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**EFFECTS OF AN EXPLICIT ASSIGNMENT ON TASK IDENTIFICATION
IN COLLEGE STUDENTS WITH WRITING DIFFICULTIES**

A Dissertation in

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by

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Abstract

Understanding writing assignments is critical to college students' success as they transition from high school to postsecondary environments, but students with writing difficulties struggle to extrapolate required tasks from assignments presented in narrative form. The researcher examined the ability of students to identify assignment tasks when given a traditionally presented (narrative) writing assignment versus an explicitly stated (bulleted) writing assignment. Participants were 78 community college students with identified writing difficulties in developmental English classes. This paper delineates possible reasons why participating students who were given the explicitly stated assignment generated a higher identification and correct sequencing of explicit tasks, while students given the traditionally presented narrative assignment identified a higher number of additional writing tasks. This research supports the principles of effective instruction and suggests that providing an explicitly stated complete list of required tasks to students with writing difficulties may increase their ability to successfully complete college writing assignments. Discussion concludes with amplifications, limitations, and recommendations for future research.

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Effects of an Explicit Assignment on Task Identification In College Students with Writing Difficulties

As colleges and universities increase admission of at-risk and underprepared students (Gregg, 2007) as well as students with disabilities (Harrison, Larochette, & Nichols, 2007), college professors are more likely to have a significant number of students with writing difficulties in their classes. Meanwhile, professors may make assumptions about their students' abilities to understand written instructions (Rosenshine, 1995) and therefore not foresee a connection between their students' successful completion of writing assignments and how those assignments are presented. Yet the need for efficient strategies to help students understand what tasks are expected to effectively complete writing assignments is apparent.

In order to execute a college writing assignment successfully, students must read assignment instructions and determine the explicit and implicit tasks required to carry it out (Doyle & Carter, 1984). In college, the volume and complexity of assignments increase dramatically, and assignments often have subtasks that are not obvious to the student (Howell, 1986). For example, the task of finding sources for a writing assignment includes the subtasks of going to the library or searching databases, noting the citation information, printing or electronically saving the source, and organizing references.

Teachers may believe that their expectations for assignments are clear, but it is likely that they view the assignment only from their perspective, that is, the perspective of the expert. For a teacher's expectations of student work to be level-appropriate, teachers must view the assignment from the perspective of the novice learner, rather than as the expert. Failure to parse the assignment into parts and explain the assignment explicitly leaves students in the unenviable position of having to read their professors' minds (Hobson, 1998). Furthermore, most college

instructors have little or no formal training in instructional methodology (Eckes, 2005). Thus, they are unlikely to engage in other instructional practices that could compensate for vaguely instructed assignments.

One method that has been helpful to increase instructional clarity for both teachers and students is task analysis. Researchers in the fields of instructional design (Bartlett & Toms, 2005; Canepi, 2007), medicine (Sharit, Czaja, Augenstein, Balasubramanian, & Schell, 2006), military science (Baker & Youngson, 2007; Leedom, McElroy, Shadrick, Lickteig, & Pokorny, 2007), and special education (Browder, 2007; Gold, 1976; Hall, Schuster, Wolery, Gast, & et al., 1992) have used task analysis to break large tasks into smaller subtasks.

While task analysis is widely used to develop instructional programs for many learners, an analysis of college writing assignments which prefaced this study (see Methods section) revealed that a majority of professors provide assignment instructions in a traditional narrative (paragraph) format, rather than in an explicit (bulleted or numbered) format. These formats are referred to as *traditional* and *explicit* throughout the remainder of this paper.

Furthermore, while it has been established that task understanding is critical to task completion (Hughes, Ruhl, Schumaker, & Deshler, 2002), no research has provided insight as to how adept college students with writing difficulties are at extrapolating expected tasks from a traditionally presented writing assignment. To answer this question, I conducted a brief pilot study with a group of students in a developmental reading. Students received an assignment taken from a world history course syllabus. Instructions for the assignment were about a page long, written in narrative form. I also gave them a separate paper with the question “What specific tasks do you need to do to complete this assignment?” Students were asked to list the following: the tasks, the purpose of the task, the projected completion date for each task, and the

place where they planned to complete each task. The design of the form imposed identifying a ceiling of five tasks, even though there were six tasks explicitly called for by the assignment (i.e. “choose a research topic”), and numerous potential implicit tasks (such as “go to the library”). Nonetheless, only eight of the 20 students indentified five tasks. Four students cited four tasks, five students picked out only three tasks, and one student identified only one task (i.e., write the paper). The majority of students did not identify that they were to collect five sources, or write a one-page proposal, and only one student indicated that he/she would proofread the paper despite the fact that these tasks were stated in the assignment. Two of the twenty students turned in papers with no responses at all.

This small information gathering study provided helpful information about how students in a college developmental class struggle with identifying component tasks in a writing assignment and adds further credence to the conclusions of Hughes et al., (2002). Furthermore, students were asked only to identify tasks from a writing assignment presented in a traditional narrative format. They did not have to list their identified tasks in the order in which they would perform them, yet the ability to successfully master writing assignments also relies on the ability to correctly sequence the steps of the writing assignment process (Salend & Schliff, 1989). What remained to be determined was whether an explicitly stated (i.e, bulleted) assignment, rather than one with the same content presented in narrative form, would help students not only identify specific assignment requirements and place them in the correct sequence.

Sequencing is complicated by the fact that most writing is a recursive process (Flower & Hayes, 1981a), that is, while the overall steps of planning, composing, and editing happen linearly, all three steps also must occur simultaneously. In spite of the recursive nature of writing, writers must be able to order tasks logically. For example, in planning to write a research paper, a

student may know that he has to do an outline and turn in a rough draft, but without a clear understanding of the writing process he may believe that he should outline the paper after he writes the rough draft. Students with learning disabilities and those who lack strategic knowledge or the metacognitive skills to discern important details from narrative assignments tend to exhibit significant deficiencies in task ordering, as well as task comprehension (Salend & Schliff, 1989).

Building upon the pilot study results and a thorough review of the existing literature on explicit instruction and task understanding, this study was designed to examine the effect of an explicitly stated writing assignment versus a traditionally presented (i.e., narrative) assignment on task identification and sequencing. Specifically, there were three research questions:

1. Do students with writing difficulties identify a higher number of correct *explicit tasks* when given an explicitly stated writing assignment versus a traditionally presented writing assignment?
2. Do students with writing difficulties infer a higher number of *additional writing tasks* when given an explicitly stated writing assignment versus a traditionally presented writing assignment?
3. Do students with writing difficulties put a higher number of *assignment tasks in the correct sequence* when given an explicitly stated writing assignment versus a traditionally presented writing assignment?

Method

Setting/Population

This study was conducted at three campuses of a community college in the eastern United States. The college serves over 18,400 students in postsecondary credit programs across four campuses, and serves an additional 50,000 students through non-credit community education programs. The campuses are located in small to medium-size cities. Data from a recent semester show that Caucasian students made up 78% of the population of students, while 9% were African American, 6% Hispanic, 3% Asian, and .3% Native American. The remaining 4% were undeclared or failed to report.

The college has an open enrollment policy that permits any student with a high school diploma or GED to attend classes without having to present SAT or ACT scores. Additionally, the campuses have active disability services offices that provide accommodations to approximately 1,200 students with identified disabilities as mandated by Section 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act (ADA). The college's open enrollment policy extends not only to students who graduated high school, but also to those who finished on the basis of completing their IEP goals or due to aging out of public education. In other words, students who have not completed the basic requirements mandated by the state of Pennsylvania can still attend this college and matriculate to advanced undergraduate standing at a four-year college (C. Koerper, personal communication, August 25, 2009).

Students who attend the college with low SAT/ACT scores, and students who do not present such scores are required to take the ACCUPLACER placement tests provided by the College Board Testing Service. Students who score below proficient on the placement tests are required to take developmental English and/or math classes before taking courses that satisfy

college course requirements in those areas. Approximately 17% of students entering the college are required to take a developmental reading or writing course.

The experiment was conducted in five separate class sections of a developmental reading course across three different campuses over three weeks during a condensed four-week summer session. After receiving permission from the college provost and executive deans of the various campuses, I contacted instructors of developmental courses at the community college to enlist their help with the study. I visited the classes during regularly scheduled class sessions to introduce the study, obtain informed consent, and gather data.

Participants

Seventy-eight first or second year students with documented writing difficulties who had scored below proficient on the ACCUPLACER placement test by the College Board testing program, and were subsequently placed in a developmental reading course participated in this study. The developmental reading classes focus on improving reading comprehension and fluency, and on expanding vocabulary. Students are required to complete the developmental reading series with a grade of C or higher before they may register for college level English courses. The sample represented the diversity of the college with participants being 68% Caucasian, 18% African American, 12% Hispanic, and 2% Asian.

Materials

A pilot study provided the first basis for development of experimental materials. To conduct this study, I sought representative research paper assignments from freshman level social studies courses, and found many such course syllabi on the Internet. Forty of these courses required students to complete term papers. All instructions for completing the research papers were included in the course syllabi, and were written in narrative paragraph format. Each contained at least five steps necessary to complete the required term paper. None of the

assignments included an analysis of essential tasks in bulleted or numbered form. They ranged in length from 146-2,675 words. This set of assignments helped to set the parameters for the experimental assignment used in the pilot study. That study only presented students with a narrative assignment.

For the purpose of this present study, I needed one assignment in two formats, one written in a paragraph format representative of traditionally presented assignments, and the other presented explicitly, in a bulleted format. I selected a representative assignment from the syllabus of a freshman level American history class and used it verbatim to be the ‘traditionally presented assignment.’ I then conducted an analysis of the assignment, and extracted a list of explicit tasks contained in the narrative. From this extrapolated list of explicit tasks I created the explicitly stated assignment.

The following decision rules were used to extract the tasks from the narrative assignment:

1. Include only tasks explicitly stated in the narrative text.
2. Add words only when necessary (e.g., verbs to make the task explicit).
3. Use as exact language as possible from the narrative assignment. For example, if the narrative text states: “read scholarly sources” don’t add “search database for scholarly sources.”
4. Combine tasks with “and” only when they are tasks that are expected to be completed at the same time.

My first step in creating the explicit assignment was to go through the narrative assignment and underline the explicit tasks. Table 1 shows the list of explicit tasks extracted from the assignment used in this study in comparison to the steps recommended by the two expert sources. Once I identified these tasks, I rewrote them in the imperative form. For example, I took

the phrase from the traditional assignment, “The paper topic is to be selected from a list of suggested themes that can be found later in the syllabus,” and revised it to say, “Select a topic from a list of suggested themes.” I then took each of these explicitly assigned tasks and presented them in a bulleted format with a space between each task.

The completed explicit assignment (also shown in Table 1) consisted of nine explicit tasks, each derived directly from the traditional narrative assignment. A certified secondary English teacher developed a separate list of explicit tasks from the same traditional assignment. The two lists of explicit tasks were compared, and one difference was discovered. The first rater listed *type and double space* as one item, whereas the second rater listed *type* and *double space* as separate items. The interrater reliability of the two initially indicated 95% task equivalence. The raters resolved their one disagreement to increase reliability to 100% by choosing to keep seriated items between commas together.

Table 1

Side-by-Side Comparison of (a) the Traditionally Presented Research Paper Assignment (b) the same with Explicit Tasks Underlined, and (c) the Explicitly Stated Assignment

Original Traditional Research Paper Assignment	Traditional Research Paper Assignment With Explicit Tasks Underlined	Explicitly Stated Assignment, Derived from the Explicit Tasks in the Traditional Assignment
<p>Students are expected to write a <i>term paper</i> during the semester. The paper topic is to be selected from a list of suggested themes that can be found later in the syllabus. Students are expected to use original sources, that is, materials written by people who actually participated in an event at the time it occurred. Students are also expected to read scholarly sources that should be cited in footnotes or endnotes. These sources can be discovered by drawing upon your textbooks and bibliographies, the <i>Suggestions for Further Reading</i> found at the conclusion of each chapter of the courses core text, <i>American Passages</i>, through library research, and by consulting the instructor. Internet sources, while useful for finding historical information, often lack the detail necessary for scholarly work and are not an adequate substitute for reading scholarly books and journal articles. Therefore, students should not rely solely on internet sites as references for this paper. Again, references should include original documents, books and journal articles. The paper topic should be selected by Monday, Feb. 11th. At that time students will hand in a one or two page abstract of what they propose to write about, along with a preliminary bibliography. The final paper will be a minimum of five pages, maximum of ten pages in length, typed and double-spaced. The paper will be due on Friday, April 5th, and while papers will be accepted after the due date they will be reduced one letter grade.</p>	<p>Students are expected to write a <i>term paper</i> during the semester. The paper topic is to be (1) <u>selected from a list of suggested themes</u> that can be found later in the syllabus. Students are expected to (2) <u>use original sources</u>, that is, materials written by people who actually participated in an event at the time it occurred. Students are also expected to (3) <u>read scholarly sources</u> that should be (4) <u>cited in footnotes or endnotes</u>. These sources can be discovered by drawing upon your textbooks and bibliographies, the <i>Suggestions for Further Reading</i> found at the conclusion of each chapter of the courses core text, <i>American Passages</i>, through library research, and by consulting the instructor. Internet sources, while useful for finding historical information, often lack the detail necessary for scholarly work and are not an adequate substitute for reading scholarly books and journal articles. Therefore, students should not rely solely on internet sites as references for this paper. Again, references should include original documents, books and journal articles. (5) <u>The paper topic should be selected by Monday, Feb. 11th.</u> At that time students (6) <u>will hand in a one or two page abstract</u> of what they propose to write about, <u>along with a preliminary bibliography</u>. The final paper will be a (7) <u>minimum of five pages, maximum of ten pages</u> in length, (8) <u>typed and double-spaced</u>. The paper (9) <u>will be due on Friday, April 5th</u>, and while papers will be accepted after the due date they will be reduced one letter grade.</p>	<p>In this course you must write a research paper. <u>To complete the research paper you will need to:</u></p> <ul style="list-style-type: none"> • Select a topic from a list of suggested themes • Use original sources (materials by people actually participating in the event as it occurred) • Read scholarly sources • Cite sources in footnotes or endnotes • Select a topic by Monday, February 11th • Submit 1-2 page abstract of proposal and a preliminary bibliography February 11th • Write a minimum of 5 pages, maximum of 10 • Type and double space the paper • Submit final paper on Friday, April 5th

The second basis for the experimental materials was a review of expert sources on how to write research papers. Each had a different perspective on the most effective way to teach research paper writing, including Broskoske (2007) and Seshachari (1994), but few recommended explicit steps to be followed. However, two guidebooks widely accepted as resources for students writing research papers, *Ten Steps to Writing a Research Paper* (Markman, Markman, & Waddell, 2001), and *The MLA Handbook for Writers of Research Papers* (Gibaldi & Achtert, 1984) do provide an explicit list of steps for producing a research paper. A closer look at Markman and Markman's book revealed 14 steps that were condensed to ten. These two experts agreed on five steps necessary to complete research papers, but each listed additional tasks that could also be considered important.

Based on my review of these experts' varying recommendations, as well as my analysis of the 40 research paper assignments, I concluded that there really is considerable variability as to what generic steps are essential to writing a research paper. These resources provide general guidelines, but they do not enable the student to analyze the specific tasks presented in the specific assignment. Table 2 shows the list of explicit tasks used in this study in comparison to the steps recommended by the two expert sources.

Table 2

Comparison of Explicit Tasks Extracted from the Traditionally Presented Assignment with Explicit Tasks Recommended by Experts on Research Paper Writing

Tasks*	Explicit Tasks of Both Assignments	Research Paper Tasks Recommended by <i>10 Steps to Writing a Research Paper</i>	Research Paper Tasks Recommended by <i>The MLA Handbook for Writers of Research Papers</i>
Select a topic (from a list of suggested themes; by Monday February 11 th)	X	X	X
• Choose a topic			
Use original sources	X		
Read scholarly sources			
• Conduct research	X		X
Cite sources in footnotes or endnotes			
• Fill in parenthetical references or footnotes on the draft	X	X	
Submit 1-2 page abstract of proposal and preliminary bibliography February 11 th			
• Prepare the preliminary bibliography	X	X	X
• Compile a working bibliography			
Select a topic by Monday, February 11 th	X		
Write a minimum 5 pages, maximum of 10	X		
Type of double space the paper	X		
Submit final paper on Friday, April 5 th	X		
Choose the appropriate language and style			X
Evaluate Sources			X
Formulate a temporary thesis		X	
Formulate a (temporary) outline		X	X
Label notecards		X	
Put the paper in final form			X
Read a general article		X	
Revise (the working outline, the text)		X	
Take notes (from relevant sources)		X	X
Write a rough draft		X	X
Write introduction and conclusion		X	

Note. Bulleted items indicate tasks recommended by the experts that were similar to those in the traditional assignment. Instances where one expert source elaborated more than the other were represented by the additional information being placed in parentheses.

Design and Procedures

The research design was a post-test only control group design (Campbell & Stanley, 1966). Data were subjected to a *t*-test to determine statistical significance. Participants were randomly assigned to the assignment conditions using a random table of numbers. Each participant received either the traditionally presented assignment or the explicitly stated assignment, and a response sheet (see Appendix A). I read scripted instructions to each class using the same script (see Appendix B). Students had unlimited time to record their responses, but all students completed their responses in less than 15 minutes.

Dependent Variables

The initial pilot study presented in the introduction provided the basis for the dependent variables. The pilot study investigated the ability of students in a developmental reading class to identify tasks from a one-page narrative assignment. Although the assignment contained six explicit tasks, only eight of the 20 students were able to identify five tasks. Four students cited four tasks. Five students picked out only three tasks, while one student identified only one task (i.e., write the paper).

This small pilot study provided helpful information about how students in a college developmental class struggle with identifying component tasks in a writing assignment. What remained to be determined was whether an explicitly stated assignment, rather than one with the same content presented in narrative form, would help students (a) identify explicit assignment tasks, (b) infer additional writing tasks, and (c) order those tasks in the correct sequence.

Therefore, the present research study was devised with three dependent variables:

1. the number of correct explicit tasks listed;
2. the number of additional writing tasks listed;
3. the number of explicit tasks listed in the correct order.

Scoring for identification of explicit tasks. Students' lists of identified tasks were scored using a scoring rubric (see Appendix C for the Explicit Task Identification and Sequencing Score Sheet). This checklist of correct explicit tasks was the same as the list of tasks that comprised the explicitly stated assignment. Students earned two points for each correctly identified explicit task that they listed. One point was given if students correctly identified a task, but omitted essential information, such as the due date.

Scoring for identification of additional writing tasks. Students' responses were examined to determine if they identified additional writing tasks undertaken in the process of writing a research paper. For scoring purposes, two questions were asked: (a) *does this task follow logically from an explicit task* and (b) *is this task one that would be generally relevant to writing a research paper?* (i.e., one of the tasks previously identified in Table 1). Students received one point for listing a task that was not explicitly called for in the assignment instructions, but that met the above criteria. For example, if a student listed "take notes," or "go to the library," the student received a point for listing an acceptable additional research paper writing task. No points were given for listing tasks with the following characteristics: (a) redundant (i.e., repeating a previously listed task), (b) vague, such as "Continue writing paper," (c) erroneous, such as, "Have copyrights in quotes," or (d) completely irrelevant, as, "It can be anytime," or this interesting contribution, "Interview people who have experiences in different marriage [sic]." There were numerous tasks such as these listed by students that did not qualify as acceptable additional writing tasks for carrying out a research paper.

Scoring for correct sequence. The third dependent variable was the number of explicit tasks correctly sequenced. Correct sequence was assessed to determine if students who received the explicitly stated assignment were more likely to place their tasks in a logical order for

completion of the assignment. Correct sequence was determined by consultation with a certified high school English teacher and verified by use of expert sources including the *MLA Handbook for Writers of Research Papers* (Gibaldi & Achtert, 1984). Raters scored the correct sequence by comparing a predetermined correct sequence against student responses. Raters gave a point when tasks were in the correct sequence. When a task that was out of sequence was scored as incorrect, the raters continued with the next task. Thus, one incorrect task did not result in all subsequent tasks being scored incorrect.

Interrater Reliability

Interrater reliability of scoring was conducted for all three dependent variables with two trained raters independently scoring each response sheet for explicit tasks, additional writing tasks, and correct sequence. Both raters followed decision rules established by the researcher that have been discussed in the previous discussions of scoring procedures. Interrater reliability was 100% for explicit tasks, 95% for additional writing tasks, and 89% for correct order of tasks.

Procedural Integrity

Procedural integrity data were collected during two sessions in different locations. A trained observer used a checklist (see Appendix D) to evaluate whether the researcher's explanation of the procedures adhered to the prepared script. The observer placed a check in a box corresponding to each procedural step after the researcher completed the step. Procedural integrity was 100%.

Results

Differences in means between the assignments on all three dependent variables were statistically significant. Table 3 includes the means, standard deviations, *t*-scores and effect sizes. The distributions were skewed in opposite directions with the traditional assignment group slightly positively skewed (skewness = .864, SE = .369; kurtosis = .496, SE = .724) and the explicit assignment group negatively skewed (skewness = -1.153, SE = .368; kurtosis = -.455, SE = .759).

Table 3

Means, Standard Deviations, t-Scores, and Effect Sizes for Dependent Variables Between Traditional and Explicit Assignment Groups

Dependent Variable	Explicit Assignment Group			Traditional Assignment Group			<i>t</i>	Effect Size
	<i>N</i>	\bar{x}	<i>SD</i>	<i>n</i>	\bar{x}	<i>SD</i>		
Explicit Tasks	37	6.95	3.21	41	3.00	1.99	-6.44*	.75
Additional Writing Tasks	37	1.24	2.07	41	3.07	2.15	2.43*	-.87
Correctly Sequenced Tasks	37	5.57	2.55	41	2.93	1.92	-5.12*	.50

* $p < .001$

Explicit Tasks Listed by Students

For the purpose of this study, explicit tasks were defined as those tasks expressly required by the assignment. The range of correct explicit tasks identified was 0 – 9 for the explicit

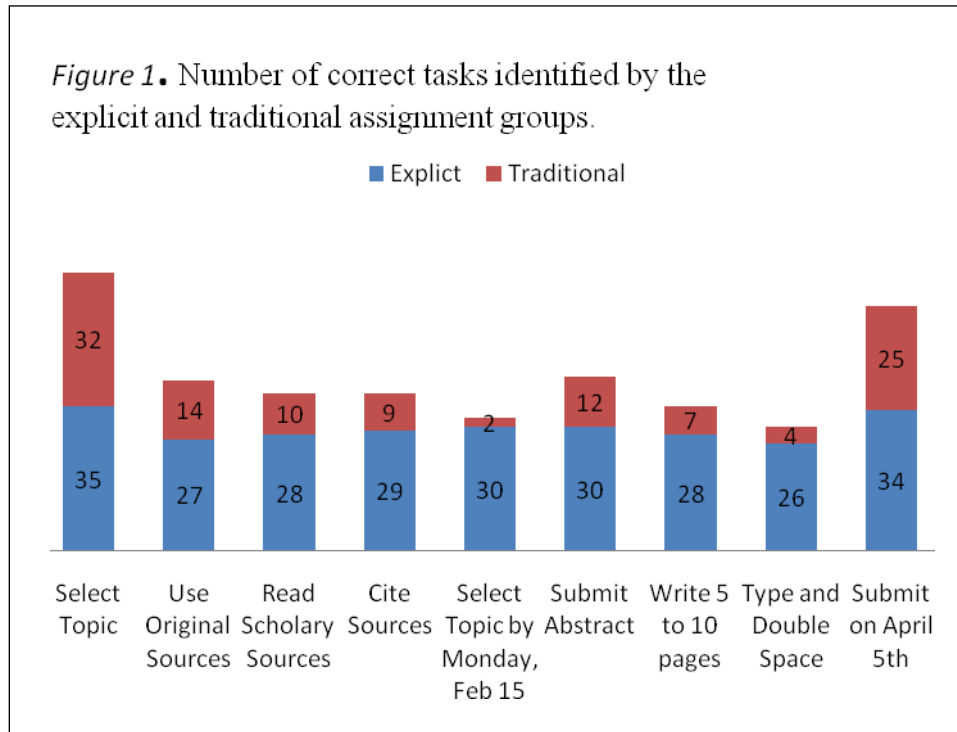
assignment group and 0 – 8 for the traditional assignment group. Students in the explicit assignment group listed ($\bar{x} = 6.95$, $SD = 3.21$) significantly more explicit tasks, $t(59) = -6.44$, $p < .001$, than did students in the traditional assignment group ($\bar{x} = 3.00$, $SD = 1.99$). Table 4 contains numbers and percentages of each task identified by group.

Table 4

Explicit Tasks Identified by Group

Task	Students' Identification of Explicit Tasks			
	Explicit Assignment Group		Traditional Assignment Group	
	Number	Percentage	Number	Percentage
Select a topic from a list of suggested themes	35	95%	32	83%
Use original sources	27	73%	14	34%
Read scholarly sources	28	76%	10	24%
Cite sources in footnotes or endnotes	29	78%	9	29%
Select topic by Monday, February 11 th	30	81%	2	15%
Submit 1-2 page abstract of proposal and preliminary bibliography February 11 th	30	81%	12	29%
Write a minimum of 5 pages, maximum of 10	28	76%	7	17%
Type and double space the paper	26	70%	4	10%
Submit final paper on Friday, April 5 th	34	92%	25	63%

Additionally, figure 1 demonstrates graphically that students in the explicit group listed higher numbers of correct tasks.



Not only was the mean score of explicit tasks identified higher for the explicit assignment group, a higher percentage of students in the explicit group identified each task step. The task most often identified by both groups was “Select a topic from a list of suggested themes.” The explicit directions regarding formatting yielded a much higher rate of task identification than did the traditional assignment. For example, 70% of students in the explicit assignment group identified “Type and double space the paper,” versus only 10% of students in the traditional assignment group who identified this task. The greatest difference in identification was that of a task related to a deadline (i.e., “Select a topic by Monday, February 11th”). Eighty one percent of students in the explicit assignment group identified this task versus 15% in the traditional assignment group.

Additional Writing Tasks Listed by Students

Additional writing tasks were defined as tasks that were not explicitly stated in the assignment, but which students identified as tasks to be completed. Many of these tasks were those identified by the expert sources previously discussed in the methods section. The range of additional writing tasks identified was 0 – 7 for the explicit assignment group, and 0 – 9 for the traditional assignment group, and students in the traditional assignment group ($\bar{x} = 3.07$, $SD = 2.15$) listed significantly more additional writing tasks, $t(76) = 3.82$, $p < .01$, than did students in the explicit assignment group ($\bar{x} = 1.24$, $SD = 2.07$).

Individuals in the traditional assignment group identified 101 additional writing tasks in comparison to only 24 additional writing tasks identified by individuals in the explicit assignment group although many of the students identified the same tasks. Collectively, the traditional assignment group identified 23 additional writing tasks compared with only eight additional writing tasks identified by the explicit writing group. Converting these to percentages reveals that the traditional group identified 55% more additional tasks than the explicit group.

Student responses from both groups were analyzed alongside the two sets of recommendations given by experts for how to write research papers. The results, shown in Table 5, reveal that each group collectively identified all of the explicit tasks, but that students inferred many more tasks than those explicitly given. One or more of the developmental student participants in the study listed all but three of the research paper writing tasks prescribed by The MLA Handbook for Writers of Research Papers or 10 Steps to Writing a Research Paper. Moreover, the students cited 20 more acceptable research paper-writing tasks than the combined suggestions of both of these expert texts.

Table 5
Tasks Identified by Students and Tasks from Expert Sources

	All Tasks Identified by Students in the Traditional Assignment Group	All Tasks Identified by Students in the Explicit Assignment Group	Explicit Tasks of Both Assignments (Note: 2 are combined in the first row)	Recommended Research Paper Tasks by <i>10 Steps to Writing a Research Paper</i>	Recommended Research Paper Tasks by <i>The MLA Handbook for Writers of Research Papers</i>
Select a topic (from a list of suggested themes; by Monday February 11 th)	X	X	X	X	X
Use original sources	X	X	X		X
Read scholarly sources	X	X	X		X
Cite sources in footnotes or endnotes	X	X	X	X	
Submit 1-2 page abstract of proposal and preliminary bibliography February 11 th	X	X	X	X	X
• Compile a working bibliography					
• Make a bibliography					
Write a min. of 5 pages, max. of 10	X	X	X		
Type and double space the paper	X	X	X		
Submit final paper on Friday, April 5 th	X	X	X		
Choose the appropriate writing style					X
Create a timeline for completion	X				
Draft proposal		X			
Edit or Revise	X	X		X	
Evaluate Sources					X
Gather info/sources	X	X			
Go to the library	X	X			
Highlight important ideas	X	X			
Make a cluster map	X				
Make a rough draft of works cited page	X				
Make notecards	X			X	
Make topics for each paragraph	X				
Narrow topic	X				
Proofread	X	X			
Put sources on outline	X				
Put the paper in final form				X	
Record page numbers	X				
Reread assignment	X				
Take notes	X	X		X	X
Use database to find sources	X				
Use outline to guide writing paper	X			X	X
Write a rough draft	X	X		X	X
Write a thesis statement	X			X	
Write body	X				
Write conclusion	X			X	
Write final copy	X				
Write introduction	X			X	

Correct Task Sequence

Correctly sequenced tasks were defined as explicit tasks that students numbered in correct order. When a task that was out of sequenced was scored as incorrect, the raters continued with the next task. Thus, one incorrect task did not result in all subsequent tasks being scored incorrect. The range of correctly sequenced tasks was 0 – 9 for the explicit assignment group and 0 – 7 for the traditional assignment group. Students in the explicit assignment group correctly sequenced ($\bar{x} = 5.57$, $SD = 2.55$) significantly more tasks $t(66) = -5.12$, $= p < .001$, than did students in the explicit assignment group ($\bar{x} = 2.93$, $SD = 1.91$).

Table 6

Scoring Examples of Correct Sequence

Step to Complete	Example #1			Example #2		
	Correct Order	Student's Order	Score	Student's Order	Correct Order	Score
Select a topic from a list of suggested themes	1	9	-	1	1	1
Use original sources (materials by people actually participating in the event as it occurred)	2	2	1	2	2	1
Read scholarly sources	3	5	1	4	3	-
Cite sources in footnotes or endnotes	4	6	1	3	4	-
Select a topic by Monday, February 11 th	5	3	-	5	5	1
Submit 1-2 page abstract of proposal and preliminary bibliography by February 11 th	6	7	1	6	6	1
Write a minimum of 5 pages, maximum of 10 pages	7	8	1	7	7	1

Type and double space the paper	8	4	-	8	8	1
Submit final paper on Friday, April 5 th	9	1	-	9	9	1
TOTAL	-	-	5	-	-	7

Effect Sizes

Effect sizes were computed for each dependent variable as reported above in Table 3. The effect sizes (i.e., Cohen's *d*) indicated that in addition to statistical significance the results can also be interpreted as being practically significant. Additionally, effect sizes can be considered as representing a fraction of a standard deviation. For example, a .50 effect size can be interpreted as increasing the group's mean by half of a standard deviation (McGraw & Wong, 1972). Cohen considered a small effect size to be .20, a medium effect to be .50, and a large effect to be .80 or greater. The explicit assignment resulted in effect sizes of .75 for explicit tasks, -.87 for additional writing tasks, and .50 for correctly sequenced tasks.

Discussion

This discussion presents an analysis of the findings related to each of the research questions, implications for practice, limitations, and suggestions for future research.

Identification of Correct Explicit Tasks

It is clear that when students read an explicitly stated assignment in bulleted form, they are able to list the required tasks with a high degree of accuracy. In fact, students in the explicit assignment group had a mean score that was twice that of the traditional assignment group, and identified certain individual tasks more than three times the rate of students in the transitional assignment group. For example, 81% of students in the explicit assignment group identified “Submit a 1-2 page abstract of proposal and preliminary bibliography” compared with only 29% of students in the traditional assignment group. Certainly, one could argue that all a student in the explicit group had to do to accurately identify was to copy the bulleted list of assignment tasks onto the response sheet; yet the fact that not one student did this further demonstrates the challenges of task understanding and analysis for students in developmental classes. Moreover, students in both groups identified the first and the last items in the assignments with high percentages. It is possible that students looked only at the first and last lines of the assignment. This appears plausible especially in the traditional group where students identified the first and last tasks (i.e., select a topic from a list of suggested topics (83%), and submit final paper on Friday, April 5th (63%)). Additionally, while both groups had broad distributions of task identification, the variance of tasks identified in the explicit group was much lower than in the traditional group. For example, the range of the number students identifying each task was 27-35 tasks in the explicit group, compared with 2-32 tasks in the traditional group.

Students in the traditional assignment group's inability to identify the explicit tasks further illuminates the challenges for students with writing difficulties to extrapolate explicit tasks from narrative assignments, and indicates that the college students who need developmental classes may have insufficient strategies or reading comprehension skills to read narrative instructions and identify what their instructors expect.

Moreover, problems identifying explicit tasks in assignments are not limited to students in developmental classes. This is consistent with findings of Rachal, Daigle, and Rachal (2007) in which college students reported difficulty understanding details and main ideas when reading. If this is true of college students in general, as Rachal et al., (2007) suggest, it follows that it would be highly likely for students with identified reading and writing difficulties, as deficits in reading and writing are highly correlated (Parodi, 2006).

The findings of McCormick and Hill (1992), Torgesen (2001), and Morgan and Fuchs (2007) reveal that the inability to read and extract essential information may involve one or more of the following: (a) inability to differentiate important versus nonessential information (b) lack of reading skills necessary to understand the assignments (i.e., phonemic awareness, phonics, fluency, or vocabulary), (c) underdeveloped comprehension inferencing skills, (d) lack of cognitive or metacognitive strategies or (e) failure to read assignments thoroughly (e.g., skimming versus engaging). The number of words in the traditional assignment may have contributed to the presence of this last potential cause for misunderstanding. The traditional assignment contained 244 words, compared with the explicit assignment's mere 27 words. It is possible that students presented with a lengthy narrative assignment may be inclined to skim the assignment rather than to read it thoroughly.

While the mean for explicit task identification of 6.95 by the explicit group was twice the traditional assignment group's mean of 3.02, it should be noted that 24 of the 31 students in the explicit group did not identify all nine explicit tasks. In fact, 15 of the 31 students in the explicit group identified three or fewer explicit tasks. This suggests that although students who are given explicit directions do much better at identifying expected tasks when they are explicitly listed, many still may struggle with strategic planning and the ability to read a list of expectations and make a mental note of all the separate tasks needed to be engaged in. These findings are supported from a variety of theoretical perspectives, including applied behavior analysis (i.e., task analysis) and information processing theory (Salvendy & Wei, 2004). This finding also makes sense in light of the extensive research that has been conducted on the importance of explicit instruction and on breaking large tasks into smaller parts (Rosenshine, 1995).

Identification of Additional Writing Tasks

Students in the traditional assignment group identified significantly more additional writing tasks not readily apparent in the instructions for either assignment. This was an unexpected finding. I expected that once students in the explicit assignment group identified an explicit task, it would act as a discriminant stimulus for other tasks. For example, I expected that when students identified "read original sources," they would relate this stimulus to other tasks, such as going to the library or a database to search for the original sources, but they rarely listed such tasks. The small number of additional writing tasks in the explicit assignment group implies that students who are given an explicitly stated assignment focus primarily on the tasks presented. In other words, these students focus on explicit tasks, but they do so to the exclusion of other essential, but less explicitly stated tasks. Thus when they encounter a task that is explicit (but perhaps incompletely described) they don't consider other general components of the task. This

is a weakness in the explicit methodology that could be easily addressed by creating a complete and explicit description for such students.

The high number of additional writing tasks identified by students in the traditional assignment group may have derived from students' prior knowledge of what to do when faced with a writing assignment. Students attempt to use prior knowledge to address what they did not understand about the assignment. When faced with an assignment that on first glance presented as complex, students in the traditional assignment group focused primarily on prior knowledge to the exclusion of many of the imbedded stated tasks. This is consistent with the findings of Otero and Kintsch (1992) who suggest that when students do not have good task understanding they may replace what they do not know with faulty prior knowledge. It is also consistent with the possibility that students with development reading difficulties could not or did not read and understand the specific requirements of the traditional assignment.

Correct Sequencing of Assignment Tasks

Students in the explicit group listed tasks in the correct sequence more often than did students in the traditional group. This is not surprising, because tasks could not be sequenced correctly if they were not present, and the explicit assignment group listed significantly more tasks than did the traditional assignment group. While this may have been a function of the inability to read the assignment, it is possible that this group had fewer correct steps simply because they listed fewer correct explicit tasks. Thus, their score on correct steps was actually limited by their inability to infer correct explicit steps from the traditional assignment

Writing assignments, by nature, include some tasks (e.g., choosing a topic, turning in the final paper) that must be completed in a particular sequence, while other tasks may be ongoing or recursive (e.g., planning, revising, taking notes from sources) (Englert, Raphael, Anderson

Helene, Linda, & Stevens, 1991; Flower & Hayes, 1981b). Nevertheless, presenting the correct sequence of tasks is an important factor to be considered when planning assignments, because instructors who present tasks out of order, or in an unclear order, may cause undue confusion to students who already struggle with task understanding (Salend & Schliff, 1989).

Limitations

Three limitations in this study should be noted. First, although two textbooks were used to determine what constitutes an explicit task in writing research papers, there were few parallel tasks recommended by both, and ultimately the research assignment itself was the basis for determining correct explicit tasks and their order. Second, because the explicitly stated assignment was developed from the traditionally presented assignment, it was therefore subject to the limitations of that original assignment, as well as to varying interpretations about which tasks should be deemed explicit. The interrater reliability of explicit tasks was high (95%) before the raters resolved their one difference, but nonetheless other raters might not have identified those same tasks. For example, it is conceivable that other researchers may have chosen “draw on textbook resources” or “do not use solely Internet sources” as explicit statements in the traditionally presented assignment. Third, there could also be disagreement about how the identified tasks should have been scored. Because the traditional assignment (from which the explicit assignment was generated) called for one explicit task two times (i.e., “Select a topic from a list of suggested themes,” and later, “Select a topic by Monday, February 11th”), these were counted as two separate explicit tasks. Conversely, one task (“Submit 1-2 page abstract of proposal and preliminary bibliography by February 11th”) could have been scored by another researcher as two distinct tasks. Nevertheless, the scoring was consistently applied to both groups, so this did not in any way bias the data.

Implications and Suggestions for Future Research

The findings of Jonassen, Hannum, and Tessmar (1989), Rosenshine & Stevens (1995), Ellis & Worthington (1994), Graham (2006), Graham and Harris (2005), Lane et al., (2008), and numerous other researchers of effective instruction show that there are clearly multiple benefits of task analysis and teaching students explicitly. This study supports those findings, but leaves many questions for future researchers. While the explicit assignment clearly resulted in a higher number of correct tasks listed by students, there are still questions as to whether providing a bulleted list is enough. Furthermore, questions remain as to whether instructors should be taught or required to provide a bulleted list to students, or whether even doing so would be effective because if students cannot read and understand an assignment presented in narrative form it is unlikely that they will understand their textbooks or other sources. Thus, as the number of college students who lack basic academic skills increases, instructors and colleges will have to wrestle with the question of how much accommodation is appropriate in a postsecondary environment.

This study was a first step in applying those principles to determine what constitutes an effective assignment for college students with developmental reading difficulties. Much research on accommodations and strategy instruction is needed with the population of college students. Future research to illuminate the positive effects of explicit instruction and of task analysis as an educational tool in this population could address the following questions:

1. Are students better able to identify required tasks when instructors first conduct a task analysis of their assignment requirements?

2. What is the effect of presenting a list of explicit tasks as a supplement to a narrative assignment on the ability of students to identify correct assignment tasks?
3. What is the effect of teaching students who have writing difficulties how to break down narrative assignments into their essential tasks?
4. Are students who are taught to read assignments using a task identification strategy better able to identify assignment tasks than those who aren't?
5. Do students who receive an explicitly stated assignment produce higher quality or a higher number of complete and on-time writing assignments than students who receive a traditionally presented assignment?

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Appendix B

Recruiting Script

Hello. My name is Chris Schwilk. I'm a doctoral candidate at Penn State University, and I'd like to ask you to participate in a study that I'm doing for my dissertation. This study is being conducted for research.

The purpose of the study is to see if a different type of assignment can be designed that would help first or second year college students understand what they need to do better when they're given a big writing assignment.

If you choose to participate, I'll give you an assignment to read and I'll ask you to write down what that assignment tells you that you need to do. After that, I'd like you to put numbers beside the steps showing which step you would do first, second, third, and so on.

This should take less than 10 minutes of your time today.

Each person who completes the study in the three classes where I'm doing this will have his or her name entered for a chance to win the iPod Touch.

Are there any questions that I can answer for you?

Answer all questions.

If you're willing to participate I'll just need a show of hands so I can give you an informed consent paper to sign.

Hand out the informed consent form.

Please read the informed consent form. I've given you two so you can keep a copy for yourself. I'll be happy to answer any questions you have about this form.

If you agree to participate, please sign the form and give it to me when I give you the study papers. If you don't want to participate you are free to leave now.

Thank you for your time.

Appendix C

Explicit Task Identification and Sequencing Score Sheet

Decision Rules for Scoring Student Responses

1. Score correct responses against the assignment master task list below
2. Give two points in the “Explicit?” column if the student listed the entirety of the task. (A point should also be given if the substantive task is evident (e.g., if the student writes “Select a topic” instead of “Select a topic from a list of suggested themes”)
3. Give only one point in the “Explicit?” column if the task was identified, but some essential information was missing (such as the due date).
4. Give one point in the “In Order?” column for each step that is in the correct order. (If one step is out of order, do not give a point for that step in the “In Order?” column.)
5. Continue to the next step and continue to give a point if the next step follows in order from the previous step.
6. Do not give points for formatting tasks which could be accomplished at various times (e.g., margins, headers, spacing)

Step to Complete	Explicit?	In Order?	Completion Order
Select a topic from a list of suggested themes			__1
Use original sources (materials by people actually participating in the event as it occurred)			__2
Read scholarly sources			__3
Cite sources in footnotes or endnotes			__4
Select a topic by Monday, February 11 th			__5
Submit 1-2 page abstract of proposal and preliminary bibliography by February 11 th			__6
Write a minimum of 5 pages, maximum of 10 pages			__7
Type and double space the paper			__8
Submit final paper on Friday, April 5 th			__9
TOTAL			

Appendix D
Procedural Integrity Checklist

Date _____

Procedure	Completed
Introduction	
Explained purpose of study according to recruiting script	
Stated time commitment	
Explained iPod Touch Drawing	
Asked for Questions	
Distributed Informed Consent Papers (2 copies)	
Distributed Note Cards for Drawing and explain again that I need contact info for the drawing	
Distributed student response sheets and TPA / EPA based on random number chart order	
Read the directions to the students <ul style="list-style-type: none"> a. Describe the steps that you would do in order to complete this assignment b. Number the steps in the column on the right in the order you would do them 	
Gave Time to complete the work	
If asked questions about correctness of responses repeated the directions	
Collected Notecards	
Collected signed copy of informed consent	
Collected Assignments	
Thanked students for their time	

Appendix E

Review of the Literature

This appendix presents a comprehensive review of the current research on how the principles of effective instruction (specifically strategy coaching, explicit instruction, and task analysis) have been used by college professors to design writing assignments that promote task understanding for students with writing difficulties. Three primary questions have guided this literature review: (a) Why are narrative assignments problematic for students with writing assignments? (b) What types of instruction best address these deficiencies and promote understanding of expected tasks? (c) What research has been done on whether professors utilize these principles that promote task understanding when designing college writing assignments?

The Prevalence of Students with Writing Difficulties

The increase of at-risk and underprepared students (Gregg, 2007), and students with disabilities (Harrison et al., 2007) in post-secondary institutions increases the inevitability that college professors will have a significant number of students with writing difficulties in their classes. Over the past decade, the number of students with writing disabilities has increased at both four-year and two-year colleges (Madaus & Shaw, 2006). Additionally, because of open enrollment policies that permit admission without having taken or passed college entrance exams (e.g. SAT, ACT) a large number of students with disabilities and those underprepared for college-level work attend community colleges (Bahr, 2008). In fact, the National Center for Education Statistics (NCES, 2005) reports that 42% of community college freshmen and 21% of students at public four-year colleges were enrolled in at least one remedial course. More rigorous academic requirements, combined with a lack of preparation and necessary skills for that rigor, decreases opportunities for success by these students (Gregg, 2007).

Why Are Narrative Assignments Problematic for Students with Writing Difficulties?

While colleges attempt to help students by providing learning centers, tutoring, and academic success programs for at-risk students (Perin, 2004), the fact remains that students often do not have sufficient cognitive skills or compensatory strategies to understand and complete complex writing assignments (Li & Hamel, 2003). College writing is a demanding task that occurs in every academic course (Li & Hamel, 2003). To effectively complete writing assignments in college requires that students have adequate skills in both reading and writing. This is particularly true when professors present major assignments, such as research papers, in a lengthy narrative format.

Findings as to why students with writing difficulties struggle with narrative assignments point to the following three causal issues for underprepared students and students with disabilities: (a) the correlation between writing and reading difficulties, (b) the challenge of identifying and understanding tasks, and (c) the exigent roles of writing planning and sequencing. What follows is a closer examination of each of these challenges.

The correlation between writing and reading difficulties. When trying to determine what to do when given a narrative writing assignment, students must interpret the assignment to understand it. Unfortunately, deficits in reading and writing are highly correlated, so if a student exhibits difficulty in one area it is likely that he/she will have trouble in the other (Parodi, 2006). Problems related to reading and identifying the expectations for narrative writing assignments may involve one or more of the following: (a) failure to read assignments thoroughly (e.g. skimming versus engaging), (b) lack of reading skills necessary to understand the assignments (i.e., phonemic awareness, phonics, fluency, or vocabulary), (c) lack of cognitive or metacognitive strategies (e.g., questioning strategies), (d) underdeveloped comprehension

inferencing skills, or (e) inability to differentiate important versus nonessential information (McCormick, 1992; Morgan, 2007; Torgesen, 2001). Of course, even with proficient decoding skills, if students fail to read thoroughly, lack strategies to understand, or lack the ability to differentiate important versus nonessential information, they will ultimately not understand the task presented to them in narrative form.

The challenge of identifying and understanding tasks. Academic tasks have been defined as: (a) work given to students in schools (Doyle, 1983), (b) the whole set of learning opportunities that students experience in schools, including lectures, discussions, assignments, and tests (Entwistle & Tait, 1995), and (c) a set of instructions that allow students to complete actions with specified materials (Meichenbaum & Biemiller, 1992). Winne and Marx (1989) defined three features of tasks to include content, setting, and presentations, whereas Meichenbaum and Biemiller explained tasks in terms of their function, content, and affect (i.e., feelings about the task and feelings about the student's ability to complete the task). Writing tasks may be defined by their purpose, structure, or components (Butler & Cartier, 2004). This study identifies tasks as the individual actions needed to master an assigned piece of academic work.

Assignments that are undertaken without task identification and understanding go uncompleted. When faced with an ill-defined assignment, students must decode it to define the tasks for themselves (Nelson, 1990). Proficient and skilled learners utilize a variety of strategies to identify, understand, and complete tasks that are woven into academic assignments. Conversely, when students don't fully understand a task presented to them, they form faulty expectations and attempt to complete tasks based on misconceptions (McCrindle, 1995). If students lack the ability to decode and define the task, either they will leave parts of the task they

do not understand incomplete, or they will use flawed prior knowledge to complete the task (McCormick, 1992; Otero & Kintsch, 1992).

Researchers have shown that while competent learners are able to decipher the requirements of a particular task, struggling students who lack strategy knowledge often cannot determine what is expected of them unless the expectations are made clear (Butler, 1998; Sawyer & et al., 1992). In fact, even when students have been taught a strategy to complete assignments, they still may fail to complete the task if they don't understand what they are supposed to do. For example, Hughes, Ruhl, Schumaker, and Deshler (2002) found that even students who had been taught and mastered an assignment completion strategy still had problems completing the assignment if they didn't understand the expected tasks to begin with (Hughes, Ruhl, Deshler, & Schumaker, 1995). Given the already complex process of writing, a lack of identification and understanding of expected tasks makes writing assignment planning all the more challenging.

The exigent roles of writing planning and sequencing. Planning is an important part of all writing, whether it is formal or informal. As the writer thinks, he/she is already planning what to write next. Additionally, how writers anticipate planning to write affects the quality of writing. Several authors have studied how writers approach writing tasks with regard to planning (Bui, Schumaker, & Deshler, 2006; Chalk, Hagan-Burke, & Burke, 2005; De La Paz, 1997). One critical component of planning is the ability to sequence or correctly order the steps of writing. Sequencing is complicated by the fact that most writing is a recursive process (Flower & Hayes, 1981a), that is, while the overall steps of planning, composing, and editing happen linearly, all three steps also must occur simultaneously.

In spite of the recursive nature of writing, writers must be able to order tasks logically. For example, in planning to write a research paper, a student may know that he has to do an

outline and turn in a rough draft, but without deep knowledge of the writing process he may believe that he should outline the paper after he writes the rough draft. Students with learning disabilities and those who lack strategic knowledge or the metacognitive ability to discern important details from narrative assignments benefit greatly from a breaking down of tasks, as well as guidance in task ordering (O'Hanlon, 2005).

What Types of Instruction Best Address Writing Skills Deficiencies and Promote Understanding of Expected Tasks?

For students who have cognitive deficits or lack strategic knowledge (whether due to a disability or not), understanding a task can be very difficult. This problem is compounded when expectations for tasks are woven into a lengthy narrative assignment and therefore not made explicitly clear. Researchers have examined a multitude of methodologies to help students identify, comprehend and master diverse learning tasks.

From a cognitive psychology perspective, cognitive load theory suggests that if a task is beyond the limits of working memory, learning will be hindered (Carlson, Chandler, & Sweller, 2000). Researchers of cognitive load theory (Sweller, 1994) have posited that breaking tasks into smaller parts allows for cognitive resources to be allocated away from task understanding and redirected to task completion. While cognitive load theory provides a theoretical basis for understanding problems of task understanding, it does not provide specific interventions or strategies to help students learn more efficiently.

Fortunately, there has been ample research on teaching techniques that increase student success. Researchers over the past 30 years have examined practices of effective teachers, and have discovered that the most effective teaching practices are based upon ten principles of effective instruction. Rosenshine and Stevens (1995) and Ellis and Worthington (1994) offered

detailed descriptions of these principles. Rosenshine and Stevens emphasized the importance of breaking large tasks into smaller parts, echoing the aforementioned research on cognitive load theory. Ellis et al., highlighted the effectiveness of explicit instruction. Similarly, Foorman and Torgesen (2001), in a similar type of review, concluded that students who are at risk for reading difficulties need even more explicit, intensive, and supportive instruction than the majority of learners.

Explicit instruction: What it is and why it is critical to task understanding. Cooper (1982; p. 59) defined an effective teacher as “one who is able to bring about intended outcomes.” Rosenshine (2002) and Ellis and Worthington (1994) expound on what teachers who teach explicitly do to bring about their intended outcome, which includes the following instructional practices relevant to this study: (a) present new information in small steps, (b) give clear and detailed instructions and explanations, and (c) provide active practice. In the words of Shari Harrison (2003), “Providing a concise explanation of what the students are being asked to do is the surest way to promote their success in doing it.” This supports Leinhardt and Greeno’s (1986) research on effective teaching in which he concluded that expert teachers are particularly skilled at communicating the content that needs to be learned.

Teachers who teach explicitly provide “bottom-up” instruction, which means that they build requisite skills logically and systematically so that each skill builds on the previous skill (Swanson, 2000). Conversely, teachers who provide “top-down” instruction seek to create a learning environment where students learn to problem solve by beginning with a large task and discovering its component parts. For example, a narrative assignment could be considered more of top-down approach as it assumes that the students already possess the prerequisite skills of reading and discerning individual tasks. The task analysis approach supports the students by

delineating the requirements in an explicit task-based format. Additionally, explicit instruction uses task analysis to help students to focus on the specifics that they are required to learn.

Task analysis: Its origins, applications, and effect on the completion of writing assignments. Task analysis is a fundamental technique based on the principle of parsimony (Baer, Wolf, & Risley, 1968) that provides a foundation for behavioral and cognitive analysis of complex procedures. A key component of effective teaching, task analysis can be defined as breaking large behaviors into smaller parts. Researchers have identified this strategy in different ways. O’Hanlon characterizes this breaking down of tasks as “segmenting” (2005), and Ellis and Worthington (1994) and classify it as presenting new material in small steps, as well as accenting critical features of a task.

Zemke and Kramlinger (1982) indentified five methods for performing task analysis: (a) look and see, (b) structure of the knowledge (hierarchical approach), (c) critical incident approach, (d) process/decision flowchart (i.e., information processing) and (e) surveying and interviewing. Jonassen, Hannum and Tessmer (1989) expanded Zemke and Kramlinger’s list to twenty-seven different types of task analysis. Obviously, the type of task analysis to be used depends on the purpose. For the purpose of educational applications, the most commonly-used types exist in one of three separate, but overlapping categories: (a) behavioral job analysis (i.e. looking at the person performing the task and recording what she or he does), (b) content or subject analysis, or (c) learning analysis (i.e. identifying the component skills necessary for the student to learn) (Jonassen et al., 1989).

Rosenshine (2002) portends that when teachers initially reduce the difficulty of a task, students are more likely to be successful with increasingly difficult tasks later. This idea, referred to as controlled or guided practice, has been shown in studies by Alfassi (2002), Lonberger

(1988), and Dermody (1988) to increase student performance in writing although these studies focused on the utility of breaking tasks down for the purpose of summarizing, rather than for completing a writing assignment.

Origins and applications of task analysis. Researchers trace the origins of task analysis as a distinct methodology to World War II, when the military sought a means to improve manufacturing efficiency. Since then, professionals from behavior analysts to computer scientists to instructional designers (Gagne, 1962; Glaser & Brunstein, 2007) have adopted the knowledge of how the hierarchical decomposition of complicated learning tasks could enhance educational training. Throughout American history, task analysis as a means to insure task mastery has played in pivotal role in the fields of: industry (Clark, 2007; Paradowski & Fletcher, 2004), medicine (Bartlett & Toms, 2005; Czaja & Sharit, 2003), military science (Baker & Youngson, 2007; Leedom et al., 2007), information services (Canepi, 2007; Salvendy & Wei, 2004), and special education (Browder, 2007; Carter & Kemp, 1996).

Task analysis in special education. Task analysis has been used to develop curriculum in special education for students with a variety of disabilities. In the area of developmental disabilities, task analysis is often applied to teach hygiene and functional living skills to children and adults with mental retardation. Breaking down tasks into their component sub-tasks has proven an effective way to develop the following aptitudes: helping young students with disabilities learn to brush teeth (Ingham & Greer, 1992), teaching apartment upkeep to young adults with mental retardation (Williams & Cuvo, 1986), and fostering self-catherization skills in children with neurogenic bladder complications (Neef, Parrish, Hannigan, & Page, 1989). Several researchers have demonstrated that complex tasks can be taught to people with severe disabilities using task analysis. Most notably, Gold (1972, 1973, 1974, 1976; Gold &

Rittenhouse, 1978) in a brief but productive career, promoted task analysis as he encouraged teachers and researchers to seek alternate methods of instruction for difficult-to-teach tasks.

Effect of task analysis on the completion of writing assignments. Researchers in the area of self-regulated strategy development (Graham, 2006; Graham & Harris, 2005; Lane et al., 2008; Zito, Adkins, Gavins, Harris, & Graham, 2007) have examined the relationship between task understanding and task completion. They all found that task analysis is critical when teaching students to understand and complete tasks, and portend that a high rate of task completion is contingent upon teachers breaking large tasks into their component parts.

Task analysis has been used as an intervention for college students with assignment completion problems. However, most studies related to assignment completion and task analysis have been completed within the construct of procrastination. Researchers have conducted correlational studies on procrastinators relevant to task characteristics (Ackerman & Gross, 2005; Blunt & Pychyl, 2000; Ferrari, Mason, & Hammer, 2006), and Tuckman and Schouwenburg (2004) developed a behaviorally-based intervention program to help students overcome procrastination and complete assignments. While this is one of only a few experimental studies that has used task analysis to examine task completion, it still does not address task understanding as a vehicle to task completion.

What Research Has Been Done to Determine Whether Professors Utilize Principles That Promote Task Understanding?

There is nearly overwhelming evidence to suggest that the principles of effective instruction, that have resulted from more than thirty years of research on teacher effectiveness (Rosenshine, 1995), help students to understand and complete tasks given to them by teachers; yet

there is almost no research to suggest that college professors know about or use these strategies to promote task understanding.

While researchers and practitioners in postsecondary developmental education and faculty development have studied and advocated for the use of these principles and strategies, the fact remains that most college professors outside of schools of education have no formal training of any kind; and, as Jordan, Lindsay, and Stanovich (1997) note, teachers of students who have disabilities or are at risk for academic failure are often resistant to effective instruction techniques. Nonetheless, investigations of the use of instructional principals that promote task understanding have reinforced the value of effective instruction.

Universal design for learning and task understanding. Although many researchers have examined the inclusion of at-risk students and accommodations for students with disabilities in secondary education, empirical evidence of interventions to support postsecondary students (such as breaking down tasks and teaching explicitly) is sparse (Lindstrom, 2007). Researchers who have examined allowable accommodations and adaptations offered by faculty and college student services offices have primarily focused on accommodating students' needs (Burgstahler & Moore, 2009) or changing the educational and instructional environment using the principles of universal design for learning (O'Hanlon, 2005).

The Center for Applied Special Technology (CAST) has conducted extensive research on UDL (see <http://www.cast.org> for reports and policies), using focus groups to determine perceived effectiveness of accommodation strategies. Three principles of UDL are especially critical for helping students who struggle to complete assignments, that is, that instruction should be: "(a) equitable, (b) simple and intuitive, and (c) perceptible" (Scott, McGuire, & Shaw, 2001). Orr and Hamming (2009) conducted a review of 38 studies of Universal Design for Learning and

inclusive practices in postsecondary institutions. They grouped the 38 studies into five themes, and while these themes did support the principals of effective instruction, they did not identify the use of explicit instruction to promote task understanding as one of those themes.

Two studies (Butler & Cartier, 2004; Butler, Elashuk, & Poole, 2000) have investigated task understanding in postsecondary students; and Butler and her colleagues also examined the use of the Strategic Content Learning approach with postsecondary students (Butler, 1998). Although not widely adopted by college professors, explicit instruction (or discussion) was identified in each of these studies as critical to task understanding.

Largely, though, of the studies that exist relating to understanding assignment tasks, the methodology is weak. Most of the studies have what could be considered exploratory research (e.g., surveys, focus groups) and focus on attitudes more than instructional practices. For example, research has been conducted using surveys to identify faculty and student attitudes about assignment type (Watkins, 1980) and to identify expectations of faculty who teach developmental classes (Wambach, 1998); but interventions supporting these survey results have not been studied.

Use of explicit assignments by college professors. The practice of explicit instruction in postsecondary settings is far from ubiquitous. While many authors discuss the value and importance of explicit instruction, there is little research on the usage and effectiveness of explicit instruction by college professors. In fact, there appears to be a remarkable void in the literature regarding both explicit instruction and effective practices for assignment design to support struggling learners and promote task understanding. Moreover, investigations of the use of explicit instruction by college professors have largely been limited to laboratory or learning center

settings. There has been negligible research conducted measuring the effects of explicit instruction and task analysis on task understanding for writing assignments.

One notable exception is a study by O’Hanlon (2005), who looked at instructional techniques that accommodate learning disabilities, including sequencing, segmentation, control of task difficulty, and strategy clues. She advocated for guidance in sequencing and dividing tasks into manageable chunks to help regulate the difficulty level of learning new skills. O’Hanlon noted that “it is particularly important to provide explicit directions.” Zawaiza and Gerber (1993) also looked at ways that professors promote task understanding. They examined the effects of explicit instruction on math word problem solving and found that community college students who were given explicit instruction using diagrams to represent word problems were better able to solve word problems than students who just discussed the word problems.

Student Perceptions of Explicit Instruction

Students have also identified an appreciation for explicit instruction. Orr and Hamming (2009) identified 21 studies that addressed teaching strategies and/or learner supports, and several of these researchers conducted focus groups or surveys in which students expressed a preference for explicit information about course requirements or assignments (Madaus, Scott, & McGuire, 2002). Additionally, Smith (1993) noted from focus group interviews that students appreciated when large assignments were broken into smaller chunks.

This prompted the question of whether students would have difficulty identifying the tasks required by a writing assignment if the assignment tasks were not presented explicitly, but rather in multi-paragraph form, as is often done in course syllabi.

Pilot Study on Task Identification

In an attempt to determine how adept at-risk college students were at identifying assignment tasks, I conducted a brief survey with a group of students in a developmental reading class at Shippensburg University. Students were placed in the class as a condition for admission to the university. All of the students scored below a combined score of 700 on their reading and mathematical reasoning SAT test. Seventeen of the 20 students were from minority populations.

I gave the students an assignment that was taken from a world history course syllabus at the university. The expectations for the assignment was about a page long, written in narrative form. I also gave them a separate paper with the question “What specific tasks do you need to do to complete this assignment?” The students were asked to list the following: the task, the purpose of the task, the projected completion date for each task, and the place where they planned to complete the task.

There were 20 separate tasks identified by the students. The design of the form imposed identifying a ceiling of five tasks, even though there were 6 tasks explicitly called for by the assignment (i.e. “choose a research topic”), and numerous potential implicit tasks (such as “go to the library”). Nonetheless, only eight of the students identified five tasks. Four students cited four tasks. Five students picked out only three tasks, while one student identified only one task (i.e., write the paper). The most identified task was writing the paper. The second most identified task was choosing or gathering information on the topic. Four students listed writing a rough draft, and only one student indicated that he/she would proofread the paper.

- | | |
|-----------------------------------|----|
| 1. Choose a research topic | 6 |
| 2. Write a one paragraph proposal | 9 |
| 3. Write a one page proposal | 13 |
| 4. Create a bibliography | 5 |

5. Collect five sources 17
6. Write the paper 3

This small information-gathering study provided helpful information. It appears that students in a college developmental class do struggle with identifying component tasks in a writing assignment. This pilot study supports Butler and Cartier's (2004) assertion that task understanding is critical to assignment completion, but what remains to be determined is whether an explicitly stated assignment (rather than one presented in narrative form) may help students be able to identify specific assignment requirements.

Summary

It is widely accepted that writing is important to students across every academic discipline. While many students enter college ready to meet these academic challenges, it is clear that the number of students who enter college with writing difficulties is on the rise. This group is comprised of students with disabilities, as well as students who are at risk for academic failure because they come to college unprepared for the rigors of college writing. For students at risk of academic failure due to reading or writing problems, one particularly difficult task is deciphering and understanding narrative writing assignments. Specifically, students must determine the critical tasks of the assignment, and know in what sequence to complete these tasks. If students do not understand the individual tasks of an assignment, they will not be able to successfully complete the work. Furthermore, even if students have received strategy instruction on assignment completion, lack of task understanding will likely impede their ability to complete the writing assignment.

Researchers in the areas of task analysis and explicit instruction have established the efficacy of breaking large tasks into smaller components and teaching those tasks explicitly and

directly. Additionally, self-regulated strategy development emphasizes the need for task analysis and explicit instruction combined with metacognitive and self monitoring strategies. While special education teachers have largely embraced explicit instruction in primary and secondary schools, college instructors have not. In fact, there is a remarkable void in the literature regarding the use of the scientifically validated principles of task analysis and explicit instruction to teach college students. This is ironic, in light of the extensive use of task analysis and explicit instruction in the fields of medicine, engineering, military science, and instructional design for computer based learning.

While there are studies that focus on task understanding, task analysis, and explicit instruction, there is surprisingly little research that combines these elements to assist college professors to develop clear and explicit assignments to present to students. Additionally, few studies have investigated strategies to support college students' ability to identify critical assignment tasks, or to establish the order in which to engage in those tasks. Practically no research has been conducted to determine whether the written presentation style of an assignment impacts the accurate completion of writing assignments. Research is needed to ascertain which writing assignment presentation style is more likely to increase task understanding and appropriate sequencing of tasks: an explicitly presented writing assignment or one traditionally presented in narrative form? This study serves to satisfy this need by presenting students who have writing difficulties with both types of assignments (explicit and narrative) and comparing which one renders students more likely to properly identify and sequence required tasks.

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Ph.D.	Pennsylvania State University University Park, PA	May 2010	Special Education
M.S.	Bloomsburg University Bloomsburg, PA	1996	Deaf and Hard of Hearing Education
Certificate	Goethe Institute Schwäbisch Hall, Germany	1985	German Language and Culture
M.Div.	Trinity Lutheran Seminary Columbus, OH	1985	Pastoral Theology
B.S.	Miami University Oxford, OH	1981	Secondary Social Studies Education

Experience

2005-2009	Assistant Professor of Teacher Education Shippensburg University
2002-2005	Teaching Assistant / Student Teacher Supervisor The Pennsylvania State University
1996-2001	Teacher of the Deaf and Hard of Hearing Capital Area Intermediate Unit, Harrisburg, PA
1992-1996	Foster Parent Philadelphia Children's Services
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1985-1996	Evangelical Lutheran Church in America Pastor, St. Paul Lutheran Church, Botkins, OH Pastor with the Deaf Congregation, Trinity Lutheran Church, Reading, PA

Publications

- Kubina, R. M., Amato, J., Schwilk, C. L., & Therrien, W. J. (2008). Comparing performance standards on the retention of words read correctly per minute. *Journal of Behavioral Education*. 17(4), 328-338.
- McAfee, J. K., Schwilk, C. L. & Mitruski, M. (2006). Public policy on physical restraint of children with disabilities in public schools. *Education and Treatment of Children*. 29(4), 711-728.