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The Writing Center and Transfer of Learning: A Primer for Directors

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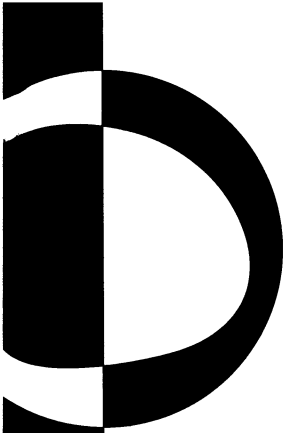
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Abstract

A vital topic in higher education is transfer of learning, which is generally defined as the ability to take something learned in one context and apply it in another. Transfer has been researched extensively by two major fields: educational psychology and composition studies. Writing center directors should be informed about what educational psychology has discovered about transfer, what composition studies has determined about the role of transfer for teaching writing, and what transfer can mean for writing centers. This primer summarizes foundational and contemporary research on the nature of transfer for application in writing centers.

Writing centers are notable for incorporating research from other disciplines into their teaching and writing. In fact, as part of a postmodern world, it is absolutely vital for writing centers to draw from other fields to develop new ideas (Babcock, Ferrel, & Ozias, 2011). This turning to other fields is most useful and important for centers when examining a topic of long-standing interest and investigation, namely, the concept of transfer of learning.

Transfer has been studied extensively by two major fields. Starting in 1901 with the work of Edward Thorndike and Robert S. Woodworth, the field of educational psychology has been exploring how the mind functions when transfer of learning occurs. And, now, for over twenty years, the field of composition also has been studying transfer [1]

This topic, not to put too bold a spin on it, may be one of the most important subjects composition studies has explored since process itself. Studying the transfer of learning helps researchers understand how students' work in First-Year Composition (FYC) affects their writing in the rest of the academy (Snead, 2011; Yancey, Robertson, & Taczak, 2014). Transfer can, in fact, be considered the heart of a college education because students' ability to connect and link ideas is central to what a higher degree should teach (Berrett, 2014, p. A-3).

As a long-time director, I have realized that centers should be informed about what educational psychology has discovered about transfer, what composition studies has determined about transfer's role in teaching writing, and what transfer can mean for centers themselves. Indeed, I argue that centers already teach for transfer every day. Transfer also provides a foundation for educating consultants, showing why training techniques are successful and how they can be improved. Finally, transfer offers numerous research opportunities. What follows, then, is a primer on transfer, designed to summarize foundational and contemporary research to provide directors insight into the nature of transfer (as first described by educational psychology), the impact of composition studies on writing transfer study, and the value of transfer for centers.

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1 Based on Anis Bawarshi's bibliography (dev.isuwriting.com/2013/10/31/bibliography-on-transfer-research/), two of the earliest Composition Studies articles on transfer are Anne J. Herrington's (1985) "Writing in academic settings: A study of the contexts for writing in two college chemical engineering courses," *Research in the Teaching of English 19*(4), 331–361 and Nathaniel Teich's (1987) "Transfer of writing skills: Implications of the theory of lateral and vertical transfer," *Written Communication 4*(2): 193–208.

Defining "Transfer of Learning"

For understanding the role of transfer in centers, it is necessary to define transfer of learning. At its simplest, transfer means, "[t]he experience or performance on one task influences performance on some subsequent task" (Ellis, 1965, p. 3). If you can do algebra, you can perform calculus (Ellis, 1965, p. 4). The mind, seeing similarities to what is already known, extends what is similar to another activity. Consider how young children are introduced to the recorder, perhaps their first musical instrument, and they learn how to move fingers and blow air. Three years later, that same child transfers what they have learned to playing the flute or clarinet.. Though a new instrument, the features of play are still identifiable: the mind recognizes similarities in experience with a wind instrument and has applied a previously learned concept to a new situation (Haskell, 2001, p. 11). This activity, then, is transfer of learning.

It is also useful to show what transfer is not. It should not be confused with *knowledge transfer.* While composition studies sometimes adopts this phrase or its variant *transfer of knowledge* as synonymous for transfer of learning (Wardle, 2012; Driscoll & Wells, 2012; Moore, 2012), knowledge transfer was originally a business term referring just to communicating information. Employees of Caterpillar, Inc., for instance, often exchange manuals about bolted joints and fasteners with like-minded workers in the firm to assist each other with their jobs (Noe, Hollenbeck, Gerhard, & Wright, 2007, pp. 288–289). This action is not transfer because previous learning is not being applied to a similar context (Haskell, 2001, p. 23).

Transfer is also not just another way to say "learning." Students who correctly fill out endless exercises on punctuation often do not apply those grammar rules to their own writing. They have learned but not transferred the information (Fogarty & Pete, 2004, p. 63). Without transfer, learners experience only "functional fixedness" (Haskell, 2001, p. 22). When a screw needs tightening, workers look only for a screwdriver, not seeing how a dime or penny might work, too (Haskell, 2001, p. 24).

Recent scholarship (Nowacek, 2011; Wardle, 2012; Jones, 2013) even argues that the word *transfer* is too simplistic. As Elizabeth Wardle (2012) explains, "The phenomenon is messier than the transportation model suggested by the word transfer" (p. 6). Accordingly, Wardle (2012) believes transfer should be renamed "repurposing," "transforming," "generalizing," or even "recontextualizing." This primer uses *transfer* since the term is so widely known.

With a basic definition of transfer established, let us now turn to the kinds of transfer as described by educational psychology. Laying the groundwork in this field are David N. Perkins and Gavirel Salomon (1988, 1992, 1999); John D. Bransford, Ann L. Brown, & Rodney R. Cocking (2000); Robert Haskell (2001, 2004); Sarah Leberman, Lex McDonald, & Stephanie Doyle (2006). To illustrate transfer, as seen by educational psychology, I'll focus on consultants and their work in centers. A later section explores composition studies' work with transfer as it applies to centers and explains how transfer is vital to centers themselves.

Educational Psychology and Transfer

The Functions of the Mind: The Underpinnings for All Kinds of Transfer

According to educational psychology, the mind engages in the process of transfer whenever it identifies similarities. To recognize these similarities, the mind uses four methods: **context, application**, **near**, and **far** (Haskell, 2001, pp. 29–30), all of which consultants exhibit in their daily work. The simplest ability for recognizing connections or similarities is **context**, meaning you can perform something only in certain situations: consultants recognize an individual student writer only if they see them sitting in the center. Another way the mind establishes connections is through **application**: what is learned in one situation is used in another specific situation (Haskell, 2001, p. 30), such as consultants applying what they already know about Play Station 3 to operating Play Station 4.

The mind also recognizes similarities by making connections that are both **near** and **far**. In **near** similarities, the mind converts knowledge from one situation to one roughly similar. The familiar example is that of a driver who can shift gears in a car so he can learn to do the same for a truck (Perkins & Salomon, 1988, p. 22; Leberman, McDonald, & Doyle, 2006, p. 4). A consultant who learns how to describe what semi-colons do can explain semi-colons to the next student who appears to need the explanation. The distance between the source (originally learned information) and the target (the new task) is very close.

While near transfer stresses the circumstances are alike, **far** refers to situations distant, seemingly unrelated (Perkins & Salomon, 1988). Consider picnickers who forget to pack a knife; they pull out a credit card to slice their cheese. Far transfer is also the basis for analogical or creative thinking (Haskell, 2001, p. 30).

Admittedly, the terms near and far are rather "fuzzy" (Perkins & Salomon, 1988, p. 22). Researchers cannot measure quantitatively the

mind's ability to move from topic to topic by recognizing similarities. Psychology simply lacks a "good yardstick" (Perkins & Salomon, 1999) for doing so. Though the terms are, indeed, a bit amorphous, the mind seeks out similarities by using the four methods: application, context, near, and far.

Basic Kinds of Transfer Occurring for Consultants

With the mind's ability to identify similarities so prominent, it is no understatement to say that humans engage in transfer daily (Haskell, 2001, p. 58). These transfers come in many flavors, all of which may be used to describe consultants' work. Please note that types of transfer, as identified by educational psychology, are not steps on a ladder. They are more like spirals, with the mind moving all over the cognitive plane, as needed.

Two transfers occurring frequently in centers are **content to content** and **procedure to procedure**. When consultants take what is learned in one situation and use it in another (application), they experience the transfer **content to content** (Haskell, 2001, p. 31). Consultants understand APA style in their own writing so they easily describe APA rules to students who are writing papers in the social sciences. This content-to-content transfer shows the consultants "hug" their knowledge (Perkins & Salomon, 1988, p. 28), making the learning situation as similar to what they understand as they can. Sometimes this type of transfer is also called low-road (Perkins & Salomon, 1988, p. 25), where the consultant is engaged in a knee-jerk or automatic transfer. Content-to-content can be seen as the most fundamental type of transfer involved in centers and the first type most novice consultants employ. Similar to content-to-content is **procedural to procedural**: consultants learn a sequence of repeatable skills, such as greeting a student, sitting beside them, and asking them to fill out paperwork) and merely duplicate, not alter the steps in another situation (Haskell, 2001, p. 31).

Educational psychology's other types of transfer—**lateral** and **vertical**—also describe consultants' interactions with student writers. **Lateral** (sometimes called "concurrent") means an elementary school child learns that the alphabet's letters remain the same even when the font changes. In other words, "previous learning is transferred to the same level in a hierarchy" (Haskell, 2001, p. 32). The child uses the mind's ability to recognize near relationships. Brad Hughes, Director of the University of Wisconsin-Madison Writing Center, provides an example of lateral transfer. According to Hughes (2012), consultants

frequently use the same basic rhetorical concepts found in nearly every genre (audience, thesis) to assist students writing in any given discipline. What they know to be true for all pieces of writing they apply to every writing (Hughes, 2012). Such consultants are engaged in lateral transfer.

Slightly different from lateral is a transfer where the mind builds upon prior knowledge. Called **vertical** transfer, this transfer uses both near and far mental similarities. If students can multiply, they can learn to figure percentages (Haskell, 2001, p. 38). In a center, knowing that topic sentences direct the content and arrangement of paragraphs helps consultants explain the role a thesis plays in essays.

Other Kinds of Transfer Consultants Engage In

Other kinds of transfer also characterize consultants' work. Two such transfers are closely linked: **conditional** and **relational**. In **conditional** transfer, the context (situation) triggers consultants to apply knowledge. A consultant who prompts a student writer with, "What topics are you covering in class? What do you think about them?" can transfer these questions to another consultation where a student may also need prompting to start their paper, even though the assignment may be different. The consultant transfers because of the "context appropriate" (Calais, 2006, p. 4) situation. Of course, no two consultations are the same, but, through conditional transfer, consultants understand "the abstract general principle underlying phenomena that then can be applied to situations that do not possess obvious identical elements but that have the same or similar underlying principle" (Haskell, 2004, p. 580). Such mindfulness in which consultants begin to abstract knowledge is often labeled as high-road transfer (Perkins & Salomon, 1988, p. 25).

Closely related to conditional is **relational** transfer. Although both relational and conditional transfers stress the mind notes similar situations, **relational** goes further. It emphasizes looking for different causes underlying an event (Haskell, 2001, p. 34). When a student seems distracted, consultants can look for reasons underlying the confusion. Students may have been required to visit the center, they have the flu, they may have misunderstood what goes on there, or they may have to turn in their essay in only ten minutes so they have no time to listen. Consultants address the "when, where, and why to use the knowledge they are learning" in the moment of responding to students (Bransford, Brown, & Cocking, 2000, p. 43).

Transfer also helps explain a key part of consultants' learning: reflection. Many centers provide opportunities for consultants to think back on their sessions in order to improve their practices (Ede,

1989; Hobson, 1992; Harris, 2001; Gillespie & Lerner, 2004; Ryan & Zimmerelli, 2010; Driscoll & Harcourt, 2012). Educational psychology explains that this epistemological process of "big-picture thinking" (Yancey, Robertson, & Taczak, 2014, p. 4) involves two other types of transfer: **strategic** and **reverse**. Consultants who write blogs or journals to learn about their cognitive procedures are engaged in **strategic** transfer, where they consciously note their consulting techniques. The reflection process also involves **reverse** or backward transfer, where "existing knowledge is modified and reviewed in terms of its similarities to the new[ly presented] information" (Haskell, 2001, p. 32). Consultants practice reverse transfer when they reflect, continually rethink, and self-monitor what they know, evaluating their current levels of expertise in order to move far beyond them in practice (Bransford, Brown, & Cocking, 2000, p. 48).

A prime example of both **strategic** and **reverse** transfer occurred in my center's training session called Dear Labby (Devet & Barbiero, 2012). Here, consultants wrote letters to each other, describing scenarios that had challenged the consultants. After these Dear Labby letters were read aloud, consultants wrote down their strategies for addressing these situations. Next, as consultants read their suggestions aloud to each other, they practiced reverse or backward transfer. Because solutions differed, they learned new techniques for talking with students. Strategic and reverse transfers encourage mindful abstraction so that consultants start to ask themselves: "What is the general pattern?" or "What is needed? What principles might apply?" or "What is known that might help with this consultation" (adapted from Perkins & Salomon, 1992).

Strategic and reverse transfer are also fostered by consultants' watching other consultants in action, reflecting on what they see by saying to themselves, "I am going to borrow that idea when ... " or "I can apply this idea [as seen in the consultation] in several ways" (Fogarty & Pete, 2004, pp. 26–27). Reflection's constant use of **strategic** and **reverse** transfers means consultants build up mental schemas applicable to most sessions, even those consultations not discussed in staff education. In fact, **strategic** and **reverse** transfer help define what directors mean by "expert" consultants. Bransford, Brown, & Cocking (2000) define experts: "They realize that what they know is minuscule compared to all that is potentially knowable. This model helps free people to continue to learn even though they may have spent ten to twenty years as an 'expert' in their field" (p. 48).

Educational psychology describes two other kinds of transfer found in centers. In **declarative to procedural** transfer (Haskell, 2001, p. 31), learners acquire a conceptual framework or big picture.

Possessing a conceptual framework is illustrated by the story of a famous dart experiment. Two groups of students threw darts at a target under water, with one group's learning about how the water's refraction of light affects the throw. The second group merely threw darts. After the target was moved closer under water, students who had studied the theory of refraction hit the target more often than those who merely kept throwing the darts: "Because they understood what they were doing, the group that had received instruction about the refraction of light could adjust their behavior to the new task" (Bransford, Brown, & Cocking, 2000, p. 56).

The same is true for centers. Subject-verb disagreement, for instance, is not just a surface problem to be edited. Consultants, undertaking **declarative to procedural** transfer, classify the subject-verb problem in terms of a larger concept: the potential for confusing readers. After explaining how the error confuses readers, consultants can show student writers different ways the problem arises: dropping the "s" on a verb in certain dialects, long sentences that cause writers to forget the noun count and so forth. Thus, consultants provide "schemas" (what transfer labels as **declarative** knowledge) or larger pictures before they launch into "how-to" (procedural) ways to fix the error. By using **declarative to procedural** transfer, consultants provide students with a larger perspective, preventing the consultant and students from getting bogged down in micro concerns.

It is also common for consultants to reverse this transfer, using **procedural to declarative** (Haskell, 2001, p. 31). From their daily experience, consultants abstract guidelines for working with writers. When students struggle with presenting an argument, avoiding fallacies, and developing a concession, consultants generalize from this practical, procedural work to address argument in various disciplines. Abstracting from their experience and "building transferable knowledge" (Driscoll & Harcourt, 2012, p. 4), consultants have moved from **procedural to declarative** knowledge.

The Role of Educational Psychology's Knowledge Base for Consultants

Educational psychology lays the foundation to describe consultants' types of transfers. But the field helps directors in another way. It provides a key concept—**knowledge base**—(Haskell, 2001, p. 96) to explain why transfer does not always occur for all consultants.

As the phrase implies, a **knowledge base** is all the information one acquires by reading, listening, having experiences, and by "astute

observing" (Haskell, 2001, p. 96). As the mind stores these experiences, it adds even more data, such as consultants' hearing about a particular genre or taking an idea from observing another consultant. The mind stockpiles this information in its many sections, linking the bits of data. The more data added, the more links are formed, so that when the mind encounters something new, like a never-seen-before assignment, it sees the new information is linked to another bit already stored. The mind recognizes the similarities between old and new. Consultants' training sessions add to their knowledge base, creating "mental models" (Haskell, 2001, p. 97), helping consultants call up information to compare and contrast to other sessions they have conducted. In this continual information loop, consultants augment their **knowledge base**; the base, in turn, helps them achieve transfer. Such a loop justifies the need for centers to provide ongoing staff education.

Do sessions where consultants have struggled affect the consultants' knowledge base and potential to transfer? It seems that challenge and even negative experiences are required. By observing a session where a fellow consultant misses an opportunity to address a writer's need (for example, noting where a transition would have been helpful), consultants are learning to recognize the "critical choice points or alternatives" (Haskell, 2001, p. 106). In *Transfer of Learning: Cognition, Instruction, and Reasoning*, Robert E. Haskell (2001) explains: "Students who learn a concept in the absence of irrelevant cues [errors] typically have more difficulty in applying the concept or principles to a similar situation that involves irrelevant cues than a student who learned the material in the presence of irrelevant cues" (2001, p. 106). So-called "perfect" consultations (assuming such sessions exist) are, ironically, less advantageous as models than imperfect ones because consultants miss an opportunity to see how to pick among options.

It must be acknowledged that educational psychology slices very finely the various types of transfers mentioned here. These transfers, however, reveal the mind's ability to see how one concept is linked to another. I remain amazed as I watch newly hired consultants bloom into flexible, adaptable consultants, handling the infinite variety and rampant randomness of student writers passing through the doors. They are developing and engaged in transfer. They return to an idea or concept but on a different level or in a different context and, through the process of transfer, discern what is new or different so that they can respond to new situations. Educational psychology's study of the cognition of transfer is vital to writing center work. Thus, Anne Ellen Geller, Michele Eodice, Frankie Condon, Meg Carroll, & Elizabeth H. Boquet (2007) are right, when they describe a key goal of all centers:

"We want our tutors to step around or step outside of how they usually see. We want them to see connections" (p. 48).

Composition Studies, Transfer, and Centers

Educational psychology has analyzed the cognitive nature of transfer. Cognition alone, however, is not deemed sufficient to account for transfer (Wardle, 2007, p. 67). Composition studies has expanded on educational psychology's work, with writing transfer scholarship falling into six categories: content, prior knowledge, dispositions, reflection, context, and genres. With a caution that these categories of writing transfer scholarship often overlap, I'll briefly explain how composition studies examines transfer and, then, describe writing transfer's impact on centers.

The Role of Content for Transfer

The first group of writing transfer researchers can be classified as the **content** scholars (Russell, 1995; Smit, 2007; Wardle, 2007; Downs & Wardle, 2007; Bergmann & Zepernik, 2007; Robertson, Taczak, & Yancey, 2012; Beaufort, 2012; Robertson, Clark, Yancey, Taczak & Adler-Kassner, 2013; Yancey, Robertson, & Taczak, 2014). Their curricular goal is to explain what material ("content") should be presented in a writing class (especially first-year writing) so that students carry over what they have learned about writing to other courses. Discouragingly, Linda S. Bergmann & Janet Zepernik (2007) report that first-year writing students "believe that skills learned in FYC [First-Year Composition] have no value in any other setting" (p. 135). To counter this finding, scholars believe a writing course should focus on writing itself (Russell 1995; Beaufort 2012; Robertson, Clark, Yancey, Taczak, & Adler-Kassner, 2013), that is, writing about writing. These writing courses emphasize students need to learn to think like writers, focusing on the rhetorical occasion, audience, and the like, so that they can apply rhetorical abstractions to other writing situations (Beaufort, 2012).

Directors can follow the lead of writing transfer studies, demonstrating that general rhetorical concepts like thesis, claim, support, transition, are usually valid for all types of writing. At a prominent northeastern university center, a student was writing about his architectural designs. A consultant, knowing nothing about blueprints, relied on her knowledge of audience and purpose, to ask the student, "Who will use the designs?" and "Why did you put this room here?" Through a

discussion of rhetorical concerns, the student felt he had received great help (Shaw, 2013).

The Role of Prior Knowledge in Writing Transfer

Another set of researchers focuses on the writing experience students bring to college to see how such experiences influence transfer. For convenience, this second group of scholars can be known as **prior knowledge** researchers (Wardle, 2007; Bergmann & Zepernik, 2007; Rounsaville, Goldberg, & Bawarshi, 2008; Yancey, 2009; Reiff & Bawarshi, 2011; Nowacek, 2011; Robertson, Taczak, & Yancey 2012; Beaufort, 2012; Rounsaville, 2012; Cleary, 2013; Robertson, Clark, Yancey, Taczek, & Adler–Kassner, 2013; Yancey, Roertson, & Taczak, 2014). In an online video clip, Kathleen Blake Yancey (2013) provides a detailed list of the prior knowledge that affects entering students' writing abilities: the "writing processes" they bring to college (like the basic five-paragraph essay structure); any "extracurricular" work (a high school debate team member trying to make all her college assignments an argument); "absent prior knowledge" (when students come to college not knowing something they need to know); "dispositions" (attitudes or motivations about learning); "point of departure" (how testing and grades affect the student's self-view); "beliefs" (misconceptions students already have about writing); "knowledge" in general; and "anxiety" about composing (Robertson, Clark, Yancey, Taczak, & Adler–Kassner, 2013). These types of prior knowledge act like roadblocks, causing students to lose out on "consequential transitions" (Beach, 2003, p. 42).

And for directors and their consultants? Consultants can invite students to consider past writing experiences in order to tap into their prior knowledge (Reiff & Bawarshi, 2011; Robertson, Clark, Yancey, Taczak, Adler–Kassner, 2012). Towards that end, consultants could ask students to "reflect on what they perceive the assignment is asking them to do, what the assignment is reminding them of, and what prior resources they might be able to draw on or need to adapt in order to complete the assignment" (Rounsaville, Goldberg &, Bawarshi, 2008, p. 108). In my center, a political science student enrolled in an upper division course was writing about underfunded public schools found along our state's infamous "corridor of shame" (Interstate 95). As he read his paper, he discovered one paragraph filled an entire page. His consultant asked if the student recalled what his FYW course had taught him about when to begin new paragraphs. The student knew, at once, where to break up the page-long paragraph. Using explicit cues to

activate students' past writing experiences, the consultant had tapped into prior knowledge to elicit transfer.

The Role of Dispositions

Closely associated with context and prior knowledge are scholars exploring how students' **dispositions** or habits of mind affect transfer (Wardle, 2007; Nelms & Dively, 2007; Brent, 2011; Driscoll, 2011; Reiff & Bawarshi, 2011; Driscoll & Wells, 2012; Cleary, 2013). To transfer previous writing experiences, first-year writers must be open or receptive to new writing situations (Reiff & Bawarshi, 2011, p. 330), that is, be productive novices (Sommers & Saltz, 2004), in order to see they must adjust to college writing (Reiff & Bawarshi, 2011, p. 330). Likewise, newly hired consultants should "appear willing to assume a learner's role" (Reiff & Bawarshi, 2011, p. 330) so that they can effectively transfer their knowledge about writing into their consultations.

Besides a willingness to learn, other dispositions for transfer are, according to Dana Lynn Driscoll & Jennifer Wells (2012), "value, self-efficacy, attribution, and self-regulation" (para. 3). Let's look at each disposition for transfer to determine how consultants develop and learn as they work in the writing center.

First, is **value**: directors can help consultants see that their orientation or tutoring course is central to their success. "If students ['tutors'] don't value what they are learning or don't see how what they are learning will be useful to them in the future, they will not engage in mindful abstraction" (Driscoll & Wells, 2012, para. 27). For example, directors can tell consultants that because students often bring in drafts requiring signs of structure, consultants need to know about transitions. Supplying the rationale for learning promotes a sense of worth behind the preparation.

For transfer to occur, consultants must also believe they have the capability to do their work, what Driscoll & Wells (2012) characterize as **self-efficacy**. Being positive and taking steps to carry out the desired ends are fundamental, or no transfer happens. In my center, graduating consultants write short one-piece "Advice to the Future" essays explaining to new consultants how to survive and to thrive in a center. As a former consultant wrote, "Relax. The director of the center chose you to work here because she saw something in you that you didn't even know you had." Confidence or self-efficacy, then, is central to transfer.

Consultants also need Driscoll & Wells' (2012) sense of **attribution**: how one assigns causes to specific events or outcomes influences one's actions. Students may think getting an "A" is just a matter of

being lucky enough to get an easy teacher. However, a higher sense of attribution comes to a person who "believes that her [own] ability or efforts are the cause of her success or failure" (Driscoll & Wells, 2012, para. 38). Consultants, too, should sense they are helping to create good writers. Because of scheduling conflicts, consultants often work when no directors can be present in the center, so consultants should feel it is also they, not just directors, who guide and interact with student writers. This attribution can be achieved by having consultants observe each other to reaffirm what is happening in a session. The "locus of control" (Driscoll & Wells, 2012, para. 14) should reside within consultants, revealing that their success is their own responsibility.

Finally, another disposition vital for transfer is **self-regulation** (Driscoll & Wells, 2012). This ability to set reasonable goals is apparent in centers. Consider how consultants establish objectives when interacting with students. Before sessions begin, students and consultants often decide what to prioritize in the allotted time. Consultants, as well as student writers, have experienced self-regulation, learning how to establish objectives and manage choices (Driscoll & Wells, 2012).

The Role of Reflection for Transfer

A fourth group of writing transfer scholars—heavily influenced by educational psychology—argue that student writers need **reflection** or mindfulness about their writing processes (Beaufort 2012; Wardle, 2007; Nelms & Dively, 2007; Yancey, 2009; Ambrose, Bridge, DiPeitro, Lovett, & Norman, 2010; Reiff & Bawarshi, 2011; Brent, 2011; Yancey, Robertson, and Taczak, 2014). Consultants, needing this type of knowledge, can write weekly reading responses or, as often happens in my center, discuss with each other their sessions right after students depart. This reflection helps consultants become more rhetorically aware, experiencing what writing transfer scholarship calls "high-level generalizations" (Brent, 2011, p. 411) or in Perkins and Salomon's terms, "high-road transfer" (1988, p. 25).

The Role of Context for Transfer

Content, prior knowledge, dispositions, and reflection are part of writing transfer research. Besides these internal elements, transfer research also takes up the external, or what can be called the **context** in which writers (and consultants) find themselves. In other words, scholars interested in context examine "the learner inside of an environment so as to look at the interaction between the two" (Yancey, Robertson,

& Taczak, 2014, p. 8). Daily, students journey into new systems, going from non-school writing (texting friends) to school-based writing (a business communication report). Consultants, too, pass from one setting to another, assisting roommates in their residence hall that morning, then working with student writers in the afternoon, transferring what they know to different environments. Consultants benefit from recognizing how they pass among systems.

Several transfer researchers provide frameworks to describe the effect of **context** on transfer. The most well-known framework is the Cultural-Historical Activity Theory (CHAT)—more often called "Activity System" or "Activity Theory"—where "a human individual never reacts directly (or merely with inborn reflects) to [the] environment. The relationship between human agents and objects of an environment is mediated by cultural means, tools, and signs" (Elon, 2013, p. 3). Students or consultants are agents (doers) who learn the tools, like language, to achieve a goal: a successful history term paper or a productive consultation. When students enter the system of writing a history paper or being hired to work as consultants, they discover what is similar yet different from the systems they have left behind (Adler-Kassner, Majewski, & Koshnick, 2012). Like walking into a library never visited before, a scholar must adjust to the new space, bringing to it what they already know about libraries, such as using computers to conduct searches, finding outlets to plug in laptops, and visiting the reference desk for assistance. The scholar succeeds because they realize the library is a system (Tuomi-Gröhn & Engeström, 2003) so that they re-mix and re-purpose (Yancey, Robertson, & Tazcak, 2014) what they know about libraries.

When they start to work in centers, consultants should realize they, too, have passed into a new system. The center's context helps consultants make this transfer, letting them compare what they know before entering. No longer are they going to edit papers as they might have done for their peers. Here is the advice one consultant provided newly hired workers: "Once you show a student how to fix an error, get them to try to find other like it on their own. This way, they will grow as writers and begin to rely less on you." The consultant has adjusted to a new system that is neither random nor arbitrary; it possesses features that can be categorized (Russell, 1995; Tuomi-Gröhn & Engeström, 2003). The system (aka the center) has fostered transfer.

Other context approaches that promote transfer can affect consultants: **situated learning** and **communities of practice**. In **situated learning**, students enter a learning environment mirroring real world situations, such as working at an internship. In this context, transfer of

writing skills occurs (Elon, 2013, p. 3) because students want to survive in the work world or in a center. Situated learning helps explain how consultants transfer their writing skills.

Communities of practice (Lave & Wenger, 1991), too, influence transfer. In communities where those with similar interests or goals, such as biology majors, live and attend classes together (Elon, 2013, p. 3), students help each other to transfer skills by talking together, fostering different ways of seeing and writing. Communities of practice is an especially valuable concept for discussing how consultants become consultants. A center's social climate creates an atmosphere of camaraderie, not competition; it is a rare center where consultants do not teach each other about being consultants. In fact, Elizabeth Wardle (2007) has stressed that for transfer to occur, the individuals—the consultants—cannot be separated from a social world where "interaction with others contributes to new knowledge" (p. 67). In this "social-cultural context" (Leberman, McDonald, & Doyle, 2006, p. 2), experienced and new consultants alike seek out each other to discuss ideas as well as techniques simply because talking to others during training "provide[s] valuable learning cues for retrieval and relating of information" (Haskell, 2001, p. 137). Such discussions among consultants may offer a chance "to share and be inspired by a common motive for undertaking a specific learning task" (Guile & Young, 2003, p.74). Directors, in fact, are mere facilitators for a context where transfer occurs among the consultants themselves (Campione, Shapiro, & Brown, 1995).

The Role of Genres for Transfer

Composition studies also stresses that **genre** awareness triggers transfer. Moving through academic tasks, such as writing a summary for English one day and crafting a biology lab report the next, means student writers find themselves producing different genres. **Genres**, like a biology lab report, are not just textual forms. They are, as Carolyn Miller's (1984) oft-cited definition explains, "typical rhetorical[ly] based action[s] based on recurrent situations" (p. 159). Genres are invaluable for promoting transfer. Rebecca Nowacek (2011) writes, "[G]enre is not the only cue for transfer, but it is a powerful and underappreciated one" (p. 28). Thus, the sixth group of writing transfer scholars (Russell, 1995; Bazerman, 1997; Devitt 2007; Wardle, 2009; Nowacek, 2011; Reiff & Bawarshi 2011; Clark & Hernandez, 2011; Rounsaville, 2012) study how genres can or cannot cue the transfer of writing skills. Specifically, genre scholars examine how instructors affect students' transferring between

genres, the function of genre awareness, and the effect of prior knowledge about genres students have already written.

Consultants as "handlers." Composition studies has determined that the key players for helping students transfer between genres are the instructors themselves. They must be "handlers" (Nowacek, 2011, p. 125), guiding students to see what they already know about a genre and showing them how to adjust to new forms in order to "recontextualize" their writing (Nowacek, 2011, p. 68). While consultants are not (typically) professors, they, too, can encourage students to call on genres they already know in order to make connections to current assignments. When spotting a colorful scarf on sale at a favorite store, the buyer is cued to think what other items in her wardrobe would fit with it and how that particular scarf might differ from her current scarf collection. Genres, like the scarves, provide an "exigence" (Nowacek, 2011, p. 28) for linking and connecting. Nowacek (2011) explains:

> Genres associated with one context—because they are experienced as a constellation of tacit and conscious associations—can cue an individual to make connections to knowledge domains, ways of knowing, identities, and goals associated with another, previously unrelated context. (p. 28)

Writing a literary analysis—like purchasing a scarf—provides cues for other types of writing, such as a history paper or biology lab report.

To locate the cues between genres, directors can train consultants to ask students questions about the writing. Adopting the questions from Amy Devitt's (2007) article "Transferability and Genres," consultants can ask students: "What topics, ideas, questions does the genre address?" "How are texts in this genre structured?" "What content is included, and how is it treated?" "What content is considered most important?" "What actions does this genre help make possible?" (pp. 224–25). These questions let consultants become "handlers" (Nowacek, 2011, p. 136) who encourage students to transfer or "repurpose" their writing from one major to another. By helping writers to think about previous assignments and to remember their thought processes in that experience, consultants stimulate the transfer of writing skills.

Consultants and Genre Awareness. Consultants can benefit from this concept that scholars have stressed about transfer and genres. Because writing instructors cannot teach genres for all the writing students might complete both in college or beyond the ivied walls (Beaufort, 2012), composition scholars believe teachers should, instead, teach "**genre awareness**" (Devitt, 2007, p. 225). Students with a larger

repertoire of genres (business letters, classical argumentation, blogs) more readily understand what seems similar and different in any given writing situation, calling on genres in order to adjust to a new situation (Russell, 1995; Devitt, 2007; Yancey, Robertson, & Taczak, 2014).

One way to prepare consultants for genre awareness and, hence, to foster transfer is by creating a "disciplinary snapshot" (Nowacek, 2011, p. 138), where consultants describe for each other the writing in their own disciplines. Seeing the types of writing in biology or in communication, for instance, may help consultants develop their meta-awareness of genres. Once cognizant of writing for different majors, consultants can also begin to see that disciplinary writings share features, what Michael Carter (2007) calls "ways of knowing" or his idea of metagenre. As Carter explains, "[metagenre] directs our attention to broader patterns of language as social action [...] [where] similar kinds of typified responses [are] related to recurrent situations" (p. 393). Metagenre can be illustrated by two weekend athletes who work out differently but with the same goals: one runs for five miles while the other swims twenty laps. Though the details of the exercises differ, there is a broader pattern or metagenre; both are building muscle mass and trying to lose weight by expending energy (Devet, 2008, p. 177). By studying genres, consultants learn that disciplinary writings share ways of thinking—the cues help students see connections and encourage the transfer of writing skills.

Next, directors can orient consultants to the four metagenres that seemingly underlie most writings: "problem solving" (food science and engineering are examples.), "research from sources" (history, English, religious studies), "empirical inquiry," (political science, the natural sciences), and "performance" (art and design, communication) (Carter, 2007, p. 394). Then, using Carter's ways of knowing, consultants can classify the writings of their fellow consultants (Nowacek, 2011, p. 135). Consultants can also encourage students writers to categorize their own writings in order to grasp that a paper on Zora Neal Hurston for an English class uses the metagenre of "research from sources," while a biology lab report employs "empirical inquiry." Understanding the similarities between disciplines elicits transfer (Devet, 2014). An example would be a student who wrote like an historian when doing her literature paper. Instead of analyzing the text as is done in literature classes, she followed a historian's approach by describing whole classes of individuals and "mak[ing] ... broader statements about the mindsets of various individuals or classes of people" (Nowacek, 2011, p. 61). Consultants, once they are thinking about genres and metagenres, can point out to this writer that while evidence is common to both history

and literature papers, English papers usually study texts very closely. When a consultant cues students into the differences and similarities of genres, students can transfer what they know about writing in history to writing an English essay.

To enhance an introduction to genres and metagenres, directors can also encourage consultants to interview professors in their majors to discover how the field thinks (Walker, 1998, p. 35; Nowacek, 2011, pp. 138–39). Recently, one of my consultants, majoring in political science, talked to her instructors about writing in her major. Next, she wrote two handouts for the center: "How to Write in Political Science," where she detailed major genres like abstracts, court briefs, and research papers, and "Political Science Guide to Referencing," which described how to cite in that field. She told me that this experience had made her "an active reader" (Devet, 2014, p. 5) who had learned more about her own field. She also felt that she could better help undergraduates understand the genres of political science and how these writings connected to other writings they complete in college (Devet, 2014).

In addition to training in metagenres, directors can promote genre awareness by using Nowacek's "Four Avenues" (2011, p. 22). These avenues help students find entrances into genres. First, writers have to realize what they already know about a topic. Next, they must also understand the ways of knowing, that is, the arguments the genre requires, such as using textual evidence for support. They must also understand their own "identity, or how they see themselves (Nowacek, 2011, p. 24). Are they science, history, or English types? Finally, student writers need a goal, that is, why they are writing the paper, and how does it fit with the course objectives (Nowacek, 2011, pp. 23–24). A student in my center proudly told his consultant, "I am science guy. How do I write about metaphors in a poem?" The consultant recognized that this self-proclaimed identity may interfere with the student's ability to transfer from science writing to a literary analysis. Using Nowacek's (2011) "Four Avenues," the consultant discussed the "ways of knowing" and the "knowledge" the science student already embraced by asking him about the types of texts he had already written in his science courses. Then, she told him that all writing, be it in science or in English, uses detail to make a point or evidence to support a hypothesis. It would be the same when analyzing a poem. Then, to uncover the science guy's goals, the consultant determined whether the student was just trying to get the literary analysis done or if he wanted to learn a bit more about writing in the Humanities. Being able to recognize the student's identity, ways of knowing, knowledge, and goals helped the consultant guide him to make connections for transfer.

Consultants and Students' Prior Knowledge of Genre. Finally, writing transfer researchers have investigated how student writers use their **prior knowledge** of genres, another key concept for consultants, especially in recognizing types of student learners.

Some students may be "boundary crossers," who lack confidence in their prior knowledge about genres (Reiff & Bawarshi, 2011, pp. 314, 325). Ironically, their lack of confidence is a strength in their ability to transfer. Because crossers are not usually bound by genre forms (like the infamous five-paragraph essay), they are often better at transferring writing skills to new contexts. They do so by engaging in "not" talk, that is, what is not required in an assignment ("It is not an analysis, but it is an argument.") (Nowacek, 2011, pp. 117–21). As boundary crossers, they are in a "transition space" (Rounsaville, 2011, para. 17) where they decode the assignment. Indeed, by not clinging to genres, they are more prone to high-level abstraction as they grapple with new writing strategies. They are engaging in transfer. Different, however, are the "boundary guarders" (Reiff & Bawarshi, 2011, pp. 314, 325). Boundary guarders frequently apply to their writings the genres (like a five-paragraph essay) with which they are most familiar. Rarely do these students participate in "not" talk and sometimes only use a few strategies ("I think I need a one-sentence thesis."). They are performing, at most, low-road transfer, if transfer at all (Reiff & Bawarshi, 2011, p. 325).

Helping consultants to recognize boundary crossers and boundary guarders is beneficial so that consultants can gauge their students' cognitive choices. Directors can also ask consultants to listen for the "not talk," where students say, "This writing is not like the English paper I wrote earlier in the semester." Such talk can prompt consultants to ask how the assignment differs, leading the student to see what they can and cannot carry over from other writings (Reiff & Bawarshi, 2011, p. 328).

What genres are boundary guarders most likely to use? Consultants need to be aware of these genres so they can help students transfer and grow. According to one survey, entering college students claimed they will probably employ the five-paragraph essay structure, the personal narrative, the research paper, and the argument essay (Robertson, Clark, Yancey, Taczak, & Adler-Kassner, 2013). After these same students had been in college for a while, they indicated the five-paragraph essay would still be the one genre they would fall back on, modifying it for circumstances (Robertson, Clark, Yancey, Taczak, & Adler-Kassner, 2013). Students crave a form that is safe (Clark & Hernandez, 2011). Consultants can be aware of this need for safety as they move students along to new genres.

Writing Centers and Transfer Studies: Mutual Learning

With a foundation in educational psychology's transfer of learning and in composition studies' research into transfer of writing, let us now turn to writing centers and the role transfer can play in consultants' work (and futures). For centers, transfer is seminal to their philosophy, showing how consultants develop as thinkers. It also helps resolve a long-standing issue about generalist versus specialist consultants. And transfer offers numerous research opportunities for centers.

How Transfer is Central to Centers' Philosophy

Transfer studies and writing centers are made for each other. Christiane Donahue (2012) explains that for transfer to happen there must be "intentional" crossing of boundaries, where learners move beyond what they know to what they need to know (p. 165). Centers provide a space where such transfer occurs, a space where consultants of different majors and experiences bring their voices to sessions with students of various majors. Together, they listen and create new ideas from two perspectives. They talk and negotiate and question, forming Lev Vygotsky's well-known "zone of proximal development" (as cited in Brent, 2011, p. 15). Boundaries are crossed. New ideas are shaped. Transfer occurs. Such talk and negotiation have always been seminal to centers (Bruffee, 1984).

Besides providing the space, centers also create the right atmosphere for transfer. It has long been a truism that centers offer a non-evaluative environment where students experiment with their writing without worrying about being graded. Added to this special atmosphere is the fact that consultants, through their questions to students, are creating a dynamic space for transfer to flourish. They are setting up "affordances" (Donahue, 2012, p. 164) or opportunities where students make connections as when consultants ask students to recall how they write in other disciplines to see what will work for the current assignment or when consultants ask questions, such as "What is this current writing not like?" (Nowacek, 2011, p. 117–121). While transfer does not work if one "teaches for transfer" (Donahue, 2012, p.163), it does occur when students are "invited" (Donahue, 2012, p. 163) to make connections. Consultants offer this invitation.

Transfer is also found in centers because it establishes, more than ever, the worth and value of the one-with-one work centers offer students. The goal of transfer meshes with this concept. As Doug Brent (2011) argues, transfer "emphasi[zes] … learning fundamental principles,

on being mindful, on explicitly cuing learners to help them make connections that might otherwise elude them and on mentoring and providing scaffolding to help them survive the shock of boundary crossing" (416). This description of transfer could be (excuse the pun) transferred to the work of centers. As Dana Lynn Driscoll & Sarah Harcourt (2012) stress, transfer is in accord with Stephen North's (1984) all-too-well-known statement of centers' helping to make better writers, not better texts (p. 438), especially since centers focus on writers' transferring knowledge between assignments.

By having this impact, centers become essential to higher education. Because transfer often tapers off in the second and third years of college (Berrett, 2014, p. A-4), centers can help sustain transfer, especially about writing. And let's face it: faculty in all the disciplines often do not have the time, inclination, or insight to encourage the writing in their disciplines; thus, it often falls to centers to show students how writings in different disciplines function and how students can move between disciplines. By fostering this transfer, centers play a vital role in the academy.

How Transfer Helps Consultants Develop as Thinkers

Taking something from one context and applying it to another—the essence of transfer—is fundamental to consultants' development as thinkers. If anything, transfer is a form of unity and linkage where the mind and setting interact and where consultants themselves become "agents of integration" (Nowacek, 2011, p. 38). By helping consultants make such connections, directors offer their consultants a special form of education. This education is a spiral where each turn has a higher function than that below it. Consultants are participating in this spiral teaching, "where the original learning must be repeatedly reinforced with multiple examples or similar concepts in multiple contexts … on different levels or orders of magnitude" (Haskell, 2001, pp. 26–27). With this spiral approach to education, directors see that their centers develop thinkers—what Nancy Grimm (2008) has called "knowledge workers"—all best understood through the lens of transfer.

How Transfer Helps Centers Possibly Resolve a Long-Standing Issue

Transfer may also help directors resolve a long-standing discussion in writing center scholarship: should consultants be generalists or specialists? While consultants do not need to know the contents of

all fields, they should, though, be able to watch for what students say. When students are thinking back to previous writings (memory and reflection), consultants might ask what is alike and different from the present writing, recognizing the students are in "the space" where "past experiences serve as platforms and interpretive frames for solving the problem of newly familiar genres" (Rounsaville, 2012, para. 38). A student in my center was writing about why she thought an 1828 campus building, graced with fluted Greek columns, should be considered symbolic of the school. The student was not sure, however, if her personal opinion would be acceptable in an academic paper. To foster transfer, the consultant asked her if she had done any personal writing in high school, what that writing was like, and if she could apply certain rhetorical strategies to the current assignment, such as considering which audience will be reading the paper. In transfer terms, the consultant was "acknowledg[ing] the potential of the learned knowledge to be applied to the target situation" (Nelms & Dively, 2007, p. 218). By carrying out these steps, the consultant, nurturing transfer, was in the "space" (Rounsaville, 2012), or, borrowing from Muriel Harris (1995), he was "talking in the middle." Consultants are not only generalists or specialists—but "agents of integration" (Nowacek, 2011, p. 38), crossing the boundaries that usually separate the academy's disciplines.

How Transfer Offers Research Opportunities for Centers

Given the importance of transfer for writing centers, it is not surprising that they should be engaged in studying transfer. In fact, one of the earliest calls for examining our fields' role in transfer can be traced to Julie Hagemann's 1995 article "Writing Centers as Sites for Writing Transfer Research." Because consultants work with students' writing for many courses, centers are ideal places where transfer occurs. Into this mix can also be added the consultants themselves since most of them represent varied majors. Thus, as interdisciplinary locales, centers are perfect places to study how and why the transfer of writing skills does and does not happen.

Composition studies also offers guidance for the research that centers can carry out. In "Transfer, Portability, Generalization: (How) Does Composition Expertise 'Carry'?" Donahue (2012) lists four key questions to guide both directors and consultants as they investigate transfer:

Which writing instruction might be most effective?

What competencies are reused in new contexts?

How can that reusing be fostered?

Who is or should be responsible for making sure transfer occurs? (p. 161)

These questions—while general—can direct research on transfer as it occurs in consultations.

How can directors and consultants begin to investigate transfer? In her article "Mapping the Questions: The State of Writing-Related Transfer Research," Jessie Moore (2012) describes methods for studying transfer, many of which are applicable to centers' scrutiny of transfer. Based on Moore's suggestions, consultants and directors can survey, interview, and/or use focus groups of student writers and consultants themselves to find out what skills are transferring; they can conduct observations of consultations; and they can collect students' writings along with conducting interviews of both students and tutors.

Another model for research is found in Michelle Navarre Cleary's (2013) "Flowing and Freestyling; Learning from Adult Students about Process Knowledge Transfer." Cleary uses case studies and interviews to determine what adult learners returning to school transferred from their work experiences to their writing. Applying Cleary's methods, centers can research students' assumptions about writing, the writing knowledge they transfer from high school classes, and the effect of "peer cuing" (Cleary, 2013, p. 667), as peers assist each other in the center.

Composition studies provides other angles for researching transfer. Since transfer scholars consider the socio-cultural influences on transfer of writing (Reiff & Bawarshi, 2011), centers should examine how race, class, and gender identity affect transfer. Yet another key question to be investigated is, "What role does prior knowledge play in affecting the writing done in consultations?" In his thesis "Transfer and the Writing Center: A Qualitative Study of Tutoring Transitions," Daniel Kenzie (2012), in fact, discusses this issue, trying to discover how much consultants discussed prior knowledge about writing with students. Likewise, Hughes (2012) has been exploring how consultants use their prior knowledge about specific genres while helping students ("Focusing"). In writing about students' transferring their writing skills to their workplace, Doug Brent (2011) suggests another research method adaptable to centers: directors can interview students in their last term to see how centers helped them transfer their writing skills across courses and later to their careers (p. 12).

Because consultants themselves are also undergoing transfer as they work in centers, directors can investigate how more experienced consultants transfer knowledge to new ones, and, because it is not a one-

way street, how newly hired consultants learn from each other in their "communities of practice" (Hall, 2011). Directors can even analyze the blogs and/or journals of consultants to discern if transfer has occurred. Longitudinal studies, as well, can be carried out, following the models of those studies now being done in composition studies (Wardle, 2007), such as following consultants as they work in their centers or possibly having centers from two different universities conduct a study focusing on their consultants. While these are only a few suggestions, it seems that, in centers, the possibilities for studying how, when, and what types of transfer have occurred are almost endless.

Conclusion

For centers, transfer—as studied by educational psychology and by composition studies—is a robust topic. Viewing centers through the lens of transfer potentially " ... helps to articulate several challenges for writing center work and tutor education, as well as an underappreciated contribution of writing centers to the undergraduate curriculum" (Nowacek, 2011, p. 136). In fact, transfer shows that centers are places where consultants and students alike become "agents of integration" (Nowacek, 2011, p. 38) and where consultants themselves develop as thinkers by helping other students. It seems vital to invest in and continue to investigate transfer of learning in writing centers.

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