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Brenda Jackson Final Master's Portfolio

Brenda Jackson
bdjacks@bgsu.edu

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Final Master's Portfolio

Brenda D. Jackson
bdjacks@bgsu.edu

A Final Portfolio

Submitted to the English Department of Bowling Green
State University in partial fulfillment of
the requirements for the degree of

Master of Arts in the field of English
with a specialization in
Professional Writing and Rhetoric

3 July 2022

Dr. Chad Iwertz Duffy, Portfolio Advisor

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Brenda Jackson

Dr. Chad Duffy

ENG 6910

3 July 2022

Analytical Narrative

I am not currently a teacher by trade; instead, I have spent the last 30-something years of my life in the Information Technology (IT) industry. I entered the IT field as a computer software trainer as a way to assuage my childhood dream of becoming a teacher. In every IT job I've held, I have worked my way into the hiring, onboarding, and training role so that I could do what I love most: teach people. I've also taught Sunday School at my church for the past 25 years to get my "teacher fix." (I have the BEST 4th through 6th graders in my Sunday School class!) After being on the lifetime education plan, I finally graduated magna cum laude with my BA degree in Management with a minor in Human Resources in 2016, followed by my Masters in Communications Leadership in December 2020. In January 2021, I enrolled in the Masters in Education Program with a specialization in Professional Writing and Rhetoric here at BGSU and plan to graduate in December 2022. I'm finally fulfilling my childhood dream while planning for retirement: I plan to teach Communications and English classes at my local area community college, and I could not be more excited!

I selected the Professional Writing and Rhetoric specialization for two reasons: 1) I had a writing professor during my undergraduate coursework who exhibited the antithesis of how I believe professors should treat their students, so I want to be the professor I wish I had many years ago – patient, kind, and inspiring, treating students with respect and dignity; 2) Throughout

my career, excellent communications and writing skills have provided me opportunities that I don't believe I would have had otherwise. I have seen firsthand the poor communications and writing skills that many employees bring into the workforce, and I want to ensure that my future students will have every opportunity available to them when they enter the workforce with excellent communications and writing skills.

As I prepare to become a teacher through my Program here at BGSU, I have selected several elective courses that teach me how to teach. To that end, many of the papers I have written throughout the Program have focused on how to ensure that I become the best teacher I can be for the benefit of my future students. One of my greatest concerns as a new teacher is related to fairly assessing my students' writing while maintaining a positive and encouraging learning environment. Therefore, the first paper presented within this Portfolio is one on assessment entitled, "Best Practices for English Teachers: Effective Writing Assessment Techniques." This research-based pedagogical paper was written for Dr. Duffy's ENG 6200 Teaching of Writing course and, with his permission, applies many of the methods Dr. Duffy uses in his courses (I-Search, Entering-the-Conversation, peer reviews via the WEx Guide to Peer Review, and reflections). The paper includes a sample term paper assignment for the purposes of presenting a multifaceted assessment approach that features labor-based grading, a proven peer review process, and targeted written corrective feedback.

The most significant revisions applied to my Assessment paper were based on feedback from members of my cohort. For example, one colleague correctly asserted that I had not explained labor-based grading. Based on her feedback, I conducted additional research and incorporated more background about labor-based grading and the findings from my research into the paper. I appreciate that she brought this oversight to my attention, as I gained a deeper

understanding of not only labor-based grading as I experienced it here at BGSU but grading contracts and how those have contributed to learners taking greater responsibility and engaging more fully in the learning process. I value the collaborative spirit with which grading contracts can be negotiated with students as demonstrated by Jane Danielewicz, Peter Elbow, and Asao Inoue. Through the process of creating, researching, and revising this paper on assessment, not only did I grow in my depth and breadth of understanding the various methods of assessment, I also had the opportunity to create an assignment that I can employ in my future writing classroom. I am excited to use both the assignment and the assessment models outlined within the paper with my future students.

Another advantage of completing the Professional Writing and Rhetoric specialization is that I have been able to transfer my knowledge from the coursework to my full-time job. One of the issues my employer faces every year is getting employees to transfer the knowledge they gain from annual required courses to their daily work. Several of the courses I completed in the Program focused on technical communications and the role the technical communicator plays in the workforce. Therefore, the second paper I selected for my Portfolio entitled “How Technical Communicators Enhance Training Knowledge Transfer: A Diverse Approach” is a research paper that reviews a wide variety of pedagogies and multimodal tools that technical communicators can leverage to facilitate learners’ training knowledge transfer. This paper was written in Dr. Hoy’s ENG 6410 Resources and Research in Professional and Technical Communication course. While the focus of this paper was on how technical communicators can help learners transfer new knowledge gained from training courses, one of the questions I asked my reviewers was whether the tiebacks to the role of the technical communicator were excessive or distracting. The resounding response from all reviewers was, “No.” and one reviewer

responded, “The tiebacks create cohesion.” Another reviewer suggested that perhaps I could incorporate another heading at the top of the section that addresses how technical communicators can serve as facilitators, so I have added that heading. Additionally, Dr. Hoy provided feedback regarding some errors I made in in-text citations and source attributions, so I have made those corrections. Lastly, based on another comment from a reviewer proposing that I cut sections that appeared to be less relevant to the workplace, I revised the sections to better explain why these concepts are key to my arguments and, therefore, should not be removed. For example, while Brian Hand’s article references an academic example, the point of including this research study is that new knowledge can be transferred from short term to long term memory by providing an environment where learners can engage in discussion and even debate about the content they are learning. To highlight my point, I summarized the paragraph by noting that technical communicators can facilitate intentional conversations with learners following training sessions to help transfer the new knowledge to long term memory.

The process of creating, researching, and revising both of my papers helped me recognize that there is rarely one perfect solution. Just as I sought best practices for assessments in my first paper, I had hoped to find the best way to help employees transfer the knowledge gained via the annual required training courses. Instead, I found that the “best solution” is an amalgamation of pedagogies and multimodal tools that the technical communicator should utilize to add value to an organization by facilitating employees’ knowledge transfer of required training. Perhaps the “best solution” is a flexible and adaptable technical communicator who can adeptly assess learners’ needs and then address their needs accordingly. I am fortunate that I have had the opportunity to incorporate some of my research findings into my full-time job. In fact, I have added the topic of knowledge transfer to my regular webinars, offering tips and techniques

employees can use to transfer knowledge gained from my webinars to their daily activities. Additionally, I encourage managers to discuss with their employees what they have learned and how they can apply the concepts to their daily work. While I have enjoyed the benefits of applying my learning to my daily work, I look forward to leveraging some of these same pedagogies and multimodal tools within my future classroom to ensure that my students will transfer their new knowledge to their daily lives outside of the classroom and into the workplace.

I am thrilled with the quality of the education I have received here at BGSU in my pursuit of becoming a teacher. The professors for each of the courses have modeled what it means to be a professor, setting high expectations while challenging, encouraging, and supporting their students through the learning process. The assignments they've provided offer students clear guidelines while allowing the flexibility to write on topics most meaningful for the students, enabling us to achieve our personal and professional goals. As a result of learning from BGSU's outstanding faculty, I aspire to join the ranks of such amazing and inspiring educational professionals. Furthermore, the cohort of classmates I have had the privilege and honor of learning with and from has also been exemplary. I have truly been blessed to be among consummate professional educators who have been collaborative, supportive, encouraging, and willing to share their skills, knowledge, and experience with those of us who have not yet joined the ranks of academia.

I am looking forward to finishing my last few courses by December and graduating with my Masters in English specializing in Professional Writing and Rhetoric. Most important, I am committed to employing all that I have learned during this Program at BGSU to ensure that my future students have a positive and encouraging learning experience that enables them to effectively communicate their ideas beyond my classroom and into the workplace.

Thank you to BGSU's faculty and staff for everything you do for your students. It has truly been a pleasure. I hope to visit the campus one day to shake the hands of the people who have shaped the teacher that I will be when I enter my future classroom. Until then, please accept my heartfelt appreciation and best wishes for your continued success.

Brenda Jackson

Dr. Chad Duffy

ENG 6200 Section 501W-LEC

3 July 2022

Best Practices for English Teachers: Effective Writing Assessment Techniques

The topic of how to effectively assess writing is one that can be approached from different angles. For example, some scholars believe that using a rubric is the most effective way to ensure fairness when assessing a student's writing. Others believe that conducting conferences with the students to discuss their writing and provide suggestions for improvement is more effective. In addition to the various methods of assessment, teachers use a variety of styles to provide feedback to their students. In *Key Works*, Ronald F. Lunsford and Richard Straub's research findings indicated that only 12% of the teachers' comments included praise (174). Furthermore, "Response styles become problematic when teachers go to extremes: barraging students with short, terse comments on mostly local matters, in most directive modes, according to their own agendas, making their commentary...authoritarian; and when they make so few comments...that they become detached, offering the student little help or direction" (Lunsford and Straub 188). Alternatively, Paul Diederich noted, "Teachers who insist on marking every error in every student composition should ask themselves whether such an all-out attack really works" (Lunsford and Straub 221). Instead, rather than drowning students in red ink, Diederich "suggests an approach to annotating papers which is selective, positive, and humane" (Lunsford and Straub 221). This essay explores how teachers can effectively assess student writing in composition classes using a hybrid approach that features labor-based grading, peer reviews, and

targeted written corrective feedback (CF) while embracing an affirmative style that enables students to receive and apply the feedback to future revisions. Research demonstrates that a comprehensive methodology such as this ensures a positive, collaborative, and constructive environment in which students have the opportunity to practice effective writing processes and strategies through a reflective lens.

Background: Survey Says...

In a quantitative and qualitative study by Agbayahoun, teachers' feedback on students' writing was evaluated. The study reviewed the type of feedback teachers provided and obtained the writers' opinions about their teachers' feedback. The results demonstrated that the teachers' feedback was summative, focusing on marking all the students' errors without providing any suggestions for improvement or any affirmative feedback. After receiving the feedback, the students discarded their papers without making corrections. Students expressed frustration that they did not understand what the marks meant or how to correct their errors. Because the feedback was negative in nature and difficult to understand, students did not use the feedback. Students expressed that they would prefer to receive "comprehensive, explicit, and informative teacher feedback," including the "grade, suggestions for error correction [including grammar], and written comments on the content" (Agbayahoun 1900). This study demonstrates that, while written corrective feedback has historically received harsh criticism, "focused feedback that targets specific grammatical errors is more effective than unfocused feedback...enabling learners to more readily recognize the difference between their own use and the target-like use of forms" (Kang and Han 2).

In Chapter 10 of *Key Works: Twelve Readers Reading – A Survey of Contemporary Teachers' Commenting Strategies*, Lunsford and Straub enlisted "a dozen teacher-scholars to

read and respond to a sampling of essays and display their own best responding styles” (159).

They asked the teachers to review and provide feedback on essays that they thought “represented the kinds of writing produced in first-year college writing courses. The sampling was made up of rough final drafts and included expressive, referential, and argumentative writing” (Lundsford and Straub 159). Following are some of the key findings that inform how teachers should consider engaging with their students’ writings:

- Overall, writing teachers should “reject styles that are overly directive and controlling, [taking] control out of the hands of the writer and [imposing] the teachers’ values and views on the students” (Lundsford and Straub 188).
- Providing directive commentary gives direction and offers help to students.
- In contrast, non-directive commentary typically does not offer students specific strategies for dealing with revision in a direct way.
- Most importantly, writing teachers should “engage themselves in their responses, ...avoid leaving their commentary detached, lead the students to see the text in certain ways, and engage her in certain strategies of revision” (Lundsford and Straub 189).

In other words, writing teachers should consider offering specific, actionable feedback using an engaging, conversational tone, while encouraging the student’s critical thinking about their text through the use of open questions to guide the student to consider specific strategies.

In an article for the *International Journal of Qualitative Methods*, Ricky Lam demonstrates how applying assessment as learning (AaL) can support students’ “learning of writing” (Lam 1). Lam shares four qualitative research methods to track how AaL could facilitate students’ continued writing development. In the article, Lam contends that “scholars

believe that Aal could be considered a stand-alone instructional approach, which transforms pupils into committed, critical, and self-regulated learners who create new learning by synthesizing prior and newly learnt knowledge” (2). AaL focuses on formative assessment processes, where teachers clarify learning intentions and success criteria, design tasks that provide evidence of learning, interpret the evidence as compared with the success criteria, and provide learners with descriptive feedback “which extends and deepens pupil learning” (Lam 2). Additionally, AaL is process-oriented, emphasizing metacognition, which includes self-assessing, self-monitoring, self-regulating, and maintaining writing portfolios. Ultimately, the students are responsible for their learning using the aforementioned reflective tasks.

The Master’s capstone course ENG 6910 here at Bowling Green State University (BGSU) provides an excellent example of AaL. According to the ENG 6910 Portfolio guidelines, students review completed writings, identify key pieces for revision and inclusion within the Portfolio, and reflect upon the projects, “...why they matter, how they reflect your ideas, academic problems that interest you, how your thinking has changed over your time in the MA program, reasons for your revisions, and what you think you accomplished in revising as you did” (4). This course supports Lam’s claim that Aal can be a “stand-alone approach which transforms pupils into committed, critical, and self-regulated learners...create new learning by synthesizing prior and newly learnt knowledge” (2). Through the creation of our Portfolios, we are able to transfer the knowledge we have gained throughout our Master’s Program at BGSU, ultimately increasing our effectiveness as English educators in the field.

In another article that also supports students’ learning of writing, Schillings, et al. discovered that enabling students to work together in a peer review process resulted in students gaining a better understanding of the teacher’s written feedback and improving the quality of the

students' papers. Key to the success of this model is high-quality feedback provided by the teacher. Peer-to-peer dialogue between students regarding the teacher's written feedback enhanced the students' understanding of "feed up, feed back, and feed forward information" (Schillings et al. 694). The "feed up" category answers the question, "Where am I going?" by reviewing the "goals and assessment criteria of the assignment" (Schillings et al. 694). "Feed back" focuses on the query, "How am I doing?" by evaluating the variance between "the intended and actual performance" (Schillings et al. 694). Lastly, "feed forward" asks, "Where to next?" by explaining "to the learner how to move to the next step or which strategies to choose to improve" (Schillings et al. 694). Additionally, "Peer feedback is also known to enhance students' sense of belonging to the group, which can motivate students to learn from each other" (Schillings, et al. 694).

Within the Master's Program here at BGSU, most of the professors teaching the courses embrace the value of the peer review process which has facilitated high-quality relationships of the students within the cohort, resulting in lively discussion group conversations, honest and constructive peer review feedback of assignments, and higher-quality projects. As a student of the Program who is not an experienced educator like many others in the cohort, I was originally intimidated by the peer review process, thinking that I (one from outside the academic field) would not have much, if anything, to contribute to the peer review process. However, I have since learned that every reader has a viewpoint worth sharing that may help the writer gain a fresh perspective which may result in a better-quality product. Many students within the cohort have agreed that the peer review process facilitated by the discussion group conversations has been one of the most valuable learning experiences here at BGSU.

Another practice that some professors at BGSU leverage is labor-based grading. Prior to coming to BGSU, I was not familiar with labor-based grading, and as a traditional student who was used to working hard to collect my “A” grades to maintain my 4.0 GPA, transitioning to this practice was somewhat disconcerting. However, after doing some research and considering the benefits of labor-based grading, I experienced firsthand the freedom to explore a topic and truly learn and grow through the process of writing without the worry about a letter grade.

In researching labor-based grading, I discovered the concept of using “grading contracts” espoused by Jane Danielewicz, Peter Elbow, and Asao Inoue, among others. Danielewicz and Elbow describe a “hybrid grading contract where students earn a course grade of B not on our evaluation of their writing quality but solely on their completion of the specified activities...most reliable in producing B-quality writing over fourteen weeks” (244). The difference between contract grading and conventional grading lies in the focus: contract grading highlights the process of learning, whereas conventional grading stresses the “products, outcomes, or results” (Danielewicz and Elbow 260). Furthermore, contract grading allows for the integration of peer reviews and revisions, where conventional grading does not (Danielewicz and Elbow 260).

Asao Inoue leverages Danielewicz and Elbow’s grading contract as the foundation for his labor-based grading contract that focuses on tracking labor while embracing “compassion as the core value of the class” (Kang). Inoue offers a sample grading contract that delineates the purpose of labor-based grading, the roles and responsibilities the teacher and students will assume within the “community of compassion,” and how the students’ work will be rewarded (330). The following table “shows the main components that affect [the student’s] successful compliance with our contract,” including the number of absences as well as the number of late,

missed, or ignored assignments that are allowed before the student's grade is negatively impacted (Inoue 335).

Table 1

The break-down of labor that calculates your final course grade (Inoue 335)

	# of Absences	# of Late Assigns.	# of Missed Assigns.	# of Ignored Assigns.
A	4 or less	5*	0	0
B	4 or less	5*	0	0
C	5	6	1	0
D	6	7	2	1
F	7	8 or more	2	2 or more

*For those who were able to meet the contract's original guidelines (i.e., three or fewer late assignments) will receive extra consideration during the final conferences. This means a student who has three or fewer late assignments and has met the contract in all other ways may get the benefit of the doubt should his/her portfolio not fully meet the requirements for an "A" contract.

Source: Inoue, Asao B. *Labor-Based Grading Contracts: Building Equity and Inclusion in the Compassionate Writing Classroom*. The WAC Clearinghouse, 2019.

Finally, Inoue emphasizes that the best way to learn is to teach others by collaborating and sharing their skills, abilities, and experiences (331). Furthermore, Inoue asserts that through labor-based grading and

taking grades out of the class, I hope will allow you freedom to take risks...in your writing and work... really work hard...and learn from failure. Important learning often happens because of failure—so it’s not really failure at all. Failure really only happens in our class when you do not do the work, or do not labor in the ways we ask of you (331).

As noted above, there are many research studies that demonstrate the importance of:

- “Comprehensive, explicit, and informative feedback,” including the “grade, suggestions for error correction [including grammar], and written comments on the content” (Agbayahoun 1900).
- Engaging, directive commentary that provides direction or offers help to students (Lundsford and Straub 189).
- Consistent, meaningful feedback that enables students to employ “self-review... [to] grow students’ metacognition and refine their understanding of both their writing and [teacher] responses” (Johnson 4).
- A process-oriented approach that includes self-assessing, self-monitoring, and self-regulating, which transforms students into “committed, critical, and self-regulated learners who create new learning by synthesizing prior and newly learnt knowledge” (Lam 2).
- A collaborative peer-to-peer methodology that engages students in discussions regarding the teacher’s written feedback, resulting in an enhanced understanding of “feed-up, feed-back, and feed-forward information,” a greater sense of belonging, and increased motivation to learn from one another (Schillings, et al. 694).

- A compassionate and collaborative labor-based approach that allows students the freedom to embrace the writing process without the worry inherent in the “conventional grading structures” (Inoue 330).

While these concepts are indeed important, they can be time consuming for the dedicated teacher who is already working an average of 53 hours per week trying to help students struggling with writing (Johnson 1). In his book, *Flash Feedback*, Matt Johnson identifies an approach he calls “Flash Feedback” that leverages “research-based practices that really can increase our effectiveness as writing instructors while decreasing the hours we work” (2).

Johnson suggests:

- time-saving practices that enable teachers to work smarter and not harder (e.g., by not reading every written piece and allowing students space to practice new skills) (11),
- practices that increase the impact the feedback has on students’ writing (e.g., targeted feedback provided to the students as soon as possible that helps students “build or refine a specific skill”) (12),
- how to follow a “consistent feedback cycle that encourages students to remember and adopt [the] feedback” in their writing (e.g., “set goals, receive feedback, reflect”) (68),
- how specific, genuine feedback can build relationships and “student academic identities...to improve the efficacy of feedback” (101),
- how to scaffold students in peer review to exponentially “increase the amount of meaningful feedback” in the classroom (121),

- how to use “self-review... [to] grow students’ metacognition and refine their understanding of both their writing and [teacher] responses” (123).

The Proposed Solution: A Hybrid Approach

Given the research findings noted above, how then should teachers assess student writing in composition classes? To effectively assess student writing, teachers can implement a hybrid approach that incorporates labor-based grading, peer reviews, and targeted written corrective feedback. First, it is important to recognize that the goals of composition classes include the “development of critical thinking skills, of rhetorical awareness, of effective writing processes and strategies, and of specific sub-skills in argumentation and research” (Ferris 140). To achieve these goals, this proposed hybrid approach utilizes components modeled by Dr. Chad Iwertz Duffy in ENG 6200 *The Teaching of Writing* course at Bowling Green State University.

The Example Assignment

To set the stage, following is an example writing assignment using a labor-based approach. Next, the components of the assignment will be peer reviewed using The WEx Guide to Peer Review. Following each peer review, the student will compose a 200-word (2-minute) multimodal reflection regarding the Peer Review process. Lastly, the teacher will provide written corrective feedback at each phase of the assignment focused on specific targeted skills according to each student’s needs.

The Example Term Paper Assignment:

1. Selecting a Topic:

Students will submit an I-Search paper focused on selecting a topic for the term paper. This paper will be one page, single-sided, double-spaced, 1” margins, 12-point

font. This paper will be graded Complete or Not Complete and will not be peer reviewed.

2. Outlining the Paper:

Next, students will submit an Entering-the-Conversation Essay paper outlining the scope of the term paper using the following headings (per Dr. Duffy's model in Appendix A).

- a. Description of the topic and discussion of its significance.
- b. Relationship of your topic to your intellectual, gendered, academic, literate, cultural, professional, and perhaps even your emotional development.
- c. Conception of your topic and of the methodology you will use to explore it.
- d. Plan of Work, including a draft timeline and what you need to do to complete your project by the deadline.
- e. Annotated Bibliography of three to five sources.

This paper will be 4 to 6 double-spaced pages (or 1,000 to 1,500 words) with 1" margins, 12-point font.

3. Conducting Peer Reviews:

The Entering-the-Conversation Essay will be peer reviewed following the Describe~Assess~Suggest model described in The WEx Guide to Peer Review (DeWitt, et al. 12-14).

4. Multimodal Reflection regarding the Peer Review process:

Students are required to submit a 200-word reflection regarding the Peer Review process. The 2-minute multimodal component may be an audio recording (e.g.,

Audacity, QuickTime), video (e.g., YouTube, TikTok), animation (e.g., Pencil2D, Moovly), or other tool incorporating moving and/or still images as appropriate.

5. Entering-the-Conversation Essay (aka Term Paper First Draft) Grading:

In addition to corrective feedback regarding the content, organization, and accuracy, the writing teacher will grade the Essay using the criteria in Table 2 below.

Table 2

Entering-the-Conversation Essay Grading Criteria

Grade You Would Like to Receive	Minimum # of Pages	Minimum # of Words	Minimum # of Sources	Peer Review (Required)	Reflection (Required)	
					Written	Multimodal
C	4	1,000	3	Yes	Yes	No
B	5	1,500	4	Yes	Yes	Yes
A	6	2,000	5	Yes	Yes	Yes

6. Continuing-the-Conversation Essay (aka Term Paper Second Draft):

Next, students should make appropriate changes to the paper based on the feedback they received from the teacher and their peers. The teacher should expect to see improvements to this version of the paper, which includes the student's personal review of the paper and application of their lessons learned from the peer review process. The same criteria as noted in the Entering-the-Conversation Essay applies to this Essay, including the grading rubric noted above.

7. Final Term Paper:

The Final Term Paper will build upon the work completed in the previous assignments. This paper will be double-spaced, 1” margins, 12-point font.

8. Final Term Paper – Peer Reviews

The Final Term Paper will be peer reviewed following the Describe~Assess~Suggest model described in The WEx Guide to Peer Review (DeWitt, et al. 12-14).

9. Final Term Paper – Multimodal Reflection

Students are required to submit a 200-word reflection regarding the Peer Review process. The 2-minute multimodal component may be an audio recording (e.g., Audacity, QuickTime), video (e.g., YouTube, TikTok), animation (e.g., Pencil2D, Moovly), or other tool incorporating moving and/or still images as appropriate.

10. Final Term Paper – Grading

In addition to content, organization, and accuracy, the Final Term paper will be graded using the criteria in Table 3 below. Additionally, the teacher will provide comprehensive written feedback on this final version.

Table 3

Final Term Paper Grading Criteria

Grade You Would Like to Receive	Minimum # of Pages	Minimum # of Words	Minimum # of Sources	Peer Review (Required)	Reflection (Required)	
					Written	Multimodal
C	8	2,000	5	Yes	Yes	No
B	9	2,250	6	Yes	Yes	Yes

A	10	2,500	7	Yes	Yes	Yes
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Evaluating the Assignments

Peer Reviews

Bitchener and Ferris assert that peer reviews offer three benefits to both the reviewer and the student: 1) by carefully reading another student’s work, the reviewer develops “critical analysis and reading strategies they need to later examine their own writing,” 2) peer reviewing activities help students apply and practice specific strategies taught in the classroom, such as looking for specific error patterns, and 3) “narrowly focused peer review activities” such as evaluating for grammar errors like verb tense provide practice and build confidence in students’ editing skills. The peer review process will follow The WEx Guide to Peer Review. Writers should share with their peer reviewers any personal goals they are working on to improve their writing skills. For example, a writer who knows they struggle with subject-verb agreement or the appropriate use of commas could inform the peer reviewer to be on the lookout for these types of errors. Following completion of the peer reviews, writers will meet with their peer reviewers to discuss the feedback, address any questions the peer reviewers or writers might have for one another, and brainstorm possible suggestions for improvements to the next version of their papers. The teacher will remind all students, “It’s an exchange. The Writers Exchange” (DeWitt, et al. 4).

Peer Review Reflection

Following the completion of the peer reviews, each student will compose a 200-word reflection “addressing the process of peer review and the feedback you received from your peers during peer review” (Duffy). The 2-minute multimodal component may be an audio recording

(e.g., Audacity, QuickTime), video (e.g., YouTube, TikTok), animation (e.g., Pencil2D, Moovly), or other tool incorporating moving and/or still images as appropriate. Following Dr. Duffy's model, students will respond to these questions:

“Which elements of your writing seemed to especially resonate with your peers, and where were you surprised you received no feedback? How has receiving peer feedback changed the way you are thinking about your original draft, or how you would revise it based on the feedback you received? Additionally, you might reflect on the process of being a peer reviewer yourself. Did you adopt any persona when responding to your peers' writing? Where did you struggle? Where did you succeed? What has this process taught you about responding to writing and would you want to capture now for when you approach responding to writing again in the future?”

Written Corrective Feedback

Bitchener and Ferris remind teachers that the goal of written corrective feedback is to “help student writers build awareness, knowledge, and strategic competence so that they can develop skills to better monitor their own writing in the future. Writing courses cannot, and should not, be about helping or requiring students to produce ideal or perfect, error-free texts” (140). Appendix B contains an overview of the written corrective feedback (CF) model that we are utilizing in our hybrid approach.

As the teacher reviews the I-Search paper, only content comments are noted on the assignment, providing guidance to the student, if needed, to ensure they understand the scope of the Term Paper Assignment. The teacher may meet with the student to discuss further and clarify as needed. When reviewing the Entering-the-Conversation and the Continuing-the-Conversation versions of the Term Paper, the teacher will provide targeted written corrective feedback

addressing only the errors for which there are clear rules (Bitchener and Ferris 146). For example:

- Errors that interfere with the message.
- Sentence structure, including identifying any confusing or missing words.
- Frequent errors demonstrating patterns that the student should re-evaluate.
- If an error is stigmatizing—in other words, if the error could “label the student as a less proficient writer in the minds of the real-world reader” (Bitchener and Ferris 146).
- Treatable errors or “rule-governed structures” (Bitchener and Ferris 146). The teacher should refer the student to an appropriate reference manual or other resource that enables the student to self-correct the errors which are visually indicated for the students via a mark in the margins.

Just as important, the teacher will NOT:

- Provide written corrective feedback regarding errors that spell-check or grammar check can catch. Instead, the teacher will suggest that the student revisit the paper and use the appropriate tools in the next version of the paper.
- Mark every error on the paper. Instead, the teacher will call to the student’s attention a selective set of errors that the student should focus on for the next version of the paper.
- Address issues of style, such as informal versus formal usage, that may reflect instructor preferences rather than violate language rules (Bitchener and Ferris 146). Instead, the teacher should focus on the fundamentals before moving to more advanced feedback such as style preferences (Bitchener and Ferris 147).

The teacher will provide indirect feedback on the student's paper through "circling, underlining, highlighting, or otherwise marking it at its location in the text, with or without a verbal rule reminder...asking the students to make corrections themselves" (Ferris 63). In some cases, such as with a less-experienced writer, a combination of direct and indirect feedback may be helpful, as is using more explicit indirect feedback. Bitchener and Ferris found that most students prefer explicit feedback—they want to know where the error is, what kind of error it is, and how to fix it (151). However, teachers must balance providing just enough information to the student with engaging the students in the process of discovery and learning by allowing them to do some of the work using appropriate tools and resources.

As previously mentioned, the students' grades are labor based, as shown in the rubrics above. However, to provide the students yet one final learning opportunity to carry into his or her next course and writing assignment, the teacher will provide a comprehensive review of the final version of the Term Paper. The teacher will line-edit the first paragraph of the Term Paper and then highlight the erroneous sentences throughout the rest of the paper. The student may earn extra credit by completing the Extra Credit Assignment in Appendix B (Bitchener and Ferris 167).

The Outcome

It is my goal as a future teacher to ensure all students have an optimal environment to develop and practice their critical thinking skills while implementing effective writing processes and strategies. I am committed to effectively assessing my students' writing by providing thoughtful, constructive, actionable feedback. As the research demonstrates, the key to success for effectively assessing the work of writing students includes a process-oriented approach featuring a collaborative peer review methodology and quality written corrective feedback that

provides consistent, comprehensive, engaging, explicit, and meaningful commentary. The hybrid approach described in this essay ensures students' success by using labor-based grading, a proven peer review process, and targeted written corrective feedback while employing an affirmative style that enables students to receive and apply feedback to future revisions. Research demonstrates that a comprehensive methodology such as this ensures a positive, collaborative, and constructive environment in which students have multiple opportunities to practice effective writing processes and strategies through a reflective lens. By implementing this hybrid approach in my future writing classrooms, I am confident my students will enjoy the benefits of this multifaceted learning experience.

Appendix A

Dr. Duffy's Entering-the-Conversation Essay
(courtesy of ENG 6200)

- **Due Date**
 - **Points ##**
 - **Submitting** a text entry box or a file upload
 - **File Types** doc, docx, txt, and pdf
-

Assignment Description & Rationale

After completing your [I-Search Paper](#), the next step in your journey to complete the [Final Course Project](#) will be the completion of an Entering-the-Conversation Essay. This assignment is designed to help you engage more fully with the topic of your final project, while also encouraging you to make timely progress on it. As the title of the assignment suggests, your concern in this essay will be with entering the scholarly conversation on your topic and beginning to situate your own personal ideas and experiences, outlined in the [I-Search Paper](#), with that conversation, which you will now more fully research.

Getting Started

Begin by reviewing your [I-Search Paper](#) and my response to it, as well as any responses you solicited from your peers on the discussion forum. From here, begin to conduct research following the plan you drafted in your paper. You may use the texts that we have read in this class as sources in this essay, but for full credit for the assignment you will need to also conduct external research utilizing either resources available through the [English 6200 LibGuide](#), which was created especially for our class and to help support you in completing the Final Course Project, or through another form of research. You may also use chapters we have not read together as a class from our assigned texts as "external" sources.

Research can include not only library research but such field methods as interviews and observations. Although some students' projects may take the form of relatively traditional academic essays or lesson plans and supporting pedagogical materials, others might be more personal—and even experimental—in nature. This is the time to experiment, when you have your peers and myself at your disposal to support and encourage you in the development of your interests and ambitions.

Should you need one-on-one assistance with conducting research through the BGSU Library, you can reach out to me (Chad, your professor) or librarians who are available to assist you in many ways through the library and beyond. They even have an [online Chat with a Librarian feature \(Links to an external site.\)](#) during the library's operating hours!

As and after you compile your research, you will then compose your findings and continued ideas about your research topic into an essay. This essay will be 4-6 double-spaced pages (or 1000-1500 words) in length.

You will organize your writing around these headings (by which I mean: **literally use some form of these bullet points as headings in your paper to help organize it**):

- Description of your topic and discussion of its significance;
- Relationship of your topic to your intellectual, gendered, academic, literate, cultural, professional, and perhaps even your emotional development;
- Conception of your topic and of the methodology you will use to explore it;
- Results of your inquiry thus far;
- Plan of work; and
- Annotated bibliography

For each heading, you might consider the following questions. Think of these as generative, and you should approach each section in the way that feels best for your project and goals:

Description of Topic and Its Significance

What is your topic? Why is it significant to you?
Why is it significant in the larger context of the teaching of writing?

Your Relationship to Your Topic

How is your topic related to your own intellectual, gendered, academic, literate, cultural, professional, and/or emotional development as a teacher of writing?

What are the stakes for your research on this topic?

Conception of Your Topic and Methodology to Explore It

How is this topic understood by various stakeholders (e.g., you, your peers, other researchers, the field, etc.)?

Where are there similarities in how your topic is understood, and where are there differences?
Given this information, how are you approaching continued exploration of your topic? Which texts or theories about writing guide this exploration, and which theories about writing might it push up against?

Results of Inquiry Thus Far

What findings from your research have you come across thus far?
What has interested you in your research findings?
What has been revealing or strange?
What answers are you finding, and what is significant about these findings?

Plan of Work

What work remains?
What is your draft timeline for completion of the [Final Project](#)?
What do you need in order to complete your project by its deadline?

Annotated Bibliography

Using MLA or APA format, compose an annotated bibliography of 3-5 **sources** (see section "How Will this Assignment be Graded?" below on how number of sources correlate to final grade of this assignment). More information about what an annotated bibliography is and sample annotations can be found [here \(Links to an external site.\)](#).

Deliverables & Peer Reviews Due August 12

After you have composed your essay, you will upload it as either a Word file or PDF to this assignment. Please reach out to me early if you would like help getting your files into one of these formats.

In Week 5, when the assignment is due, you will peer review 2 of your peers' essays with comments of affirmation and critique following the Describe~Assess~Suggest model of peer review. A video overview of the Describe~Assess~Suggest process, which was made for a MOOC (or, massive open online course) on public writing I helped to teach a number of years ago, is included here:

https://www.youtube.com/watch?v=5oQx2hcuG9A&list=PLE3uzGh7FZRktZuPQrjQiOgAndlm9gT_u&index=45 (Links to an external site.)

In this video, I mention the [WEx Guide to Peer Review download](#). Should you be interested in using this video or the materials I mention in your own teaching, please feel free to keep copies for yourself; they are licensed as creative commons and are meant to be shared.

For the purposes of our assignment, what is important for your peer reviews is that you follow three steps as you offer feedback:

1. Describe: Be specific about what it is you are responding to. Is it an idea? Specific words? A transition? Name it, and do not assume that your reviewer knows what you mean otherwise.
2. Assess: Provide evaluative language that signals your assessment of what you are responding to. Remember to be gracious and kind. Someone is reviewing your work as well.
3. Suggest: Provide specific suggestions for how this work can be expanded, refined, revised, or otherwise changed. Do not just offer assessment; offer generative feedback.

I encourage you to view your role as peer reviewer as an engaged reader, noting areas with which you particularly resonated or disagreed, offering additional suggestions for resources or tools that could be used to compliment those the writer addresses, and any other area that you feel would be appropriate in supporting the writer as they continue developing their Final Course Projects. In other words, for this assignment your role is to be in conversation with the writer's main ideas and supporting experiences and not to solely critique their sentence structure and grammar.

All assigned peer reviews must be completed by Thursday, August 12.

A [full walkthrough on how to follow these steps for peer review on Canvas is available here download](#), and a video walkthrough is available

here: https://www.youtube.com/watch?v=dZm1vjU03II&index=44&list=PLE3uzGh7FZRktZuPQrjQiOgAndlm9gT_u (Links to an external site.)

***Note that we are not using rubrics for this assignment, so you do not need to worry about following the instructions for filling out a rubric as outlined in these resources. You will only be offering overall feedback in peer review following the Describe~Assess~Suggest model.**

Brief Final Reflection – Due August 15

Near the end of Week 5, once you have reviewed the feedback your peers have offered on your submitted assignment, you will then post a brief (no more than 200 words) final reflection in the comments section of your assignment synthesizing the feedback you received and the areas that you are particularly interested in exploring further in either your final project for class or beyond this class as you develop as a writing instructor.

Please see these short reflections as informal and an opportunity to get credit for reviewing your feedback and thinking through how it either is or isn't helpful to you as think about the future of your own development as a writing instructor. Which elements of your writing seemed to especially resonate with your peers, and where were you surprised you received no feedback? Has receiving your peer feedback changed the way you are thinking about your original draft, or how you would revise it based on the feedback you received? Additionally, you might reflect on the process of being a peer reviewer yourself. Did you adopt any persona when responding to your peers' writing? Where did you struggle? Where did you succeed?

Your brief reflection should be posted no later than the end of the day on Sunday, August 15.

Summary of Due Dates for Assignment

As you can tell, peer review is a substantial portion of this assignment. Not only are we implementing a powerful feedback tool for your own development as writing instructors, but I am also showcasing peer review as I would assign it in my writing courses and that you may use in your own teaching as well. (For example, please feel free to share or adapt any of the resources above in your future teaching if you would like.)

But it can get a bit hectic keeping track of all these due dates. Remember **Week 5 is solely devoted to peer review; you will not be reading or required to be participating in other discussion for this week**, though [a discussion board is dedicated to answering any specific questions you might have about the Describe~Assess~Suggest model of peer review for this assignment](#) and you may wish to touch base on your final project in the [Final Project Check In](#) discussion forum.

Here is an overview of important dates to keep in mind as you are completing this assignment:

- **Monday, August 9, 11:59 pm ET:** Drafts of your essay due and uploaded Canvas (NOTE: This is a hard deadline, and if you do not or cannot meet it by the time reviews are assigned, you may not be able to participate in peer review in the coming week. This will negatively affect your grade for this assignment.)
- **Tuesday, August 10, 3:00 am ET:** Peer reviews assigned automatically by Canvas (you will be assigned 2 reflections to review)
- **Thursday, August 12, 11:59 pm ET:** All peer reviews due no later than this time
- **Sunday, August 15, 11:59 pm ET:** Brief final reflections on peer review process due

How Will this Assignment be Graded?

At a minimum, and to earn a grade of at least a “C” for this assignment, you will:

- Write a 4-6 page, or 1000-1500 word, essay on a topic of your choosing from the two pathways that are available to you for the final course project;
- Integrate at least 3 secondary sources into your work cited appropriately in either MLA or APA format; and
- Organize your essay around, or otherwise include information for all, 6 headings described in the assignment description above.

In order to receive a grade of “B” for this assignment, in addition to the requirements for earning a “C” you will additionally:

- Participate in peer review of the assignment with your classmates. This will involve reading and responding to the writing of 2 of your peers following a style of peer review called the Describe~Assess~Suggest model; *and*
- Integrate one additional secondary source (for a total of at least 4) into your work, which must be from a text that was not assigned for class.

In order to receive a grade of “A” for this assignment, in addition to the requirements for earning a “C” and a “B” you will also:

- Post in the comment section of your submitted a brief reflection (no more than 200 words) addressing the process of peer review and the feedback you received from your peers during peer review. Which elements of your writing seemed to especially resonate with your peers, and where were you surprised you received no feedback? Has receiving your peer feedback changed the way you are thinking about your original draft, or how you would revise it based on the feedback you received? *And,*
- Integrate one additional secondary source (for a total of at least 5) into your work, which also must be from a text that was not assigned for class (for a total of at least 2 of your 5 sources coming from texts outside class).

Appendix B

Summary of written CF questions and suggestions (Bitchener and Ferris 163)

Topic	Questions	Answers/Suggestions
Purpose and goals	<i>Why</i> give written CF in a writing course?	To help students develop transferable skills and strategies for future writing tasks.
Timing and frequency	<i>When</i> —at what stage of the writing process and on what types of texts—should written CF be provided?	In most instances, written CF has maximum benefit on texts that students can revise further. Teachers may wish to add short, frequent writing tasks for more intensive written CF opportunities.
Amount	<i>How much</i> written CF should a teacher provide on a particular text?	There are arguments for both comprehensive and selective correction depending on the goals of the task and the stage in the writing process.
Focus	<i>On what types</i> of errors or language issues should written CF focus?	Teachers may wish to focus written CR on errors before style and on issues that are serious, frequent, stigmatizing, treatable, and not easily addressed through self-editing.
Form	<i>How</i> should written CF be given? Should it be direct or indirect? Explicit or implicit? How much explanation is useful/possible?	In writing classes, indirect feedback may better address the goals of the course and of written CF. The level of explicitness may vary depending upon several contextual factors.
Source	<i>Who</i> should provide written CF? Should it always be the teacher? Can peers effectively provide CF? Can individuals	A variety of interacting sources can usefully provide written CF to student writers, but teachers should help

	gain autonomy in editing their own work?	students to utilize them effectively.
Support	<i>What else</i> can writing instructors do in addition to written CF to help students develop self-editing strategies? What is the role of classroom grammar instruction in the writing course?	Thoughtfully implemented strategy training and language instruction can supplement written CF and make it more useful to student writers.
Follow-up	<i>What can students be asked to do</i> to analyze and apply written CF they have received?	Students should be responsible and accountable for editing their work and improving in accuracy over time. Teachers can use grading schemes and analysis activities to help students make progress and apply what they are learning.

Extra Credit Assignment (Bitchener and Ferris 167)

This extra credit assignment is designed to have you take an active part in correcting your own common errors. In grading your final Term Paper, I have line-edited only the first paragraph and then highlighted your erroneous sentences throughout the rest of the paper. You will correct those sentences as follows:

If you have 10 highlighted sentences or fewer, correct them all.

If you have more than 10 highlighted sentences, correct 15 of them.

Do This:

- Copy and paste the erroneous sentences into a separate document and save the file as Extra Credit - YourLastName.
- Provide a correct version of each sentence below the original, incorrect one so that I can see what you changed.
- Briefly identify the error you made, in just a few words or a short sentence. For example, “Wrong verb tense.”
- Write a short paragraph explaining what you learned about the types of errors you made on this paper.
 - What patterns do you see?
 - How does understanding these errors help you with the next paper you write?
 - What practical steps might you take to reduce these errors in your future writing?
- Submit this document with your incorrect sentences, corrections with identifications, and one paragraph analysis.

Completing this Extra Credit Assignment successfully may raise your final paper grade by ten percent.

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Bowling Green State University

How Technical Communicators Enhance Training Knowledge Transfer:
A Diverse Approach

Brenda D. Jackson

ENG 6410: Resources and Research in Professional/Technical Communication

Dr. Cheryl Hoy

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Abstract

Many employers such as financial institutions are monitored by regulatory agencies who require all employees to complete risk-awareness training courses on a variety of topics such as ethics, privacy, and information security. Despite this annual regulatory requirement, recent cybersecurity incident reports indicate that employees are not transferring the knowledge they should be learning in the required courses to their daily work. Therefore, this mixed-methods literature review explores how technical communicators can create materials that enhance knowledge transfer following employees' completion of required training by leveraging diverse types of pedagogy and a multimodal approach to achieve organizational goals. Specifically, this review explores the research around which pedagogies and multimodal tools are effective for enhancing training knowledge transfer. Existing literature is evaluated to determine if there are any quantitative research studies that demonstrate increased knowledge transfer and retention of information as a result of the use of specific pedagogies or multimodal tools. Additionally, existing qualitative research studies are reviewed to identify the specific pedagogies or types of multimodal tools that are most successful in facilitating knowledge transfer and information retention. There is no one-size-fits-all method that guarantees employees will transfer the knowledge learned via required training to their daily work. Instead, technical communicators should employ a combination of pedagogies and multimodal tools to enhance the probability that employees will apply the training to their daily tasks.

Key words: Knowledge transfer, pedagogies, multimodal, generative learning theory, adult learning principles, dialectical constructivist theory, communities of practice, multimedia

Technical Communicators Enhance Training Knowledge Transfer: A Diverse Approach

Each year, employees of financial institutions are required to complete risk-awareness training courses on a variety of topics such as ethics, privacy, and information security. For example, citing how the Sarbanes-Oxley Act of 2002 places particular importance on ethical behavior, the SEC emphasizes the importance of training employees regarding the Code of Ethics (Coslett). The FDIC's "Privacy Rule Handbook" notes the importance of privacy training. According to the Federal Trade Commission's "How to Comply with the Privacy of Consumer Financial Information Rule of the Gramm-Leach-Bliley Act," the Gramm-Leach-Bliley Act (GLBA) was implemented to determine how financial organizations protect non-public information (NPI); annual training is required to ensure compliance with this Act. Despite these annual requirements, recent cybersecurity incident reports indicate that employees are not transferring the knowledge they should be learning in the required courses to their daily work. Utilizing diverse types of pedagogy and a multimodal approach assists employees with transferring required training content to their daily work. Therefore, technical communicators should leverage these techniques in the creation of supporting training materials to facilitate employees' knowledge transfer to achieve organizational goals.

During the research phase of this project, a frequently cited "statistic" was discovered that has no quantitative research to support it; instead, the frequently referenced quote is simply commentary. David L. Georgenson is often quoted as stating, "...only 10% of content which is presented in the classroom is reflected in behavioral change on the job" (75). While there may not be statistically significant research studies that effectively quantify the lack of knowledge transfer from training activities to daily activities, the academic research papers are unanimous that there is indeed a problem to be solved. Therefore, the question at hand is: What pedagogies

and multimodal tools best facilitate the transfer of knowledge gained from a training course to the employees' daily work?

Given that companies spent 82.5 billion dollars in 2020 to educate their employees, identifying effective methods of transferring this knowledge to the employees' daily activities is critically important, especially when it comes to cybersecurity (Statista). According to the "2022 Ponemon Cost of Insider Threats Global Report," one errant click exposes an organization to significant financial and reputational risk (and potential regulatory sanctions) when customer data is released into the ether (Ponemon Institute). Some claim that the root cause of cybersecurity incidents is a "lack of training;" others assert it is due to the "lack of knowledge transfer" from the courses the employees completed but did not apply to their daily work. Herein lies the challenge. Employers must create and implement a diverse learning plan developed by experienced technical communicators who utilize a combination of pedagogies and multimodal tools that enable employees to effectively transfer knowledge from training courses.

Methods

This mixed-method literature review explores a variety of quantitative and qualitative literature to identify the specific pedagogies and multimodal tools most successful in facilitating knowledge transfer and information retention that encourages employee application on the job. The review includes peer-reviewed articles and journals, as well as academic books. Existing literature is examined to determine if there are any quantitative research studies that prove increased knowledge transfer and retention of information as a result of the use of specific pedagogies or multimodal tools. For example, studies show that "audiovisual educational material has been used effectively as a knowledge translation strategy in patient education" (Prieto-Pinto, et. al. 1). Other studies assert that "learning-by-explaining (to fictitious

others)...[is] an effective instructional method to support students' generative learning” (Lachner, et. al. 1). Lastly, Jeffrey G. Woods claims that “dialectical inquiry (DI) is one method firms can adopt to increase learning and create additional tacit knowledge capital needed to foster technical progress” (1489). There's no one-size-fits-all method that guarantees employees will transfer the knowledge learned via required training to their daily work. Instead, a combination of pedagogies and multimodal tools enhance the probability that employees will apply the training to their daily tasks.

Major Research Categories

The two major categories of research articles are pedagogies and multimodal tools. Some of the major subcategories under pedagogies include generative learning theory, adult learning principles, dialectical constructivist theory, and communities of practice. Additionally, the major subcategories under multimodal tools include the use of simulation-based activities, games, videos, and multimedia.

Analysis and Interpretation

Pedagogies

Given the risks to organizations due to the lack of employees' knowledge transfer from training to their daily activities, technical communicators need to have a thorough understanding of their role in assisting employees with transferring knowledge gained after completing required training. Therefore, it is important to understand how to use knowledge effectively in the 21st century, specifically how to gain a better understanding of the “mechanisms for knowledge generation, transfer, and application...and the construction of indicators associated with intangible aspects of knowledge” (Heitor and Gibson 7). In this article, Heitor and Gibson introduce a “generic model of knowledge accumulation and application...[that] stresses codified

knowledge (ideas) and tacit knowledge (skills) differ in ways that have important implications for how knowledge is produced, diffused, and used” (7). Osterloh and Frey explain that explicit knowledge “can be coded in writing or symbols,” while tacit knowledge is “acquired by and stored within individuals and cannot be transferred or traded as a separate entity” (539). In other words, explicit knowledge can be easily articulated, codified, stored, transferred, and recalled (Hughes). Research papers and technical manuals are examples of explicit knowledge.

Alternatively, Hughes asserts tacit knowledge is “knowledge that we do not now that we know” (278). Hughes provides the following example, asking readers,

“Which of the following two sentences is odd?

- a) *There are three new company cars in the parking lot.*
- b) *There are company new three cars in the parking lot.*

Although you immediately knew that answer b was the incorrect sequence of modifiers (because of your tacit knowledge of English), you would probably be hard pressed to articulate (make explicit) the rule you were applying” (278).

Technical communicators are key to helping subject matter experts translate their tacit knowledge to explicit knowledge so that it can be “captured, stored, and transferred” (Hughes 279).

As a pioneer of generative learning theory, Wittrock espoused a meaningful learning model comprised of four main components: generation, motivation, attention, and memory (Wilhelm-Chapin and Koszalka 1). According to Wilhelm-Chapin and Koszalka, “Generative learning theorists define knowledge as the meaningful understanding of information through the creation of connections among new bits of information and between new information and memory” (1). Knowledge generation is an active and dynamic process that requires the learner to

make sense of new information by mentally organizing and assimilating it with prior knowledge which allows the learner to apply what they have learned to their daily activities (Fiorella and Mayer). In an in-depth review of 81 doctoral and master theses of a “knowledge generation approach to the learning of science,” Brian Hand et al. found that “students regardless of grade levels and cultural settings were significantly advantaged in terms of content knowledge, critical thinking growth, and representational competency” (535). Additionally, Hand et al. found that an interactive dialogical environment that allows for questioning was critical to the students’ success (535). In other words, providing an environment where learners can engage in discussion and even debate about the content they are learning facilitates the transfer of knowledge from short term into long term memory (Hand et al. 536). Technical communicators can assist learners in organizing, assimilating, and applying new knowledge as well as transferring this knowledge into long term memory by facilitating intentional conversations among learners following the completion training activities.

In addition to understanding knowledge generation and concepts such as explicit and tacit knowledge, it is important that technical communicators consider how different types of motivation impact the transfer of explicit and tacit knowledge so they can design meaningful materials that enable employees to successfully transfer training knowledge (Osterloh and Frey 538). Osterloh and Frey argue that “different kinds of motivation (extrinsic and intrinsic) are crucial for generating and transferring the two forms of knowledge” and conclude that “some organizational forms can crowd out intrinsic motivation and thus have detrimental effects on the transfer of knowledge” (538). Specifically, Osterloh and Frey assert, “...when the transfer of tacit knowledge within or between teams is needed...organizational forms that emphasize participation and personal relationships are needed” (547). In other words, the supplemental

materials that technical communicators develop should take into consideration the type of knowledge that needs transferred as well as the employees' motivation. Depending upon the employees' relationships, studies indicate that the technical communicators could leverage interactive participatory activities to translate tacit knowledge into explicit knowledge using "metaphors, analogies, narratives, or other visuals" (Osterloh and Frey 546).

Technical communicators are uniquely positioned to create meaningful knowledge assets that enhance employees' training knowledge transfer. Furthermore, technical communicators are "change agents who can facilitate the enterprise's evolution" by "moving from information transfer to knowledge creation" (Hughes 284). Požega et al. conducted a quantitative research study using the "statistical methods of correlation coefficient and regression," and the results indicate "a small but statistically significant correlation" between adult learning principles and the motivation for training (351). Additionally, research results indicate that by using adult learning principles, the transfer of knowledge to work tasks increases (Požega et al. 351). The data demonstrates the importance of using adult learning principles in the design of employee training materials. For example, Požega et al. emphasize using a "staggered approach, moving from the familiar towards the new, from simple to complex...[while] incorporating reinforcement periods" as the content becomes more abstract (352). Furthermore, the authors recommend incorporating a wide variety of methods, from presentations to hands-on and group building methods (Požega et al. 352). Examples of effective hands-on methods include "simulations, case studies, business games, and behavior modeling;" group building methods include "adventure learning, team training, and action learning" (Požega et al. 352). Most importantly, knowledge transfer increases when the material includes examples relevant to the employees' jobs and encourages employees to think about how they would apply the new

knowledge to their daily work activities. According to Požega et al., “The amount of practice is directly related to the amount of transfer” (356). Therefore, technical communicators must leverage adult learning principles, using a variety of methods with real-life examples so employees can understand how the content translates to their daily tasks. Additionally, technical communicators must provide plenty of meaningful practice scenarios to increase the likelihood of knowledge transfer. Lastly, post-training activities such as organizational and supervisory support further enhance knowledge transfer, so it is important to engage leadership support of the learning plan (Požega et al. 356).

Dubickis and Gaile-Sarkane conducted a qualitative research study that demonstrates a “learning outcomes-based approach can be used for successful know-how transfer” (1). The case study, using an “action research approach,” took place over a four-month period. According to Collis and Hussey, “action research” is defined as “an approach in which the action researcher and a client collaborate in the diagnosis of the problem and in the development of a solution based on the diagnosis.” Dubickis and Gaile-Sarkane’s research results indicate that the “know-how transfer is affected by the accuracy of the stated aim (learning outcomes), applied teaching, learning and assessment methods, and both internal and external environment characteristics” (1). The authors note that “the concept of know-how characterizes a certain level of knowledge about the way something should be done or a particular competence” (Dubickis and Gaile-Sarkane 3). In other words, learning is not just about collecting information or knowledge; learning occurs when the learner applies the information gathered by doing something different (Dubickis and Gaile-Sarkane 3). The research findings demonstrate that “action research [is] as an effective approach to solve real-life business problems—particularly know-how transfer” (Dubickis and Gaile-Sarkane 9). As technical communicators are creating materials to enable

employees to apply new-found knowledge, learning outcomes must be clearly defined. Learning outcomes include, “the statements of what knowledge, skills, and attitudes the know-how receiver is able to demonstrate in behavior after the know-how transfer process is completed successfully” (Dubickis and Gaile-Sarkane 4). Technical communicators can help employees successfully transfer training knowledge by ensuring that teaching, learning, and assessment methods are in alignment with the stated learning outcomes.

After the technical communicator has defined the learning outcomes, proven actionable strategies can be leveraged to create materials that will enhance training knowledge transfer. Fiorella and Mayer offer eight learning strategies that “promote generative learning: summarizing, mapping, drawing, imagining, self-testing, self-explaining, teaching, and enacting” (717). The authors provide an overview of generative learning theory and Mayer’s select-organize-integrate (SOI) framework (Fiorella and Mayer 719). Exemplary research studies for each of the eight generative learning strategies are provided, along with useful suggestions for implementation (Fiorella and Mayer 720). For example, concept maps, knowledge maps, and graphic organizers are three mapping strategies that enable learners to convert written or spoken text into a “spatial arrangement of words and links among them” (Fiorella and Mayer 722). Research study results indicate that students who use mapping techniques outperform students who do not in comprehension and knowledge transfer (Fiorella and Mayer 722). Similarly, learners who create drawings (either by hand or using computer tools) to translate content from text to a pictorial representation significantly outperform their peers (Fiorella and Mayer 723). This technique can be enhanced when technical communicators provide clear instructions regarding what and how to draw and/or include partially drawn illustrations or author-provided drawings for learners to reference (Fiorella and Mayer 723). Technical communicators could

also offer multiple self-testing exercises that leverage several of the other generative strategies, such as summarizing, creating a concept map, or self-explaining (Fiorella and Mayer 727). By incorporating immediate feedback within the self-testing exercises, technical communicators enable learners to “retain basic factual information as well as more complex conceptual knowledge that requires inference-making” (Fiorella and Mayer 727). By leveraging a variety of Fiorella and Mayer’s eight generative learning strategies, technical communicators provide learners with engaging and proven tools that will enhance training knowledge transfer.

In addition to Fiorella and Mayer’s learning strategies, Kuo-Hung Tseng et al. investigate whether learners’ perceptions of concept-mapping have a positive relationship with knowledge transfer (102). The results of the study demonstrate that a positive perception of concept-mapping “is helpful for knowledge transfer in five learning stages: acquisition, communication, application, acceptance, and assimilation” (Tseng et al.102). According to the authors, concept maps have been used across the education and training industry for many years (Tseng et al.102). Studies show that concept maps are an “effective learning strategy that precipitates meaningful learning for different learners in a variety of fields” (Tseng et al.102). Concept maps offer many advantages, “including playing a multi-level tool role, scaffolding for cognitive processing, summarizing, and organizing what has been learned, supporting collaboration, consolidating educational experiences, [and] teaching critical thinking” (Tseng et al.102). In other words, concept maps help learners organize materials and focus on key concepts (Tseng et al.105). Furthermore, learners who “adopt metacognitive strategies can employ concept maps to improve problem solving and increase knowledge transfer” (Tseng et al.106). For example, learners who encode information in their memory while looking for relationships within the content create meaningful connections which increases their ability to integrate and transfer new knowledge to

daily activities. Therefore, technical communicators should consider integrating the use of concept maps with a variety of metacognitive strategies to facilitate training knowledge transfer for learners.

Lachner et al. claim that “learning-by-explaining (to fictitious others) has been shown to be an effective instructional method to support students’ generative learning” (344). In this study, the authors explored “the differential effects of the modality of explaining (written versus oral) on students’ quality of explanations and learning” (Lachner et al. 344). One of the outcomes of the study indicated that students who provided written explanations demonstrated deeper levels of conceptual knowledge, as they had to organize the content for the explanation (Lachner et al. 355). Another notable outcome is that oral explanations enhanced students’ knowledge transfer because students elaborate more during explaining (Lachner et al. 355). Therefore, organizations should consider integrating discussion groups to facilitate knowledge transfer among employees following the completion of required annual training. Technical communicators can assist in this transition by providing materials for employees to use in the discussion groups to enhance the training knowledge transfer.

A Multimodal Approach

In addition to considering a variety of pedagogies when developing learning materials, technical communicators have a wide range of multimodal tools at their disposal. For example, PowerPoint (or similar) presentations are often used when presenting information to an audience. When creating materials such as slides for an oral presentation, Markel offers “two principles for creating informative and persuasive graphics...1) use functional graphics, not decorative graphics; and 2) show what is best shown; say what is best said” (122). Functional graphics “help the audience understand the abstract concepts and relationships, as well as the details of a

technical subject; persuade the audience to see reality the way you do; and motivate the audience to take whatever actions you want them to take” (Markel 123). For example, a flow chart shows the logic of a solution to a problem; an organizational chart helps explain a team’s structure (Markel 124). “Show what is best shown; say what is best said” suggests that technical communicators should incorporate images on the slide to support key claims, using representative images (diagrams or pictures) if the subject is a physical object, or using nonrepresentational diagrams, charts, or graphics if the subject is not a physical object (Markel 125). Markel presents several scholarly studies that “propose and test ways” to help people create effective technical presentations (122). Ultimately, Markel emphasizes that the slides should be used to “help the audience understand the structure of the presentation, to understand the concepts you are communicating, and to see that which cannot be explained adequately with words” (130). Therefore, to enable employees to effectively transfer training knowledge, technical communicators should leverage Markel’s design principles to create engaging and memorable presentations.

Technical communicators must also strive to “better attend to creative methods and practices that create immersive and experiential user-centered documentation” (Bahl 221). For example, games can be used for training and educational purposes. According to DeWinter and Vie, “Computer games are symbolically communicative, relying on written, verbal, visual, algorithmic, audio, and kinesthetic information to convey information” (151). In this article, DeWinter and Vie evaluate research regarding the intersection of computer games and technical writing, specifically around interface design, information management, and systems development (151). The authors cite a case study that provides “insight into formal and informal structures and motivations that shape communicative strategies” (DeWinter and Vie 152). Technical

communicators should consider how the various “communication methods – actor-network theory, humanistic approaches to technical communication, genre ecologies...illuminate games as a form of technically mediated communication” (DeWinter and Vie 151). By leveraging more creative methods and practices, such as incorporating games to supplement training courses, technical communicators can create an immersive user experience that facilitates learning and knowledge transfer.

In addition to leveraging games in technical communication, studies show that “audiovisual educational material has been used effectively as a knowledge translation strategy in patient education” (Prieto-Pinto et al. 1). Specifically, the case study featured in the article by Prieto-Pinto et al., “evaluated the effectiveness of knowledge transfer from the 12 video clips in terms of attention, emotional response, and recall by using neuroscience tools” (1). The authors note that the materials “must be clear, have short messages, and should not have distracting or redundant elements in order to reach a bigger proportion of the population” (Prieto-Pinto, et al. 15). Given the success of the neuromarketing tools in this case study, similar tools could improve outcomes around training knowledge transfer. Therefore, technical communicators should consider creating supplemental audiovisual educational materials to support employees’ knowledge transfer following required training courses.

Similarly, Marker et al. highlighted a qualitative study that demonstrates how simulation-based training “can have substantial effects on satisfaction and learning,” which results in increasing students’ preparedness for the real-world environment (11). This study was based on using simulation-based training to help medical students transition to becoming junior doctors in a clinical environment. “The doctors experienced an ability to transfer the use of algorithms and non-technical skills trained in the simulated environment to the clinical environment” (Marker et

al. 11). It is important to note that the authors emphasize that the simulated scenarios must be realistic and the learners must understand the benefits of the skills trained (Marker et al. 18). The results of this study are supported by Dubickis and Gaile-Sarkane's aforementioned qualitative research study that also demonstrated employees learn best by applying knowledge obtained through "doing something different" (3). Therefore, given the success of these studies, technical communicators should consider developing simulation-based training materials to enable employees to transfer new knowledge to the workplace environment.

Bahl et al. assert that comics and graphic storytelling offer "creative approaches to technical communication practices, including... infographics... wordless instructions and other visual and multimodal forms that work to bridge the gap between science and the arts, incorporating visual information and argumentation in technical communication" (219). In fact, the authors claim that "comics and graphic storytelling have figured into technical communications for decades" (219). According to Bahl et al., comics are primarily defined as "images and text organized in a deliberate sequence, [that] can be represented in physical, digital, and mobile media" (Bahl et al. 219). Comics address multiple audiences and represent complex data in engaging ways through the use of creative visual design elements (Bahl et al. 221). By leveraging comics and graphic storytelling within their materials, technical communicators offer a creative, user-centered way for employees to assimilate training content with their daily activities.

In addition to the creative methods noted above, Mason discusses a variety of elements that technical communicators should consider when designing presentations that will ensure the effective use of multimedia (65). Interactive multimedia training tutorials can offer employees a meaningful learning experience that enriches learning and facilitates knowledge transfer to the

job task (Mason 65). By interacting with a multimedia training tutorial, learners become active participants, navigating within the environment, selecting a learning path, and engaging with the information relevant to their task (Mason 65). Some of the elements that technical communicators should consider when designing multimedia materials include the use of audio, color, typeface, visual elements, and navigational aids (Mason 70). Mason contends that additional research is needed to determine how the development and sequence of these design elements contribute to the effectiveness of multimedia presentations (Mason 71). In the meantime, Mason suggests technical communicators should use an assortment of elements within a variety of multimedia tools to enhance training materials that will help employees transfer new knowledge to their job tasks (70).

In his book, *Communicating Ideas with Film, Video, and Multimedia*, Shelton Martin challenges the reader that, “in order to communicate effectively, we must engender empathy in our audience” and “we must care” (5). As technical communicators, “our task is to ensure that the messages we transmit” leverage technology to “enhance communication value, not overwhelm it” (Shelton 11). The author asserts, “What matters is that we use our communication skills and technology to...communicate our messages to the target audiences readily, efficiently, and economically” (Shelton 15). The text goes on to provide practical tips for incorporating multimedia elements while emphasizing the use of communication practices such as defining objectives, analyzing the target audience, creating a communication plan, and employing appropriate design techniques. For example, Martin recommends that informational films or videos should be short and focused on five or six key points (42). Additionally, Martin stresses that the “narration and the kinetic visuals reinforce and complement each other—that they are in coherence” (Shelton 146). In other words, “auditory information must complement visual

information” and should be used “only to explain or amplify what the audience cannot perceive from the visuals yet must know for a complete understanding” (Shelton 44). Technical communicators can use many of Martin’s practical tips to ensure that the materials they create for employees support the transfer of knowledge following training.

The technical communicator as facilitator

Beyond the creation aspect of their roles, technical communicators can also serve in a facilitator role to create learning bridges and communities of practice for employees, resulting in enhanced knowledge transfer. Hughes emphasizes, “Technical communicators negotiate meaning within development communities and between those communities and user contexts, and they capture the resulting consensus as knowledge assets” (278). The article by Aytekin and Rızvanoğlu features an ethnographic qualitative multi-method research study that used a participatory design methodology; the results demonstrated the transfer of tacit knowledge and experience by creating learning bridges using technology (603). The authors assert that learning bridges can be defined as, “connections in the level of consciousness formed and developed as continuous interaction is achieved during the transfer of knowledge and experience between two reciprocal groups” (Aytekin and Rızvanoğlu 607). In other words, as groups of people work together (one group the subject matter experts; the other group the learners), knowledge is transferred through the collaborative and participatory nature of the learning process. The study also highlights the importance of communities of practice which enable a “common language and harmony of communication” that aids knowledge transfer while leveraging technology, such as Facebook, to facilitate communications and collaboration (Aytekin and Rızvanoğlu 628). In the research study, the researcher served as a facilitator in the process of creating the learning bridges and communities of practice that enabled the knowledge transfer. Therefore, technical

communicators could serve as a facilitator as well as create materials and collaborative space (e.g., Facebook group) using technologies that encourage interaction among employees, assisting in the knowledge transfer process.

Tomkin et al. emphasize how communities of practice can be used to “enhance student learning and retention by increasing the use of active learning practices” (1). Specifically, studies show the communities were most effective when “small, disciplinary teams” work on the same content and are “linked with other individuals or groups that use evidence-based instructional practices” (Tomkin et al. 13). Additionally, Tomkin et al. claim, “Student-centric and active learning approaches have been shown to improve learning gains for students and have been shown to lead to higher retention” (2). Active learning practices could include activities such as instructor-guided clicker questions, group worksheets, and group problem solving activities (Tomkin et al. 4). The research study results reflect “large and statistically significant” differences between passive and active learning (Tomkin et al. 13). Therefore, technical communicators should consider leveraging their role by facilitating student-centric and active learning practices to support employees’ training knowledge transfer.

Within a community of practice, technical communicators could also facilitate a dialectical learning process to “increase learning and create additional tacit knowledge capital needed to foster technical progress” (Woods 1489). In this article, Woods revisits the “work of nineteenth-century philosopher, G.W.F. Hegel...[who] contended that a higher level of understanding and insight could be achieved by creating the two most diametrically opposed viewpoints to a given situation or problem” (1489). Essentially, as two participants debate an issue within a group of observers,

“conflicting messages...activate the retrieval of information from the observer’s long-term memory stimulating sudden insight...thinking and learning occur in the observer/decision maker’s working (short-term) memory. Prior tacit knowledge capital stored in the observer’s long-term memory provides context for synthesizing conflicting information transmitted from the debate group’s interaction” (Woods 1496).

In other words, by processing the conflicting information from the debate, the observer synthesizes the information resulting in new tacit knowledge capital that is required for technical changes, increased productivity, and higher outputs. Ultimately, the dialectical learning process provides the observer the ability to view issues from different perspectives, resulting in the increased learning and new tacit knowledge capital needed to enhance organizational growth. Therefore, technical communicators could facilitate the dialectical learning process to enhance employees’ training knowledge transfer.

Conclusion

The results of this mixed-methods literature review demonstrate that there is no one-size-fits-all solution for guaranteeing employees’ knowledge transfer following the completion of required training courses. Instead, the research proves that knowledge gained from training courses is best transferred using a combination of pedagogies and multimodal approaches. For example, this review includes pedagogies such as generative learning theory, adult learning principles, dialectical constructivist theory, and communities of practice. Additionally, this review features a range of multimodal tools, including the use of simulation-based activities such as games, videos, and multimedia. By leveraging an amalgamation of pedagogies and multimodal tools, technical communicators can create materials that enhance employees’ knowledge transfer following completion of required training.

As noted earlier in this paper, a quantitative research study should be conducted to quantify the data surrounding knowledge transfer, rather than allowing the field to continue perpetuating the myth that “only 10% of content which is presented in the classroom is reflected in behavioral change on the job” (Georgeson 75). Furthermore, additional research is needed to quantify the effectiveness of the various pedagogies and multimodal approaches. For example, Mason identified the need to further define how the development and sequence of design elements contribute to the effectiveness of multimedia presentations. Lastly, while Anderson et al. have published the “Taxonomy for Learning, Teaching, and Assessing” that defines what students are expected to learn in school, the results of this research study indicate that there is a need for a taxonomy for learning, teaching, and assessing knowledge transfer in the workplace. Given the increased risks employers face today and the required risk training mandated by various regulatory agencies such as the SEC, the FDIC, and the FTC, technical communicators are uniquely positioned to provide value to organizations by leveraging a combination of pedagogies and multimodal tools to create supplemental training materials that facilitate employees’ knowledge transfer to achieve organizational goals.

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