
READING TASK USING CORNELL FORMAT

AN ANALYSIS OF STUDENT PERFORMANCE AND CLASSROOM PROCEDURE

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TOPICAL READING ASSIGNMENT USING CORNELL NOTE TAKING

For each topic of study over the year from February to February 2013-2014, students in social studies grades seven through nine at a small, rural school (N=~50) were assigned to use Cornell note taking for their assigned textbook chapter readings. The practice was initiated as a response to weak performance of some groups on the 2013 midterm examination. A study after ten weeks credited improved performance of the group with this process (Jones, 2013).

Students are assigned ten pages of traditional textbook reading associated with the current topic of study. They may choose from three levels of text: a fourth-grade text, a grade-level text, and an advanced level text set at two grade levels higher. Providing reading material close to students' independent reading levels gives them meaningful access to the information and support for continued reading growth (Allington, 2009). Students have two 45-minute class periods to work on the assignment and are expected to complete at least five pages per class period (this is more than double the time it takes the teacher to do the task). This assignment occurs before teacher lecture and is intended to support student learning by providing the basic groundwork information of the topic.

Students are trained in the Cornell note taking format (Paulk, 2014). Using a form provided by the teacher, students create an informal or formal outline of the most important top two layers of detail from the source text in their own words (Marzano, 2001). Next, students create questions to go with the information they recorded. Students are trained in a basic version of Bloom's Taxonomy for the development of questions and are encouraged to devise questions and the analysis and evaluation levels in support of long-term memory of the information. Finally, students are to construct an abstract of each page of notes at the bottom, summarizing the main idea of the whole page in one or two sentences. Students are graded on the quality of their notes (Figure 2). The task is due at the end of the topic, usually around two calendar weeks later. Students have additional "working days" after the teacher lecture series, some of which they may dedicate to completing whatever was not yet done of the reading task.

Students are assigned the Cornell note taking method because of the strong supporting research (Figure 1). Research indicates answering questions on text to be least effective for supporting reading comprehension (Graham, 2010). Cornell note taking supports higher level thinking such as application, synthesis, and analysis (Jacobs, 2008). Note taking is one of the "most powerful skills students can cultivate" by providing "students with tools for identifying and understanding the most important aspects of what they are learning." (Marzano, 2001). It supports encoding the information for long term recall more effectively than guided notes and questionnaires (Jacobs, 2008). Note taking is known to be an effective strategy "if it entails attention focusing and processing in a way compatible with the demands of the criterion task." (Armbruster, 1984) In effective note taking, research suggests, happens when "students failed to take notes in a manner that elicited sufficiently deep or thorough processing." (Armbruster, 1984)

WRITING TO READ EFFECT SIZES WITH CONFIDENCE INTERVALS

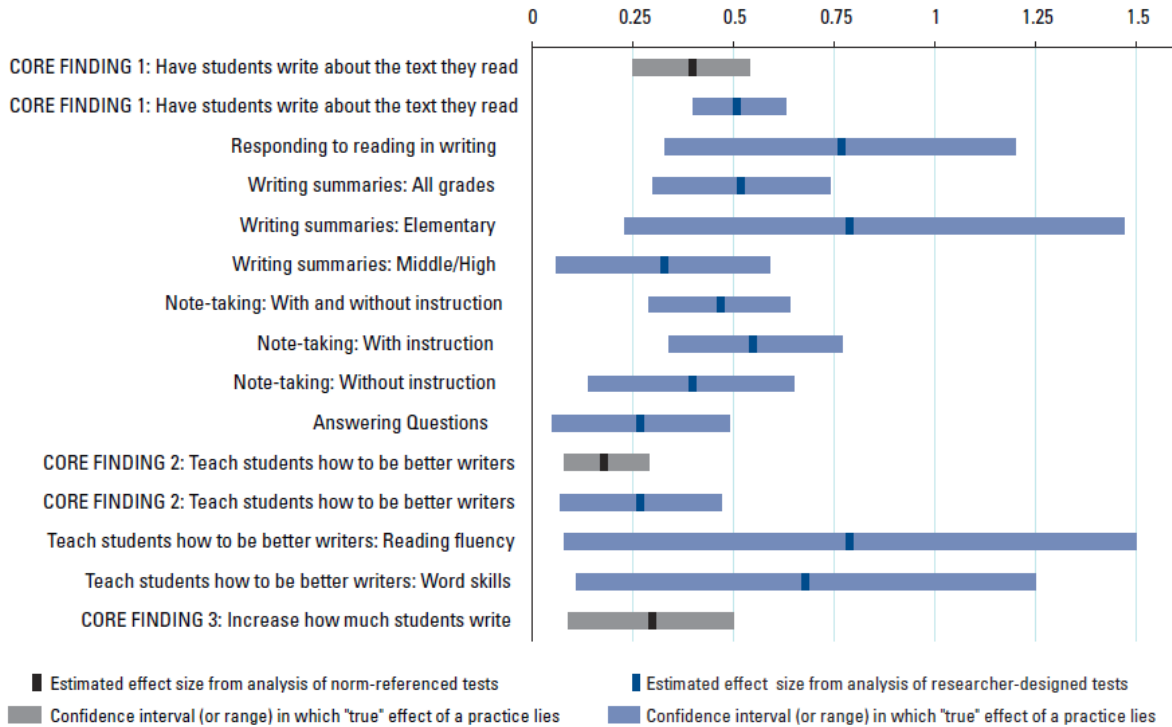


FIGURE 1 RESEARCH INDICATES ANSWERING QUESTIONS ON TEXT IS THE LEAST EFFECTIVE PRACTICE

4			3		2	
100	94	85	76	65	55	44
<ul style="list-style-type: none"> • Use of space shows hierarchical organization of ideas. Main ideas are distinct from supporting details. Skillful selection of supporting details to include. • Notes are complete. All information is sufficiently elaborated, including information not displayed in lecture visual aid. • Good questions at various levels cover all material for study. Each page has an abstract of content. • Notes may have been revised and updated after note taking. 	<ul style="list-style-type: none"> • Use of space shows organization of ideas, but may be inconsistent. • Minor omissions, some ideas under-developed. • Errors selecting supporting details—too little or too much. • Questions may be of inconsistent quality—may not quite cover all content. Each page has an abstract of content. 	<ul style="list-style-type: none"> • Use of space does not support hierarchical organization of ideas, but some basic effort to organize is evident. Notes appear as lists or blocks of text. • Elements copied from source verbatim. • Serious omissions and gaps; important ideas not elaborated enough; Errors, maybe serious, selecting supporting details and key terms. • Questions / abstracts are weak or insufficient. 	<ul style="list-style-type: none"> • Notes appear as lists or blocks of text without obvious organization. • Notes limited to elements copied verbatim from source • Serious omissions, may be inaccuracies; serious errors selecting supporting details and key terms. • Around half of required content is present. • May not be in Cornell format. 	© 2013 David Jones		
Notes in this range are good enough to use to study for tests.						

FIGURE 2 GRADING RUBRIC FOR ASSESSING CORNELL NOTE TAKING

REASONS TO CONSIDER EXAMINING THIS TASK

Informal feedback from students shows the task is generally disliked. The two periods are not maintained strictly as silent working periods, though distraction is generally minimal. Weaker students are observed to be often off task. Examination of work accomplished throughout the period indicates some weaker students complete only a page during the whole time. The completion rate for this task only averages 80% in each topic September-January 2013-2014 grades seven through nine (N=54). Increasingly, this task is coming in late and poorly done with the mean score at only 72. The lack of sustained attention to task during the class periods allotted for this task likely decreases the effectiveness of the task, especially memory of the information (Armbruster, 1984).

WHAT DIFFERENCE DOES PERFORMANCE ON THE READING TASK MAKE?

Five students in the sample who had a passing average for the reading tasks assigned in the 2013-2014 school year to date failed an interim examination¹.

Eighteen of fifty-four students in the sample (33%) have a failing (below 65) average for the reading tasks. This includes scores of zero assigned for incomplete tasks. Half of the students who have a failing average for the reading tasks failed an interim exam. Five (9%) failed both interim examinations and four (7%) failed one of two interim examinations.

Only nine of eighteen students with a failing average on the reading task were able to pass both interim exams.

¹ "Interim examinations" are ten-week tests of knowledge of course content going back to the start of the school year.

The reading task score measures how well students extracted the “study-worthy” ideas from the source text and prepared this content for learning. In this sample it was a weak predictor of performance on both the topic final test (correlation is 0.419) and the interim examination (correlation is 0.334). This stands to reason, since the measurements are for different things. Final tests and interim examinations are measures of knowledge of content.

IMPROVING PROCEDURE

For the 16th topic of study in grade eight, the task was set up as a “test”. Students were given 30 minutes to complete 5 pages. Students who needed more time received it, though a timer was left obvious and the room remained silent. Students commented that they felt they got a lot done in the more disciplined atmosphere. I am now assured that the class has completed the requisite reading assignment to understand the upcoming lessons and that the task was carried out in the most meaningful way possible.

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APPENDIX: DATA

Name	end topic 1	rdg topic 1	End 2	Rdg 2	Interim 1	End 3	Rdg 3	End 4	Rdg 4	Interim 2
Student 1	71	94	67	85	48	58	85	50	85	
Student 2	73	94	33	94	53	58	94	70	76	63
Student 3	65	76	53	76	45	51	65	60	76	60
Student 4	66	0	52	55	72	76		44	0	
Student 5	100	65	85	94	90	100	100	100	100	84
Student 6	73	94	52	0	67	60	55	58	76	63
Student 7	100	94	100	100	90	100	100	100	100	71
Student 8	73	65	87	0	67	65	44	69	85	
Student 9	100	100	87	94	82	100	100	81	100	84
Student 10	60	85	70	55	77	80	66	69	0	84
Student 11	73	76	61	94	66	70	85	54	85	68
Student 12	80	55	61	85	62	65	65	58	65	63
Student 13	80	65	47	85	52	45	85	35	85	47
Student 14	93	0	43	0	66	70	44	38	44	71
Student 15	80	55	78	76	77	95	44	92	55	76
Student 16	80	76	65	65	82	65	94	62	100	84
Student 17	40	65	47	55	47	40	0	31	44	53
Student 18	94	85	71	94	94	80	85	81	85	66
Student 19	67	55	65	44	70	55	0	62	0	68
Student 20	67	65	78	65	78	90	94	85	94	63
Student 21	85	94	94	100	82	90	100	73	100	76
Student 22	56	100	76	100	70	76	100	94	85	84
Student 23	94	100	100	100	73	100	100	76	85	77
Student 24	65	76	65	0	42	52	0	76	76	65
Student 25	94	100	100	100	82	94	100	94	100	87
Student 26	94	100	70	100	67	94	100	76	100	77
Student 27	39	0	44	0	45	45	55	57	76	52
Student 28	55	0	41	0	30	48	0	0	94	29
Student 29	100	100	100	100	94	100	100	100	100	90
Student 30	60	44	65	65	61	69	65	64	94	61
Student 31	100	85	94	94	85	94	85	94	100	87
Student 32	64	94	94	94	48	72	85	75	94	45
Student 33	100	100	100	100	88	86	100	100	100	100
Student 34	100	100	100	100	91	100	100	100	100	90
Student 35	85	85	73	94	85	77	76	83	100	75
Student 36	100	100	85	100	70	94	100	76		70
Student 37	85	94	0	76	88	77	100	97	100	83

Student 38	80	100	53	0	63	45	55	553	76	50
Student 39	85	94	55	85	53	94	85		76	55
Student 40	90	94	70	94	68	87	94	80	76	73
Student 41	95	85	77	0	90	87	87	97	0	80
Student 42	94	100	77	100	83	81	100	87	100	70
Student 43	94	100	71	94	80	90	100	90	100	80
Student 44	94	94	94	100	78	77	100	80		73
Student 45	85	85	0	0	78	65	0	93	0	83
Student 46	85	76	60	0	73	90	76	93	76	73
Student 47	100	94	100	94	68	100	100	83	0	53
Student 48	94	65	71	0	70	65	0	76	0	55
Student 49	85	76	85	65	63	75	76	90	0	33
Student 50	82	76	70	65	68	100	65	93	55	67
Student 51	73	76	65	0	58	95	65	83	55	59
Student 52	41	65	0	0	82	90	76	83	85	37