Learning Transfer from Metacognition-Enhancing Writing-about-Writing FYC Courses: A Longitudinal Study

2014-15 CCCC Research Initiative Proposal

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Project Overview
We seek matching/continuing funding for an ongoing longitudinal study of learning transfer (or “creative repurposing for expansive learning”—Wardle 2012) from a first-year composition (FYC) writing-about-writing pedagogy designed to amplify metacognition and mindfulness, to later college coursework. Our team’s project launched in Fall 2014 with MSU internal seed funding sufficient for the first year of the project, which begins with a study of 150 students’ metacognitive development in FYC and then selects 50 of those participants to follow for the next four years. We seek CCCC Research Initiative funding for year 2 of this 4-year study. The longitudinal methodologies that RI funds would support include collection and electronic storage of participants’ writing (with instructor comments wherever practicable) each semester, a semesterly interview with each student (with transcription), and quantitative and qualitative analysis of student writing via context-sensitive text analysis (Huckin 1992, 2004).

Problem Definition and Research Questions
Our study begins by taking to heart the preponderance of learning-transfer research in rhet/comp suggesting both that creative repurposing for expansive learning (Wardle 2012) from first-year composition instruction to later higher-education writing experiences is often limited (Moore 2012) and that a variety of strategies which foster self-reflection, mindfulness, and metacognition can optimize such repurposing (Framework 2011, Beaufort 1999, 2004, 2007; Driscoll, 2009; Driscoll & Wells 2012; Frazier 2010; Jarratt et al 2009; Nowacek 2011; Perkins & Salomon 1992; Roozen 2010; Rounsaville, Goldberg, and Bawarshi 2008; Wardle 2007, 2012). Transfer research—fueled in recent years by the 2011-2013 Elon Research Seminar on “Writing and the Question of Transfer”—almost unanimously encourages the development of writing pedagogies which are specifically designed to foster creative repurposing of learning in later scenes of writing.

As a high-transfer, metacognition-based writing pedagogy which may lead to creative repurposing of learning in later college coursework, our study sections deploy a version of the “writing-about-writing” pedagogy detailed by Downs and Wardle (2007, 2012), Wardle and Downs (2013, 2014), and Downs (2010a, 2010b, 2013). WAW pedagogy is theorized to be a highly fruitful pedagogy for fostering creative repurposing through its emphasis on mindfulness regarding transfer and on metacognition and reflection, but has itself yet to be rigorously longitudinally tested to confirm or disconfirm these predictions.

Our study also includes students whose FYC uses a non-WAW pedagogy more traditional in MSU’s writing program. Along with providing us a comparator for any learning transfer we do identify, the presence of these students in the study allows us to study learning transfer from FYC more broadly. And by incorporating interviews with student participants, as well as instructor comments on writing, into our study, we hope to be able to trace post-FYC influences on writing-related learning, so as to not misattribute later student learning to earlier instruction.

Finally, while the motivation for our project is studying pedagogical influences on learning transfer, we are well aware of the rich body of research which traces other influences—prior knowledge (Robertson, Tacza, and Yancey 2012), including prior genre knowledge (Reiff and Bawarshi 2011; Rounsaville, Goldberg, and Bawarshi 2008), affect and emotional development
(Johnson and Krase 2013, Herrington and Curtis 2000), prompted reflection and memory (Jarratt et al 2009), and additional practice and coaching (Frazier 2010, Haswell 2000), among others. We anticipate the difficulties and limitations, then, of tracing particular moments of learning transfer from specific previous pedagogical experiences in FYC. Wardle’s (2007) metaphor of “apples to apple pie” remains confounding—but we plan to use our semester-by-semester design and decent-sized N to help us learn more about how to tease apart these varying influences.

Together, these problem definitions and parameters lead us to focus on these research questions:

- Can learning transfer from FYC be reliably identified, and can it be distinguished from learning stemming from later experiences and other sources?
- Can deliberately mindful and metacognitive FYC pedagogies be shown to influence creative repurposing in later coursework—and if so, when, and under what conditions?
- Can writing-about-writing pedagogies’ claims to foster transfer (and mitigate negative transfer [Beaufort 2007]) be verified?
- Can learning-transfer be identified from FYC independent of curricular design?
- What stable variables in transfer besides pedagogical experiences and inputs can we verify via our research, in order to bolster existing transfer theory and research?

**Significance of Questions and Contribution**

CCCC recognizes that longitudinal studies of student writers and research on transfer both address questions that are important to CCCC and consonant with its mission, and so has funded longitudinal studies (e.g., University of Arizona Longitudinal Study of Student Writers, 2013-14), transfer studies (e.g., The Writing Transfer Project), and longitudinal transfer studies (e.g., Baird and Dilger, 2014—Barriers to Writing Transfer in the Major at the “2+2” University). The question is, will our study make a significant contribution beyond this work, justifying additional RI funding for longitudinal study of transfer? And the answer is, unequivocally, yes.

**This project extends recent CCCC RI funded research in recommended directions.**

Baird and Dilger, in their final report, offer among their recommendations these suggestions:

- “Our field […] needs more research which investigates the balance between contextual and individual influences on transfer.”
- “Because of the longitudinal nature of our study, we have been able to witness the emotional impacts of making successful connections to past knowledge […]. We encourage more research that bridges writing transfer with affect theory.”
- “How our participants remembered and narrated past experience with writing had terrific impact on writing transfer […]. This suggests the need for more research on memory and writing transfer.”
- “We encourage research on what King Beach calls heterochronicity—why learners make connections at different points in time.” (2014, pp 2-3).

Our study design allows us to pursue inquiry in each of these areas.

1) By necessity, our attempt to trace transfer from FYC will require distinguishing between contextual and individual influences on transfer, which our methodology anticipates.
2) Because our study design will allow us to see learning transfer develop in medias res, our analysis can be quite sensitive to affective influences on transfer.

3) We already note, following Jarratt et al (2009), that attempts to identify and trace transfer are simultaneously quite likely to themselves foster transfer, an instance of the Heisenberg Uncertainty Principle’s implication that attempts to measure a phenomena will inevitably alter the phenomena. Our methodologies will allow us not so much to mitigate this effect as to study it, so that we will have some chance of reporting how these inevitable memory and mindfulness effects influenced our participants. These methods include using a relatively high N of 50 participants, including participants from non-WAW FYC sections; establishing a baseline for participants’ metacognitive learning in FYC before the longitudinal study; and adopting interviewing techniques that will use both repetition (8 interviews over time) and directive prompts (helping students articulate how the study process itself may be influencing their thinking about learning transfer).

4) Because we will be getting a long and continuous picture both of students’ writing and their discourse on learning transfer, we will be strongly positioned to be able to develop data on and thus explore heterochronicity in students’ learning and reflection.

In short, this study upholds the very purpose of the CCCC Research Initiative itself, which is not simply to fund research on important problems that will advance disciplinary knowledge on their own, but also to use previously funded research to create a platform for further research.

This study is unique in its combination of length-of-term and comparatively high-N.

Beaufort (1999, 2007) and Driscoll (2009) are two exceptions, but they are either quite short term (Driscoll—less than one year) or small-N (Beaufort—one and four students). These limitations tend to impact just about all other longitudinal transfer research extant (e.g. Roozen 2010, McCarthy 1987, Haas 1994). Put differently, the only high-N, long-term longitudinal studies of college writers—e.g., Nancy Sommer’s famous Harvard study from the early 2000s—were not designed to look specifically at learning transfer.

This is the first transfer research specifically intended to test the effectiveness of FYC pedagogies deliberately designed to foster transfer through mindfulness and metacognition.
This will be the first longitudinal study of writing-about-writing pedagogies (so far as we are aware and a thorough lit review can demonstrate) which are specifically designed to heighten learning transfer. We are thus simultaneously testing the assertions of one of the highest-impact pedagogical developments in composition curricula in recent memory (appearing in basic writing, FYC, advanced writing, and tech comm curricula in at least 200 institutions around the country), and testing one of the first curricula deliberately designed to foster transfer. Given

- the field’s increasingly urgent attempts to understand, teach for, and document transfer;
- the challenges of researching transfer demonstrated by previous studies;
• the field’s desire to have writing instruction be predictably transferable and thus its investment in developing writing curricula that assist in this goal; and
• the impact of WAW on the field and the lack to date of long-term assessments of its effects on transfer;

there is a strong case that our study indeed addresses an important problem and stands to significantly advance disciplinary knowledge in ways consonant with CCCC’s mission.

Methodology
Our methodology is mixed-method and multi-phase. Phase 1 is IRB approved and phase 2 is under review. Though our first phase is already funded, I include a description here in order to assist reviewers in evaluating the second-phase methodology we are seeking RI funds for. First, however, our research team is an important methodological component which bears explaining.

Research Team
As the university and IRB-approved PI’s on the project, we lead a four-member team to conduct the study. While MSU is a research-extensive university, our English graduate program does not offer a PhD, which materially influences our resources for large, collaborative research projects relating both to who is available for research and what funding we have to support it. Our team members include, therefore, a non-tenure-track (adjunct) instructor in addition to co-PI Mark Schlenz, and a graduate student in our MA program. This student, Kimberly Hoover, is also a graduate teaching assistant and Writing Center tutor. While we are a generalist MA program, her masters project and coursework have a rhetoric/comp focus with an emphasis on non-linguistic metacognition. Our second adjunct instructor, Miles Nolte, holds an MA in English with an emphasis in writing pedagogy and a certification in college-level teaching, and is an actively publishing nature and outdoor writer whose work includes The Alaska Chronicles (Departure, 2009). Because our university and our field both stress the value of undergraduate research, in the coming year, we will also be adding an undergraduate research assistant, fund the assistant via an MSU grant program designated for undergraduate research.

This team structure lets us work around some longstanding problems in the field involving 1) marginalization of adjunct faculty from researcher roles, and 2) the challenges of conducting large-scale research in the absence of the support provided by a PhD program, which often limits which institutions can undertake such research. Because none of the team but Downs are salaried employees, a portion of research funding goes to compensating their time. By MSU policy, all research team members are IRB-certified as having completed human-subjects training.

Phase 1: Internal FYC Assessment of Metacognitive Gain
Our study is already launched with approximately 150 students in 10 sections of FYC (6 traditional academic-argument pedagogy, 4 writing-about-writing pedagogy) contributing pre-and post-course writing samples eliciting metacognitive writing strategies. We use a writing prompt that offers a hypothetical writing assignment (in the pre prompt, the hypothetical assignment is to develop a 6-8 page multidisciplinary definition of “personhood”) and asks students to create a list of 10 questions they would have to get answers to in order to effectively write that assignment. Brief classroom instruction helps them think of questions like “how will this assignment be graded?” or “how will this writing be used?” These assignments are given to
all students in the section for course credit. For the study, we collect copies of the writing of only those students who have consented to participate.

In analysis, we will look for significantly better-informed questions at the end of FYC than the beginning, and for differences in the metacognitive work students are capable of between the WAW and non-WAW sections. We’ll analyze the data using the framework offered by Thomas Huckin (1992, 2004) for context-sensitive textual analysis and critical discourse analysis, using multiple readers to assess the reliability of our emerging coding and resultant interpretation, using keyword tracking and code management in Dedoose analytics software. We will also conduct such multivariate statistical analysis as our N makes feasible.

Our analysis of gain in metacognition from beginning to end of FYC courses of both pedagogies will 1) give us an initial assessment of student learning, 2) build a baseline for what students might have learned relating to the two writing pedagogies that might provide the basis for creative repurposing in later courses, and 3) sufficiently acquaint us with students to select participants for the longitudinal study. We’ll create a sample that reflects the diversity of MSU’s student body and represents a range of fields of study. We will initially oversample in order to compensate for anticipated attrition through the ensuing four years. (The four-year completion rate for MSU students who pass FYC in their first semester is about 70 percent.)

**Phase 2: 8-semester Longitudinal Study**
Like Sommers’ study at Harvard, our plan is to collect all the writing our students can submit to us each semester, with a preference for writing that has received instructor comments to create an additional trace on inputs that contribute to learning transfer. (We are sensitive to Nowacek’s [2011] misgivings about the limitations of longitudinal studies where researchers are unable to maintain a presence in the courses from which the writing emerges.) Writing will be received electronically or scanned and then uploaded to Dedoose (the amount of data storage we estimate needing will require a premium subscription—see budget) and we will continue using Huckin’s analytical framework in coding and multivariate statistical analysis where appropriate.

Logistical notes: First, while our N will be too large to actually pay participants, we will incentivize continued participation with a $20 gift certificate for each participant each semester. Second, our estimate of pages per student per semester is not high—we anticipate it will average about 100. MSU has no WAC or WID program and upper-division writing requirements are hit-and-miss across majors, with some majors being writing intensive (lab courses, for example) and others not (math-heavy engineering design courses, for example). On the whole, the university lacks an ethos of writing that would prioritize writing to learn. Because we will collect only assigned and credited writing, we therefore anticipate a manageable data load.

We will interview each participant once per semester, posing direct questions about their sense of their writing development (which we will of course be able to compare with our own assessment), learning, and any learning transfer they perceive, as well as encouraging open-ended reflection. Some of these questions will of course be informed by previous interviews and the students’ writing; others will be standard for all participants. Transcripts of interviews (hence a budget line for transcribing) will be coded in similar fashion to student writing.
Limitations
Our methods are unable to avoid some of the drawbacks that all longitudinal studies face: predictable student attrition may reduce our N more than we anticipate; the huge amount of data collected poses challenges for analysis (although software support is far better than it used to be and we have statistical consulting support); and the research team will have changing membership over time, which can strain team dynamics even as it provides fresh eyes. There is also some risk that funding will not be available to support later years in the study.

The more difficult challenges of course have to do with interpretive validity. Will we be able to differentiate between sources of learning transfer (Baird and Dilger 2014)? Will we be able to recognize when FYC “apples” are showing up later as “apple pie” (Wardle 2007)? Will participants be sufficiently reliable informants (Jarratt et al 2009)? Will we miss too many learning moments by not being in classrooms with students or by not being able to interview their instructors extensively (Nowacek 2011)? By anticipating such potential limitations, we believe we’ve been able to design a robust multi-method study that partially ameliorates them. Still, in a way, our research will as much be a test of yet another design for transfer research—itself an important contribution to the field—and we will consciously treat it as such.

Innovative Aims and Methods
To summarize the particularly innovative aspects of our project:

- Longitudinal research on learning transfer from FYC deliberately designed to amplify metacognition and mindfulness has never been done, especially in these numbers over this much time.
- Ours would be one of the first CCCC RI projects to deliberately and thoughtfully build on other recently completed CCCC RI projects (Baird and Dilger).
- We’re undertaking the first longitudinal study of impacts of writing-about-writing pedagogy.
- Our mixed methodology (internal metacognition study in FYC, interview- and text-analysis methods in the longitudinal study) is unique in longitudinal transfer research.

Researcher Qualifications
Doug Downs has a strong background in theorizing WAW pedagogies and their connections to metacognition and transfer (Downs 2013 and 2010a; Downs and Wardle 2007, 2010; Wardle and Downs 2013) as well as in assisting in implementing such pedagogies programmatically (Wardle and Downs 2014). He consults widely with campuses around the U.S. on implementing WAW pedagogies, including extensive campus visits, skype consultations, and extended correspondence. While this is his first longitudinal study and transfer study, he has experience with multi-researcher, grant-funded, mixed-method studies of student practices and metacognition, including research on student screen-literate reading practices and habits of mind, initially presented at Writing Research Across Borders 2014 in Paris (Downs and Schwaller 2014) and currently being developed as a journal article; and on observations of student research practices (Downs 2010a, 2011). These studies also incorporated most of the elements in the current study design, including recruiting students to studies which require maintaining contact over many months, building representative sample pools, managing student contacts and
complex scheduling, managing compensation to research participants, managing budgets and directing funding resources, and managing and analyzing large datasets. He also has experience working with CCCC, as co-chair of the Committee on Undergraduate Research (2011-14) and on the Taskforce on Undergraduate Research before that (2010-11), as a member of the Writing Program Certificate of Excellence Selection Committee (2012-13), the Berlin Dissertation Award Committee (2007), and the Best Book Award Committee (current).

At MSU, Downs serves as Director of Composition, directing our first-year writing program, which provides him ready access to FYC courses, instructors, and curricular designs. He prepares new graduate teaching assistants and teaches our ENGL 505 Teaching Composition course, which will allow him to identify promising new graduate students to join the research team. He also serves as Undergraduate Research Coordinator in our department and as a reviewer for MSU’s Undergraduate Scholars Program, which will provide the same access to identifying promising undergraduate researchers for the team as our project gets underway.

Mark Schlenz holds a PhD in English with experience as a National Writing Project fellow dating back to 1979 and experience with writing program administration and programmatic curriculum development gained at UCSB (1994-98). In 2002 he co-authored a textbook on inquiry-based writing pedagogy, Engaging Inquiry: Reading and Writing in the Disciplines (Prentice). Teaching at MSU since 2010 as both a composition and literature instructor, he has been active in non-tenure-track faculty governance and advocacy issues and was one of the earliest adopters of WAW pedagogy in our writing program.

We are assisted in study design and data analysis by an outreach program in MSU’s Department of Mathematics which offers statistical consulting by research faculty there, which will support our multivariate statistical analysis. Finally, MSU has demonstrated its commitment to this research by awarding us a Faculty Excellence Grant of the maximum annual value, $5,000, as startup funding for the current (first) year of this project, with potential for renewal.

**Outcomes and Deliverables**

The impact promised by this study’s subject and methodology suggest a number of venues for dissemination of study data over time.

**Presentations** at CCCC 2016 on initial findings, and at other relevant conferences. (If we’re awarded RI funding, we’re willing to make CCCC 2016 our first presentation, though other conferences would allow earlier presentation.) **Journal articles** in CCC and related publications in the field will emerge mid-term in the project (so, by summer 2016), deriving from material developed for presentations.

**Website** creating an ongoing, public compilation of study data. In the interest of RAD research, we will post not only our own data analysis, but also make our anonymized and scrubbed dataset accessible to outside researchers. We plan to make the website available by winter 2015.

**Book**, as a long-term, end-of-study project (2018). While its focus, title, and publisher will depend on findings, we anticipate that its purpose will be specifically to gather data analysis
from the project, evaluate the impact of WAW pedagogy on transfer, and continue to theorize creative repurposing of learning in FYC more broadly. It will be multi-authored with all or most members of the research team, with chapters individually or collaboratively written and signed by team members.

In addition to direct dissemination, we see potential for this study to inform future policy forums and public advocacy works such as the Framework for Success in Postsecondary Writing (2011). Additional outcomes will include local curricular development and instructor development and, we expect, additional collaboration with future transfer researchers, hopefully multi-institutional.

**Timeline and Work Plan**
The following work plan covers the period Sept. 2014 through Sept. 2016, when requested funding will be expended.

**Fall 2014 (Sept. – Dec.)**
Phase 1 is underway in 10 FYC sections. Ongoing tasks: Procuring funding for the next year. Building data storage and analysis structure. Beginning review of consented study participants for invitation to Phase 2. In December, post-semester, begin data analysis on phase 1 and finalize phase 2 participant list.

**Spring 2015 (Jan. – May)**
Complete phase-1 data analysis by end of January. Recruit participants for phase 2 by mid-January. Establish protocols for data collection. Conduct interviews from semester one of study in April and May. Propose to CCCC 2016 for first presentation on phase 2 data. Apply for funding for year 3 of study (targets: CWPA and internal grants).

**Summer 2015 (June – Aug.)**
Conduct data analysis on first-semester writing and interviews. Close out first-year internal funding with initial study report to MSU, blending data analysis and preliminary results from both phase 1 and early phase 2 of study. Begin development of project website. Present with research team at CWPA 2015 on completed phase 1 data analysis. Refine methodology for coming year’s data collection.

**Fall 2015 (Sept. – Dec.)**
Data collection (student writing and interviews) for semester 2. Bring website online and begin sharing dataset. Ongoing data analysis, including thorough review of coding. Drafting journal article based on phase-1 data.

**Spring 2016 (Jan. – May)**
Data collection (student writing and interviews) for semester 3, completing the second year of the study. Develop initial data and findings from first two semesters of longitudinal study for presentation at CCCC, or other venues. Ongoing data analysis.

**Summer 2016 (June – Aug.)**
Data analysis and synthesis, feeding into review of ongoing study design and methods. Present study update at CWPA 2016 and other relevant venues. Drafting first journal articles based on longitudinal data, drawing from previous presentations. Drafting final report for CCCC RI funding. Refining and expanding website.

**Budget**

Study expenses are not complex, breaking into three categories.

- **Researcher Stipends:** Over the second year of the project, we estimate that researcher time will run about 150 hours each. The three non-salaried team members require compensation for this time.
- **Participant Incentives:** Gifts certificates of $20 per active semester in the study.
- **Data Management and Analysis:** Dedoose qualitative analytics software for data storage and analysis; transcription of 1500 minutes of participant interviews per semester.

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<th>Researcher Stipends</th>
<th>Two NTT faculty and one M.A. GTA, $1500/ea</th>
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<td>Participant Incentives</td>
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<td>Data storage and analysis</td>
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<td>Total</td>
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**Total** $10,000
Works Cited


Framework for Success in Postsecondary Writing. (2011). CWPA, NCTE, NWP.


