The Connected Curriculum: Designing a Vertical Transfer Writing Curriculum

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Rebecca Nowacek (2011) observes that "scholarship on transfer in the field of rhetoric and composition has understandably focused on first year composition: what knowledge and abilities transfer out of, and less commonly, into FYC" (p. 99). There is consensus in this research that all too often students fail to transfer skills learned in their first-year composition courses to other writing contexts across the curriculum. There is also consensus that composition instructors wishing to encourage transfer should focus on metacognitive awareness of writing processes; understanding of key writing studies concepts like rhetorical situation, genre, and discourse community; and making explicit connections to students' future college and professional reading and writing tasks (Beaufort, 2007; Bergmann & Zepernick, 2007; Clark & Hernandez, 2011; Fishman & Reiff, 2008; Wardle, 2007). What scholars have focused less attention on is how these lessons learned from the research on transfer and first-year composition might inform the design not just of first-year composition courses, but of university writing across the curriculum (WAC) efforts, from a student's first year to his or her final semester. With the exception of Anne Beaufort (2007) and David Smit (2004), even researchers who have studied courses across disciplines have focused their advice not on the structural design of campus WAC programs, but on what individual instructors can do to encourage transfer (Caroll, 2002; Driscoll, 2011; Nowacek, 2011; Sternglass, 1997).

Writing program administrators (WPAs) interested in the issue of longitudinal design for college writing commonly draw on the concept of *vertical curriculum* (Crowley 1998; Hall, 2006; Jamieson, 2009; Miles et al; 2008). A vertical writing curriculum, with carefully sequenced writing courses in composition, general education, and the majors that connect to and build upon one another, certainly has transfer as an implicit goal. Discussions of vertical curriculum and discussions of transfer often occur on separate tracks and these two emerging areas of interest for writing studies would benefit from more explicit and in-depth connections.

This essay will make a stronger and more explicit connection between the scholarship on transfer and the scholarship on vertical writing by discussing the principles of a *vertical transfer writing curriculum*. I engage in theory-building by synthesizing the research on transfer and the discussions of vertical writing curriculum into a set of principles I hope will be useful in guiding the way WPAs design college writing programs ranging from the first year to the final semester. I begin with a

brief overview of the literature on transfer and the literature on vertical writing curriculum, followed by a synthesis of the two areas of study in the form of a set of general principles for a vertical transfer writing curriculum. In order to make these abstract principles concrete, I discuss the redesign of the campus writing program at my institution, which has moved from a lateral curriculum that did not encourage transfer to a vertical curriculum that emphasizes transfer at each stage of students' careers as college writers.

Writing Transfer and the Vertical Writing Curriculum: An Overview and Synthesis

The following overview of the literature on writing transfer and the literature on the design of vertical writing curriculum is meant to be selective, not exhaustive. I highlight the features of transfer research that are: a) most commonly cited in research on transfer and writing, b) most relevant to the design of campus writing programs, and c) most useful in making connections between transfer and vertical curriculum design. I begin with a brief overview of the literature on transfer in general, and transfer and writing in particular.

The literature on transfer from the fields of educational psychology and writing studies is rich and complex, exploring everything from epistemological frameworks for transfer, categories of transfer, student disposition and transfer, and classroom practices. For the purposes of this essay, I will focus on aspects of transfer most often cited in the research on transfer and writing:

- Positive vs. negative transfer
- Threshold concepts and transfer
- Low road vs. high road transfer
- Metacognition and transfer
- Near vs. far transfer
- Vertical transfer

In order to discuss these transfer concepts in a concrete way, I use the example of a hypothetical student, Ling, as she moves from first-year composition to graduation.

Suppose that Ling had been taught to use the five-paragraph theme in her high school English classes, and she assumes that this format will also be expected in first-year composition. When Ling is asked to write a rhetorical analysis of an academic genre in her first-year composition class, she uses her default five-paragraph theme format and does poorly on the assignment. This is an example of *negative transfer*, in which learning from one situation interferes with learning from another situation (Schunk, 2004; Woltz et al., 2000). However, if Ling had written personal

narratives in her high school English classes and then draws on her narrative writing skills to complete a literacy history narrative in her first-year composition class, she may experience *positive transfer*—learning from one situation assisting in another situation.

Another way of looking at Ling's conflict between the five-paragraph theme and the genre analysis assignment is with *threshold concepts*. A threshold concept is a key disciplinary concept that acts as a gateway to a discipline, opening up new ways of thinking about that discipline (Meyer & Land, 2006). David Perkins (2006) emphasizes that threshold concepts can be troubling to students, since they may be alien or counterintuitive, and may force students to give up previously held beliefs. A student like Ling who has been taught the five-paragraph theme in high school may struggle with the first-year composition threshold concept of *genre*, but an understanding of genre will help Ling cross the boundary from high school to college writing.

If Ling takes an introduction to biology general education course in her sophomore year and learns about the scientific method, and then draws on that knowledge to write a lab report in a chemistry class in her major a year later, she would be applying *high road* transfer. Perkins and Salomon (1989, "Rocky Roads") developed the constructs of *low road* versus *high road* transfer. Low road transfer occurs when students practice skills until they become routine and are triggered automatically and unconsciously. High road transfer, requiring less time and practice, involves abstracting from underlying principles. Rounsaville et al. (2012) further articulate high road transfer:

> "High road" transfer involves the deliberate, mindful abstraction of knowledge, skills, or strategies from one context to be re-localized and successfully leveraged in another, distinct context, and is distinguished by the learner's role in actively seeking connections between prior knowledge and new learning encounters. (para. 5)

If Ling learns to be a more self-reflective writer and to monitor and adjust her writing processes in first-year writing, she is more likely to achieve high road transfer. In a review of the transfer literature, Mikulecky et al. (1994) concludes that in the field of literacy study, metacognitive strategies such as setting goals and making predictions are examples of high road transfer. Dively and Nelms (2007) found that the ability to be a reflective writer was a key factor in successful transfer of knowledge from first-year composition to writing-intensive courses in the major. They argue that "reflection represents an important mechanism for achieving metacognitive awareness of the potential for transferring learning across contexts" (p. 216).

If the lab report Lynn is asked to write in her chemistry class is a new genre for her, and she uses the rhetorical analysis skills she learned in her first-year composition

course to help her write the lab report, she is enacting *far transfer*. Far transfer involves the application of skills to a context that is further removed from the original context, and it is in contrast to *near transfer*, which occurs when there is a similar context for when a skill is first acquired and when it is applied again in another context (Royer, 1986). Context is a key word in the transfer literature: Foertsch (1995) argues that abstract rules should be taught in conjunction with concrete examples, and Berryman and Bailey (1992) claim that learning transfers best in real situations where knowledge and strategies are learned at the same time. Perkins and Salomon (1998) argue that one way to encourage transfer is "hugging," which means teaching a skill in the context of what we want it to transfer to. Researchers who study transfer would argue that if Ling was asked by her first-year composition instructor to mimic a genre in her future major, and Ling attempted to write a lab report, she would be less likely to achieve transfer than if she were writing the lab report in the context of a chemistry course.

Suppose Ling takes a capstone course in her major, and in her final essay she is asked to reflect on which thinking and writing skills she learned in her major will be most relevant to her career as a chemist. This would represent an attempt by Ling's instructor at encouraging *forward reaching* transfer (Perkins & Salomon, 1998). In forward reaching transfer students think about future contexts where a skill may be applied, and in *backward reaching* transfer students draw on prior knowledge and apply it to a current task, as in the example of Ling applying her knowledge of writing personal narratives in high school when writing a literacy history narrative in first-year composition.

As Ling moves from her first-year composition course to introductory courses in her major to capstone courses, she would ideally experience more and more complex and discipline-specific writing tasks, and she would draw on what she had learned previously each time she encountered a more difficult task. This would entail *vertical transfer*. Vertical transfer is transfer to a new learning situation that requires a higher order of thinking skills than would be necessary in a prior situation (Haskell, 2000). Vertical transfer is contrasted with *lateral transfer*, which involves transfer to related tasks that do not require new skills or more complex learning. Successful vertical transfer requires both prerequisite skills and the ability to construct new knowledge in new contexts. Gagne (1965) first developed the concept of vertical transfer, and he is one of the originators of vertical curriculum design. Gagne's work reminds us that in the design of campus writing programs we should consider not just the vertical nature of our curriculum, but also how to ensure transfer as students move vertically through the curriculum.

Although most writing studies scholars who have studied transfer have focused their attention on the design of first-year composition curriculum, a few scholars

have drawn on the transfer research to sketch out more than a curriculum for first-year composition. Rather, they have outlined an entire university writing program. In *College Writing and Beyond*, Anne Beaufort (2007) makes an argument for developmental, sequenced sets of courses in the majors in order to move students toward increasing understanding of disciplinary subject matter, disciplinary genres, discourse community knowledge, and critical thinking. Beaufort references David Smit (2004), who in *The End of Composition Studies* argues for a carefully planned sequence of courses with "an increasing level of domain-specific knowledge" (185). Although Smit, like Beaufort, does not use the term *vertical curriculum*, his central focus is on rethinking entire university writing programs to ensure that writing in different courses is "more related and systematic, so that instructors can build on what students have learned previously" (p. 193). Smit argues that WAC/WID is the most effective tool for achieving this goal. The design of sequenced core courses in a hierarchy of thinking and writing skills that Beaufort and Smit argue for connects closely to Gagne's concept of vertical transfer.

Although concepts such as positive and negative transfer, low and high road transfer, near and far transfer, and vertical and lateral transfer are not often explicitly referenced in discussions of vertical writing curriculum, there is certainly an implicit connection between transfer concepts and principles of vertical writing curriculum design. For example, Miles et al. (2008) outlines guiding principles of a vertical curriculum that include recursion over time, so that concepts are introduced, practiced, and reinforced; a variety of "production-based" courses that combine experiential and academic learning; and the creation of sequences of courses that build upon one another (pp. 505-506). Like Miles et al., Jamieson (2009) recommends a vertical curriculum that emphasizes repeated writing opportunities throughout a student's career, required courses that focus on writing in the context of the discipline, and capstone courses with a research emphasis. The emphasis on recursion of skills and concepts in vertical curriculum design can be related to both low road and high road transfer and near and far transfer, and the emphasis on writing in the context of a discipline and on "production-based" and experiential writing echoes Perkins and Salomon's concept of hugging.

Like Beaufort and Smit, Hall (2006) proposes a continuous scale of goals that move toward more complexity and more discipline-specificity as students progress from first-year composition to capstone experiences in their major. Hall is interested in "the big picture of a student's academic development" (pp. 5-6), and argues for what he refers to as a *Unified Writing Curriculum*. Hall believes that each course in this unified sequence of introductory, advanced, and intermediate writing courses should have clear outcomes that build seamlessly toward disciplinary expertise. Hall feels that WAC should be concerned with "the vertical integration of writing

instruction at various levels and at various times throughout the whole period of a student's undergraduate career" (p. 6).

Perkins and Salomon (1989) argue that transfer must be cued, primed, and guided (p. 19), and they claim that conditions for transfer can be engineered in the classroom. Like Miles et al., Jamieson, and Hall, my concern in this essay is not engineering the classroom, but the entire curriculum. I hope to add new dimensions to Miles et al., Jamieson, and Hall's visions of vertical curriculum design by explicitly integrating concepts from the literature on transfer into vertical curriculum design. Through an application of a synthesis of the research on transfer and vertical curriculum design, student writing can be cued and guided from the first year to the final semester, and transfer engineered not just from first-year writing to courses in the disciplines but at every stage of a student's college writing career. WPAs should focus their efforts not only on transfer from first-year writing, but also on what Perkins and Salomon (2012) call "the connected curriculum." To achieve vertical transfer in a campus writing program, I propose the following vertical writing transfer curriculum principles:

Require self-reflection and self-monitoring throughout the curriculum

Missing from discussions of vertical curriculum is an emphasis on teaching and practicing metacognition, and not only in first-year composition but also at every stage of students' academic writing careers. Since metacognitive awareness is key for successful transfer to more complex rhetorical situations, WPAs should work to ensure that there are moments of self-reflection built-in to core writing requirements and writing placement and assessment (Beaufort, 2007; Dively & Nelms, 2007; Mikulecky et al. 1994).

Distribute writing over time and embed writing throughout the curriculum

Vertical curriculum design emphasizes writing-intensive experiences at each stage of students' academic careers—from first-year composition, to general education, to introductions to the major, to capstone courses. The value of embedding these writing experiences in their disciplinary contexts is reinforced by the literature on transfer, which shows that students are more likely to learn something—and then transfer that learning to new situations—when the target learning outcome is embedded in disciplinary curriculum and practiced frequently (Beaufort, 2007; Perkins & Salomon, 1998; Smit, 2004).

Focus on situated, authentic, domain-specific practice

Vertical curriculum design makes the argument that first-year composition provides only an introductory domain for academic writing, and that writing must be situated

in the disciplines and in experiential learning opportunities such as service learning and internships. In other words, first-year composition can introduce students to academic literacy threshold concepts like *revision*, *purpose*, *audience*, *genre*, and *discourse community*. However, these concepts need to be reinforced and further contextualized in specific disciplinary domains in general education and in the majors. Transfer is more likely to occur when learning is authentic and connected to disciplinary and professional practice (Berryman & Bailey, 1992; Foertsch, 1995; Perkins & Salomon, 1998).

Introduce and reinforce academic writing threshold concepts

Vertical curriculum design does not explicitly reference threshold concepts, but vertical planning for writing should include strategies for introducing students to academic writing threshold concepts and then reinforcing those concepts in future courses. Writing studies threshold concepts like *revision* and *genre* should be introduced in first-year composition and then reinforced in writing center tutoring, WAC faculty development efforts, and WAC initiatives such as writing fellows programs or writing-intensive courses. Vertical curriculum design should also consider where and when disciplinary threshold concepts would be introduced and reinforced in the majors (Meyer & Land, 2006; Perkins 2006).

Create shared writing meta-language

To achieve the goals of vertical design and the "connected curriculum," it is helpful to have a shared campus language regarding writing concepts and terms. Transfer is more likely to occur when instructors are using similar terms in similar ways as students move from first-year composition, to general education, and then to the majors.

Design multiple opportunities for peer mentoring

Guidance from more experienced peers can help students cross academic thresholds and can encourage forward-reaching transfer of writing skills from high school to first-year writing, from first-year writing to general education, and from general education to the majors. At the same time, when students take on the role of mentoring less experienced peers, they practice backward-reaching transfer and metacognitive awareness of the concepts they are teaching (Nowacek, 2011).

Designing a Vertical Transfer Writing Curriculum: An Example

The final section of this essay exemplifies the application of vertical transfer writing principles through a discussion of the revision of the campus writing program at my institution from a lateral writing curriculum to a vertical transfer curriculum.

There are endless ways to apply the vertical transfer writing curriculum principles I outlined in the previous section, and the form these principles may take in practice will always depend on local contexts. The point of my example is not to offer a list of writing program features that must be in place to achieve vertical transfer, but rather a concrete example to help readers imagine what a vertical transfer writing curriculum might look like at one institution—a large state comprehensive college in a diverse, urban environment.

Before a group of rhetoric and composition faculty at my institution were hired a decade ago and began making reforms to our campus writing program, students experienced negative transfer and little sense of vertical progression as they moved from first-year composition into general education and then into their majors. The point of entry to first-year composition was a Chancellor-mandated timed writing and multiple choice test which conflicted with the emphasis on writing as a social process in our first-year composition courses: the single draft, five-paragraph theme approach that students used in the timed exam had the effect of negative transfer when those same writing habits were applied by students to first-year composition assignments. Each second-semester composition course was based on a theme of the instructor's choosing, and because many instructors had a background in literature or creative writing this theme often focused on a novel. Students who applied the literary analysis and descriptive writing style they learned in the second-semester composition course to courses in general education or their major would experience negative transfer. Students were required to take only a single writing intensive course, inside or outside of their major, and quite often the students who needed the most practice with writing would delay taking the second-semester composition course and the writing intensive course until their final semester, which was possible due to a lack of regulation by academic affairs. A rising junior timed writing test had no connection to the writing intensive courses it was meant to place students into. There were no shared outcomes in the composition courses or the writing intensive courses, minimal faculty development for the teaching of writing, and little student support for writing beyond a small, underfunded writing center. In some ways my institution represented a worst-case scenario for transfer and vertical design, but readers may recognize some problematic elements listed here in their own campus writing programs.

There are multiple changes the WPAs at my institution made—and are currently still making—to move from negative transfer to positive transfer and from a lateral to a vertical curriculum. I will begin by simply listing the changes, and then discuss how they exemplify the vertical transfer writing curriculum principles I outlined in the previous section:

1. We received permission from the chancellor's office to replace the timed writing exam with Directed Self-Placement (DSP) to place students into first-year composition courses.

2. We changed the curriculum of the second-semester composition course to a WAC focus.

3. We created a proposal to give departments the option of becoming a writing intensive designated major (WID major), which means students who completed the major would satisfy their writing intensive requirement through taking a series of core courses in the major that emphasize sequenced writing experiences.

4. We created small-group, adjunct tutoring, one-unit courses for composition and for writing intensive courses led by advanced undergraduate and graduate students across disciplines.

5. We offered students one unit of credit for regular, weekly tutoring at the University Reading and Writing Center.

6. We offered classroom outreach workshops to instructors across disciplines on writing studies threshold concepts such as "revising vs. editing" and "peer response."

7. We created a junior-level writing-in-the-majors course taught by composition specialists.

8. We created a proposal for a required longitudinal career portfolio that would replace the rising junior timed-writing test.

9. We developed shared learning outcomes for first-year composition, second-semester composition, and writing intensive courses.

10. We hired a WAC coordinator and a writing assessment coordinator to help with WAC faculty development and university writing assessment.

11. We created a proposal for a yearly faculty development and writing assessment retreat for writing intensive teachers.

12. We created a university writing rubric and a university student writing guide.

13. We made the second-semester composition course a sophomore course and made it a prerequisite for the rising junior placement, and we convinced academic affairs to place registration holds on students who did not complete their rising junior placement by the end of their first semester as juniors.

Each of the changes listed above contributed to the movement from a lateral curriculum with serious problems of negative transfer to a vertical transfer writing curriculum. Below I discuss in more detail how the changes to the campus writing program at my institution reflect the vertical transfer writing curriculum principles I outlined in the previous section by revisiting each principle in light of the revised campus writing program.

Require self-reflection and self-monitoring throughout the curriculum

Timed writing tests require little self-reflection, but metacognition is built in to DSP. In our DSP materials students are asked to take a literacy self-survey in which they reflect on their strengths and weaknesses as writers, and are also asked to consider their high school literacy experiences (backward reaching transfer) and analyze the kinds of writing they will be asked to do in our first-year composition courses (forward reaching transfer). As part of the proposed rising junior portfolio placement, students must include a cover letter where they assess what they've learned about writing in college thus far, and consider their strengths and weaknesses as writers as they enter their major. Teaching activities that require students to reflect on their writing—and to use writing as a tool for metacognition—are discussed in WAC faculty development activities and will be encouraged as the WAC and writing assessment coordinator work with departments on becoming certified as WID majors.

Distribute writing over time and embed writing throughout the curriculum

Students will have at least one writing intensive experience every year in our revised campus writing program: first-year composition, sophomore composition, and a series of core courses in their major as our institution moves toward the embedded model of WID majors. The adjunct nature of the small group tutoring and University Reading and Writing Center tutoring courses ensures *hugging*—writing practice and feedback in domain-specific contexts, and especially the context of writing in a specific major. Prerequisites and enforcement of registration holds for students who are not following the sequence will help insure that writing intensive experiences are distributed over time and not put off until just before a student is preparing to graduate.

Focus on situated, authentic, domain-specific practice

Instructors in the WAC-focused sophomore composition course attempt to give students an authentic bridge to general education by asking students to analyze the ways of making meaning, formal conventions, research methods, etc. of different academic discourse communities using actual writing assignments and examples of student and professional writing. A junior-level writing-in-the-majors course uses the same forward-reaching transfer strategies as the sophomore course, but is

focused on students exploring the writing done in their majors. The writing intensive requirement is slowly shifting from students frequently taking a writing intensive course outside their discipline to a series of courses within a discipline, and adjunct tutoring support for writing intensive courses focuses entirely on workshops of the papers students are assigned in their writing intensive courses.

Introduce and reinforce academic writing threshold concepts

Students are first introduced to writing studies threshold concepts like *revision* and *genre* in the DSP materials, and these concepts are emphasized in the shared learning outcomes for first-year and sophomore composition courses. The composition courses require that instructors use the university student writing guide, which also focuses on writing studies threshold concepts. Although there are not assurances that instructors in the disciplines will introduce students to and then reinforce disciplinary threshold concepts, moving the writing intensive requirement to a series of core courses in the major makes it more likely that disciplinary threshold concepts will be taught and practiced through the use of writing, and provides an opportunity for the writing assessment coordinator to discuss threshold concepts with departments as she works with them on curriculum mapping.

Create shared writing meta-language

Although Anson et al. (2012) make a convincing argument against generic university writing rubrics in favor of discipline and course-specific rubrics, the creation of a university writing rubric does help promote writing meta-language: the university writing rubric discusses writing concepts like *revision*, *audience*, and *editing*. This meta-language is also used in the student writing handbook, and it appears throughout the shared learning outcomes for both the composition courses and the writing intensive courses. University Reading and Writing Center tutors and the tutors who facilitate the small group adjunct tutoring also use this meta-language when helping student writers, as it is reinforced in their tutor training. The writing meta-language is reinforced again in classroom outreach workshops offered by the center, and in faculty development workshops and seminars offered by the WAC program.

Design multiple opportunities for peer mentoring

A large percentage of students receive regular peer mentoring, whether it is in a small group workshop or one-on-one conferences an hour a week with a tutor in the University Reading and Writing Center. Nowacek (2011) argues that tutors' central charge is to "facilitate the transfer of writing-related knowledge for student writers," and that as they do this they develop a greater capacity to see connections in their own writing (p. 136). The students receiving tutoring in our writing program receive

reinforcement of forward-reaching transfer from more experienced peers, and the tutors—who include students from across disciplines—gain metacognitive awareness of their writing processes and the rhetoric of their disciplines through the act of tutoring student writers. At many institutions faculty and/or professional staff tutor students one-on-one or in small groups, and this structure also benefits students in regards to transfer, but peer tutoring has the added benefit of the student tutors gaining metacognitive awareness of their writing processes.

The changes described above represent an attempt to move from negative transfer to positive transfer and from a lateral writing curriculum to a vertical transfer curriculum, but there are certainly more changes to be made that could help with transfer. The current junior-level writing-in-the-majors course taught by a composition specialist should aid with transfer as students cross the threshold into their majors, but the literature on transfer supports the WID argument that a course that introduces a student to writing in his or her major should be taught by a disciplinary specialist in that major. The embedded model of the WID major is more likely to result in positive transfer than a single writing-intensive course, but an additional requirement of a capstone course in each major would help to ensure vertical transfer. Universal service learning and internship requirements would also improve the chances of transfer for our students.

As my institution fully implements the vertical transfer writing curriculum model, it will be important to assess the extent to which students are transferring writing knowledge, habits, and skills at each stage in the curriculum. Research on transfer and writing supports the vertical transfer principles I propose, but more longitudinal writing research like Beaufort's (2007) that is explicitly focused on transfer not just from first-year composition but from each new threshold students cross in a vertical curriculum is needed. In the future, I hope to move beyond theory-building and examine portfolio cover letters from first-year composition, sophomore composition, the rising junior portfolio placement, and writing intensive courses to provide more substance to my argument for these vertical transfer writing curriculum principles—or to rethink these principles.

Whatever types of programs and courses an institution enacts to encourage vertical transfer, the important consideration is building them in to the core requirements of students' academic careers. Brent (2011) argues that successful transfer involves enculturating students into "long-standing mental habits, or dispositions" (p. 411). The mental habits and dispositions for transfer of writing begin with first-year composition, and the data from studies of what and how much students transfer from first-year composition to future courses is valuable in helping WPAs redesign first-year composition courses to encourage transfer. However, it's equally important that WAC theorists and practitioners extend the conversation on transfer well beyond

first-year composition. Imagining core curriculum that will encourage vertical transfer is one way we can promote transfer of writing beyond first-year composition.

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