template

Text: _____

Worksheet for Developing an Instructional Text-Dependent Analysis Question and Text-Dependent Questions for Close Analytic Reading Lessons

While there is no set process for generating a complete and coherent body of text-dependent questions for a text, the following process is an effective guide that can serve to generate a core series of questions for close reading of any given text.

Directions: For <u>each</u> lesson that you create requiring text-dependent analysis prompts, please complete the following form.

Part A: Instructional Text-Dependent Analysis Questions
1. **Name of text and page numbers:**
2. **Read and annotate the text:** As in any good "backwards design" process, teachers should start by reading and annotating the text, determining the key insights and vocabulary they want students to understand from the text. Note this as raw material for the culminating assignment and the focus point for other activities to build toward.
3. **Identify the essential meaning of the text:**
4. **Identify the key supporting details of the essential understanding:**
5. **Locate and identify the most powerful academic vocabulary and key text structures in the text that are connected to the core understanding and key idea(s).** [Vocabulary selected for focus should be academic words ("Tier Two") that are abstract and likely to be encountered in future reading and studies.]
6. Find the sections of the text that will present the **greatest difficulty** and craft questions that support students in mastering these sections (these could be sections with **difficult syntax, particularly dense information, and tricky transitions or places that offer a variety of possible inferences**).
7. **Record a Text-Dependent Analysis Question that culminates the reading of this text:**
8. **Record what you would expect to see in a proficient student response (write as a sample student response):**
9. **Identify the standards associated with this question (a quality text-dependent question should reflect mastery of one or more of the standards, involve writing, and be structured to be done by students independently):**

Part B: Instructional Text-Dependent Questions:

An effective set of text-dependent questions delves systematically into a text to guide students toward extracting the key meanings or ideas found there. Text-dependent questions typically begin by exploring specific words, details, and arguments, and then move on to examine the impact of those specifics on the text as a whole. Along the way, they target academic vocabulary and specific sentence structures as critical focus points for gaining comprehension.

10. Identify an **opening question** that will help orient students to the text. They should also be specific enough so that students gain confidence to tackle more difficult questions later on.

11. **Create a coherent sequence of text-dependent questions:** Based on the key ideas of the text, create a series of questions structured to bring the reader to an understanding of these.

Reading #	Text-Dependent Question	Page/Line/Section	Identify: Possible Text Evidence/Explanation

Adapted from *Achieve the Core* (achievethecore.org)

How will the students access the text for each of the readings?
Reading #1:

Reading #2:

Reading #3:

Which collaborative discussion structure will be used for these questions?
Reading #1:

Reading #2:

Reading #3:

How will you provide teaching/guidance of reading comprehension?

How will you provide teaching/guidance of analysis?

How will you provide teaching/guidance of essay writing?

Appendix C:
TDA Scoring Guidelines

PSSA TEXT-DEPENDENT ANALYSIS SCORING GUIDELINES

Score Point	Description	Score Point	Description
4	• Effectively addresses all parts of the task demonstrating in-depth analytic understanding of the text(s) • Effective introduction, development, and conclusion identifying an opinion, topic, or controlling idea related to the text(s) • Strong organizational structure that effectively supports the focus and ideas • Thorough analysis of explicit and implicit meanings from text(s) to effectively support claims, opinions, ideas and inferences • Substantial, accurate, and direct reference to the text(s) using relevant key details, examples, quotes, facts, and/or definitions • Substantial reference to the main idea(s) and relevant key details of the text(s) to support the writer's purpose • Skillful use of transitions to link ideas • Effective use of precise language and domain-specific vocabulary drawn from the text(s) to explain the topic and/or to convey experiences/events • Few errors, if any, are present in sentence formation, grammar, usage, spelling, capitalization, and punctuation; errors present do not interfere with meaning	2	• Inconsistently addresses some parts of the task demonstrating partial analytic understanding of the text(s) • Weak introduction, development, and/or conclusion identifying an opinion, topic, or controlling idea somewhat related to the text(s) • Weak organizational structure that inconsistently supports the focus and ideas • Weak or inconsistent analysis of explicit and/or implicit meanings from text(s) that somewhat supports claims, opinions, ideas, and inferences • Vague reference to the text(s) using some details, examples, quotes, facts, and/or definitions • Weak reference to the main idea(s) and relevant details of the text(s) to support the writer's purpose • Inconsistent use of transitions to link ideas • Inconsistent use of precise language and domain-specific vocabulary drawn from the text(s) to explain the topic and/or to convey experiences/events • Errors may be present in sentence formation, grammar, usage, spelling, capitalization, and punctuation; errors present may interfere with meaning
3	• Adequately addresses all parts of the task demonstrating sufficient analytic understanding of the text(s) • Clear introduction, development, and conclusion identifying an opinion, topic, or controlling idea related to the text(s) • Appropriate organizational structure that adequately supports the focus and ideas • Clear analysis of explicit and implicit meanings from text(s) to support claims, opinions, ideas, and inferences • Sufficient, accurate, and direct reference to the text(s) using relevant details, examples, quotes, facts, and/or definitions • Sufficient reference to the main idea(s) and relevant key details of the text(s) to support the writer's purpose • Appropriate use of transitions to link ideas • Appropriate use of precise language and domain-specific vocabulary drawn from the text(s) to explain the topic and/or to convey experiences/events • Some errors may be present in sentence formation, grammar, usage, spelling, capitalization, and punctuation; errors present seldom interfere with meaning	1	• Minimally addresses part(s) of the task demonstrating inadequate analytic understanding of the text(s) • Minimal evidence of an introduction, development, and/or conclusion • Minimal evidence of an organizational structure • Insufficient or no analysis of the text(s); may or may not support claims, opinions, ideas, and inferences • Insufficient reference to the text(s) using few details, examples, quotes, facts, and/or definitions • Minimal reference to the main idea(s) and/or relevant details of the text(s) • Few, if any, transitions to link ideas • Little or no use of precise language or domain-specific vocabulary drawn from the text(s) • Many errors may be present in sentence formation, grammar, usage, spelling, capitalization, and punctuation; errors present often interfere with meaning

Appendix D:
Surveys for Meeting 1 and Meeting 2

Center for Assessment

TDA - Meeting 1

1. Please respond to the following questions by indicating your level of agreement with the statement.

	Strongly disagree	Disagree	Agree	Strongly agree
This workshop deepened my knowledge about what analysis is and how to recognize it.	○	○	○	○
I have a new ideas about how to teach the elements of TDAs to my students after participating in this workshop.	○	○	○	○
After participating in this workshop, I am better equipped to help explain the elements of TDAs to my colleagues.	○	○	○	○

2. What about this workshop was particularly helpful for deepening your knowledge about the elements of TDAs?

3. What about the elements of TDAs is still confusing? What would you like future meetings to address?

Done

Center for Assessment

TDA - Meeting 2

1. Please rank the following activities by their usefulness for you.

		Activity	
⠿	⬍	Instructional TDA development (close reading lesson)	☐ N/A
⠿	⬍	Developing instructional modules for reading elements	☐ N/A
⠿	⬍	Scoring student work across grade levels	☐ N/A
⠿	⬍	Student work analysis within grade levels	☐ N/A
⠿	⬍	Hearing lessons learned from classroom observations	☐ N/A
⠿	⬍	Sharing TDA teaching resources	☐ N/A
⠿	⬍	Reviewing reading elements	☐ N/A
⠿	⬍	Deconstructing prompts	☐ N/A

2. Please choose two or three of the activities and explain why they were particularly useful or not.

3. This meeting had a strong focus on looking at and critiquing student work. Were these activities useful? If so, what lessons did you learn that will impact your instruction?

4. As ambassadors for the TDA work in PA, what is your plan for disseminating the lessons you have learned at these workshops? What resources would be useful for you to have when working with the teachers in your district?

[Done]

Appendix E:
Lesson Observation Protocol

Text Dependent Analysis - Classroom Observation Instrument

Directions. Use this observation protocol as a tool to help guide note-taking while observing the instructional TDA lesson for Groups 1-3. The tool is designed to the focus classroom observations on the instructional strategies used to teach TDA.

Part I. General Information	
Name and author of the text the teacher is using for the instructional TDA.	
Is there evidence of teaching of the TDA? Which aspect of the TDA is being taught (i.e., reading comprehension, analysis, or writing)?	
Does the teacher demonstrate a strong understanding of text-dependent analysis? ☐ Limited understanding including misconceptions ☐ Some command of the TDA is demonstrated ☐ The teacher demonstrates mastery of the TDA construct	What evidence justifies the rating:

Part II. Instruction	
What is the structure of the lesson (e.g., think-pair-share, Socratic discussion)?	
What strategies is the teacher using to teach the specific element of the TDA being addressed?	
What are some of the questions the teacher is asking? Are the questions generally moving the students forward in their thinking about TDA?	
Does the instructional method seem to match the student needs (i.e., too easy, too complex)?	
How much scaffolding is happening? Does the amount of scaffolding match the level of student familiarity with and understanding of TDAs?	
What is the teacher doing well? Is there anything that the teacher is doing that seems to be effective for teaching TDA that should be shared with the group?	

Part III. Student Learning/Understanding	
Where do the majority of students seem to fall along the learning progression of TDAs? ☐ Beginning ☐ Emerging ☐ Developing ☐ Meeting ☐ Advancing	
Are the students engaged? What are they doing (e.g., mostly listening, responding to question, independent reading, small group discussions)?	
What are the students struggling with?	
What are they being successful with?	

Part IV. Additional observations/notes

Appendix F:
Lesson Quality Performance Level Descriptors

Performance Level Descriptors for TDA Lesson Observations

Strong –Strong lessons are characterized by evidence of a purposeful lesson plan with a clear focus. The lessons are designed with the intended outcome in mind and the pathway to get there. Teacher of strong lessons have a deep understanding of both the text and the prompt, which aids their ability to effectively scaffold the lesson to meet the students where they are. Teachers of strong lessons have planned questioning that focuses around the reading elements and the text evidence to support them. Students are asked to present their *reasoning* for putting forth evidence in response to the prompt. The questioning in strong lessons is supported by enough academic wait time for students to think of a response. Teachers of strong lessons follow up to student responses by providing nuanced feedback when students are off-based and deeper questioning to push them further when they respond well. In addition to the planned questioning, the structure of the lessons can be seen as a step on the transition toward student independence; often this occurs by asking meta-cognitive questions or teacher modelling with think-alouds. Students are highly engaged because the teacher has connected the content to a purpose, the lesson is meaningful. In sum, strong lessons are characterized by the level of depth in the understanding of the text, deconstruction of the prompt, level of questioning, and expectations for student thinking. Because the teacher is planned and purposeful, strong lessons have an element of accountability in that the students are aware of the high expectations and rise to the occasion.

Moderate –Moderate lessons typically have elements of strength, but the execution is lacking in some way. It may be that the structure or purpose of the lesson is loose or unclear, or if there is focus, the focus of the lesson may be misplaced for accomplishing the objective. For example, students may be finding evidence in the text to support a claim, but there may be no clear connection to how that will ultimately help them respond to the prompt. Moderate lessons are marked by fast-paced questioning where students are not given either enough time to think before responding, or their responses are met with insufficient feedback from the teacher. Teachers of moderate lessons often underestimate student ability to respond to complex questions or text. The text and teacher questioning are low-level and explicit. Lessons are often teacher-centered with some students simply going through the motions and flying under the radar, the structure does not necessitate active engagement by all students.

Weak –Weak lessons are typically characterized by being "activity-driven" rather than objective-driven. There is a lack of focus or purpose and little-to-no planned lesson for accomplishing a specific outcome, which makes the flow or logic of the lesson difficult to follow. The activities may be loosely related to TDAs in general, or the prompt specifically, but the connection is not explicitly drawn. There is a general lack of depth in the teacher questioning and little-to-no follow-through or response to teacher-student interactions. The questioning feels random, or at least unconnected to moving students towards responding to the prompt. In weak lessons student engagement is low and often the classroom management is weak to the point where it is disruptive to student learning.

Appendix G:
Semi-Structured Focus Group Interview Protocols

Focus Group Questions for Groups 1 and 2

1)	What have you gained overall from your involvement in the TDA Research Study?
2)	What have you gained from this year's work, consider whether it was something you hadn't previous considered, or something you gained greater clarity around, or something you understand more deeply?
3)	In what ways have your instructional practice changed as a result of TDAs?
4)	What changes have you seen in student TDA work as a result of your involvement in this study over the last several years?
5)	In what ways have you shared your TDA knowledge with your grade-level colleagues? School-based peers? District-based peers?
6)	What, if anything, has changed in your school/district due to the work you have done with TDAs?
7)	As you consider your next steps with TDAs, reflect on how you will expand your knowledge and the necessary strategies for teaching TDAs with all students.

Focus Group Questions for Group 3

1)	If any, what professional development have you received on text-dependent analysis?
2)	If anything, what have you done to prepare yourself for teaching text-dependent analysis? Have you found any resources that have been especially helpful?
3)	How did you prepare your students to respond to a text-dependent analysis question? What instructional strategies did you use, if any?
4)	What is your understanding of analysis and how students need to demonstrate analysis? How do you recognize analysis in student writing?
5)	What is your understanding of the text-dependent analysis rubric and your experience with scoring student work?
6)	What is your understanding of what separates a text-dependent analysis question from an open-ended response question?
7)	What are your thoughts about the text-dependent analysis prompts that you administered?
8)	What was your students' reaction to the text-dependent analysis prompts that were administered?
9)	What did you do instructionally, if anything, between the three text-dependent analysis administrations?
10)	What did your instruction of text-dependent analysis look like prior to your involvement in this study as compared to now? How has it changed?
11)	What additional training or assistance do you need or desire related to text-dependent analysis?
12)	What resources would help you with teaching text-dependent analysis questions, whether developing prompts, lessons, or providing feedback on student work?