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The Role of Prior Knowledge in Peer Tutorials: Rethinking the Study of Transfer in Writing Centers

Abstract

This article addresses some of the pitfalls associated with current methods of investigating the transfer of learning within writing centers and encourages the adoption of a dynamic definition of transfer, as well as a dynamic taxonomy of context. The need for a more multidimensional approach to transfer emerged during the course of a preliminary study of a small group of writing center peer tutors over the course of a semester. The study, described in the article, sought to better understand what prior knowledge tutors were drawing on to facilitate tutorials; from which contexts they were transferring this prior knowledge; and how this prior knowledge impacted their work as tutors. The data collected in the form of observations and audio-recorded tutorials, as well as from follow-up interviews with the peer tutors, illustrate the need for writing center studies to develop a more nuanced and comprehensive approach to understanding and studying transfer. By addressing this need, writing center studies can help shape discussions about the transfer of learning.
Introduction

As the field of composition comes to understand more about how learning transfers from one context to another, writing center studies have also become interested in what studying transfer can reveal when attention is turned toward tutors. Like writing instructors, tutors can make writing instruction more meaningful by giving students tools to transfer their writing knowledge across contexts. While recent studies of transfer in the writing center context (e.g., Driscoll, 2016; Hill, 2016) look forward from the tutor-education course to future contexts, the study described here does the opposite; it looks backward in order to explore how tutors are transferring prior knowledge into the peer-tutoring context. This uncommon approach to studying transfer within the writing center context has implications for how students are educated and prepared to tutor, including how writing center directors can help position tutors—and how tutors can position themselves—effectively (and confidently) to draw on prior knowledge during tutorials. This study’s emphasis is on what is called “backward-reaching high road” transfer wherein people “abstract key characteristics” from a previous situation and “reach backward into one’s experience for matches” (Perkins & Salomon, 1988, p. 26). Within the context of education, these are instances wherein “learners identify important characteristics of the current situation and look to the past for relevant experience and applicable prior knowledge” (Moore, 2013).

Two key findings emerged from this study of how three tutors used prior knowledge across 35 tutoring sessions and reflected on those sessions in follow-up interviews. First, this study suggests the need to use a dynamic definition of transfer to describe how prior knowledge is being brought into current tutoring contexts. Models of transfer, like King Beach’s (1999), which offer dynamic definitions of transfer—or what Beach calls “generalization”—are much more conducive to studying transfer in the writing center context than are transfer-as-application models. Transfer-as-application models continue to circulate and have the potential to take hold as the scholarship on transfer in writing centers proliferates. Therefore, this study is an important intervention that suggests the need to think deeply about the definitions of transfer best suited for studying transfer within writing centers.

Second, inquiring into the sources of prior knowledge during the course of this study exposed a significant problem with how contexts (sometimes called situations) are conceptualized when studying the transfer of learning. Specifically, the vague designations near and far that are widely used to describe the kind of transfer that occurs across contexts preclude precise and more comprehensive understandings of the transfer of learning.

Although this study is small in scale, when taken alongside Pam Bromley, Kara Northway, & Eliana Schonberg’s (2016) cross-institutional study that
analyzes students’ perceptions of knowledge transfer after visiting the writing center, my study underscores the importance of introducing more complex and multidimensional conceptions of transfer and context into studies of transfer. Current transfer-as-application models are not sophisticated enough to capture what happens when tutors draw on prior knowledge during tutorials. Relying on that model instead of incorporating the multidimensional model described below has the potential to undermine the important research still to be done to determine how tutors engage with prior knowledge. These findings about the most precise and productive models and metaphors for studying transfer have important and exciting implications not just for studying transfer in writing centers but also in the range of educational contexts that have become the subject of such studies. Writing center studies, in other words, is uniquely positioned to refine and enrich how we understand the transfer of learning, as well as how we study this phenomenon across educational contexts.

Defining Transfer of Learning and Prior Knowledge

Before defining the role of prior knowledge in the transfer of learning, we must begin by defining transfer of learning. The overwhelming majority of compositionists who study the transfer of learning look to definitions provided by educational psychologists David Perkins & Gavriel Salomon. Perkins & Salomon (1992) note that transfer occurs when “learning in one context or with one set of materials impacts on performance in another context or with other related materials” (p. 3). Some of Perkins and Salmon’s definitions, however, have raised concerns. In fact, in her introduction to Composition Forum’s special issue on transfer (outside the writing center), Elizabeth Wardle (2012) laments that “our field has not deeply theorized transfer much beyond what Perkins and Salomon offered (near and far, high and low) or even much beyond the term ‘transfer,’” a point Wardle (2007) initially made in her article “Understanding ‘Transfer’ from FYC: Preliminary Results of a Longitudinal Study.” In this foundational piece, Wardle introduces Perkins and Salomon’s definitions of transfer, and continues to use the term “transfer” but also employs Beach’s (1999) related concept of “generalization” to develop her ideas. Wardle appreciates the more expansive nature of Beach’s sociocultural approach, which includes not just individual, task-based applications from one context to the next but also the social contexts that inform these experiences. The more common transfer-as-application model defines knowledge as static while also disregarding context and the fact that the prior knowledge might be taken up or repurposed in a new or different context. Thus, instead of considering only instances in which a student takes knowledge—let’s say an outlining strategy from a first-year writing course—and applies it wholesale in a later history course, Wardle and Beach are interested in instances of “creative
repurposing” (Wardle, 2012) of knowledge, wherein the knowledge from the previous context is transformed, revised, or adjusted in some way to meet the needs of the new context. Although I use the term transfer because it is the most widely used term in the field, I invoke that term with the understanding that I am not referring to the transfer-as-application model but rather to a more dynamic model along the lines of Beach’s notion of generalization that allows for the repurposing and transformation of knowledge. This more dynamic model also allows analyses of the potentially shifting social contexts that inform this process.

Having defined transfer of learning, we can turn our attention to the concept of prior knowledge, which is most commonly divided into two categories: procedural knowledge and declarative knowledge (sometimes also called conceptual knowledge). Declarative knowledge is knowledge of facts or concepts while procedural knowledge is knowledge about how to do something (Bruning, Schraw, & Norby, 2011; Jong & Ferguson-Hessler, 1996). The distinction between the two is often described in shorthand as the difference between knowing that (declarative knowledge) and knowing how (procedural knowledge). The two are related, though, as it often takes declarative knowledge (e.g., of the rules of a game) to develop procedural knowledge (e.g., how to play the game). During the tutorials described below, I use these larger categories to describe the kind of prior knowledge upon which tutors are drawing.

**Research Method**

This study focuses on a small writing center at a regional campus of a large northeastern research university. The center employs five to eight undergraduate peer tutors each semester, holds roughly 500–600 sessions annually, and sees approximately 30% of the campus’s population, with the vast majority of visits from students in the first-year writing program. The tutors are all generalists trained to support the work of students from all disciplines. Although not by design, the tutors who work in the center tend to be English majors with the occasional psychology and history major mixed in. Tutorials are scheduled as one-hour sessions with a single peer tutor, although some tutorials are shorter. Occasionally because of a high volume of walk-in students, a single tutor may have to work with more than one student. The tutors are trained to focus on global concerns and the writer’s goals and to encourage the student to do some writing during the session.

The semester I conducted this study, fall 2015, seven peer tutors were working in the center. Five returning tutors worked from the beginning of the 14-week semester to its end, and two newly hired tutors worked for the last four weeks of the semester. Over the course of this semester, I shadowed the three peer tutors who consented to participate in the IRB-approved study,
and I observed and audio recorded 35 tutoring sessions in total, representing 26 students. The students being tutored also provided informed consent to participate, and those students who returned to the writing center during the study were asked for their consent each time.

The three tutors who participated in the study had been working in the writing center for at least one semester at the time of the study. Sandra was a double major in history and English, slated to graduate in a year; Jean was an English major who would graduate at the end of the semester during which the study took place; and Evan, also graduating that semester, was an English major with a minor in psychology. All three had taken the semester-long tutor-education course prior to beginning to tutor and were not introduced to terms like prior knowledge or transfer of learning in this course.

Rather than conducting an experimental study wherein one might develop a transfer-focused peer-tutoring course and then test the efficacy of that course, as did Dana Lynn Driscoll (2016) and Heather N. Hill (2016), I sought to understand the phenomenon of transfer by observing tutors and how they—without any prompting or attention to transfer in their tutor-education course—made use of their prior knowledge during tutorials. This exploratory approach offers an alternative way of constructing knowledge about transfer in that it allows the phenomenon to remain largely organic. Moreover, this approach allows for surprises, which in this case exposed the need for complex understandings of both transfer and context within studies of the transfer of learning in writing centers.

This unexpected finding may not have emerged if I had not employed a nontraditional mixed-methods approach that draws on two types of qualitative data—my observation of tutoring sessions and tutors’ answers during follow-up interviews—rather than a mix of qualitative and quantitative data. This qualitatively driven, mixed-methods model (Hesse-Biber, 2010) allowed me to compare the follow-up interviews with my notes from the observations and the audio recordings of the tutoring sessions in order to mitigate the problems associated with self-reporting. As such, these two data sets allowed for triangulation that would not have been possible with a single data set (either qualitative or quantitative; see Hesse-Biber, 2010, p. 466). When analyzed together, the data from the sessions and the interviews gave me insight into the sources of tutors’ prior knowledge, the kind of prior knowledge these tutors accessed (and transformed), and how tutors perceived this process.

The tutors were interviewed about each tutorial I observed and asked a series of reflective questions intended to provide me with insight into their practices and approaches during the sessions (see Appendix for the interview questions). These interviews were conducted face to face and audio recorded on the same day as the sessions. One interview was conducted and recorded
over the telephone. All of the tutorials and the follow-up interviews were professionally transcribed.

To conduct this qualitative research, the procedures I employed to code and analyze the data were “inductive, emerging, and shaped by [my] experience in collecting and analyzing the data” (Creswell 2007, p. 19). I began by open coding the follow-up interviews in chunks. Coding the interviews first generated a set of themes I could then look for in the tutoring-session transcripts and my observation notes. Portions of the interviews and sessions that seemed especially relevant to my research question about the role of tutors’ prior knowledge in tutoring sessions were subject to what Anselm Strauss & Juliet Corbin (1998) call microanalyses, wherein a researcher “break[s] open the data . . . to consider all the possible meanings” (p. 59). This analytical work led me back into the interview transcripts and the tutoring-session transcripts in order to study more closely the kinds of prior knowledge the tutors were drawing on.

In coding the recorded sessions and the interviews, I divided prior knowledge into the two most commonly used categories (as noted above), namely procedural and declarative knowledge. Moments coded as declarative knowledge were those in which the tutor was imparting facts or information. Moments coded as procedural knowledge included those in which the tutor invoked knowledge of how to do something (e.g., how to revise; how to integrate quotations; how to apply a framework; how to respond to an assignment). Not surprisingly, because tutors are responsible for helping support students’ writing processes, tutors largely drew on procedural knowledge. Of course, this procedural knowledge may at one point have been declarative. For example, and as is the case in one of the excerpted tutorials later in this piece, knowledge of citation practices (i.e., declarative knowledge) is embedded in knowledge about how to apply citation practices (i.e., procedural knowledge). Moments like these were coded as procedural knowledge because I observed the use of procedural knowledge.

My analysis of the data also led me to return to the transcripts of the interviews and tutoring sessions to separate out the various contexts (e.g., a class; a previous tutorial) that emerged as the sources of prior knowledge. I marked moments in which tutors spoke about prior contexts in their tutorials (e.g., “I had this same assignment when I took the course”) or in their interviews (e.g., “I knew from the tutor-training course how to deal with that situation”). Whereas in Driscoll’s (2016) and Hill’s (2016) studies the focus was on knowledge students transferred from a single source, namely the tutor-education course, I had to be open to recognizing in my data analysis the range of sources from which students drew on prior knowledge. Using Perkins and Salomon’s widely circulating definitions of near and far transfer, described in detail below, I also attempted to separate out the instances of transfer into
the two categories of near and far. This attempt revealed the problems associated with these categories, thereby shifting the initial focus of my study (in the ways described throughout the rest of this article), as is common in qualitative research (Creswell 2007, p. 19; Hesse-Biber 2010, p. 455).

Limitations

This study has at least three limitations. First, following only three tutors prohibits me from generalizing from their experiences. However, despite the limits the size of the sample imposes on this study, focusing on just three tutors allowed for an in-depth look at their particular ways of engaging their prior knowledge, which helped reveal the methodological implications of this study.

Second, because of scheduling, which involved syncing my own teaching and administrative schedule with that of the three tutors, as well as the writing center's general schedule, I was able to observe 35 tutorials over the course of the semester. This represents roughly 8% of the total number of sessions held in fall 2015, an amount not sufficient for generalizing about how all tutors in this center, let alone other centers, engage with prior knowledge during tutorials. Because some of these tutorials were with returning students, 26 students participated in 35 tutorials.

Third, the use of prior knowledge is just one aspect of transfer. Other features important to the transfer of learning are students’ dispositions (Driscoll & Wells, 2012), students’ understandings of genre (Reiff & Bawarshi, 2011), and students’ metacognitive awareness (Wardle, 2007). The scope of this study did not allow for the engagement of these other features. Because of these significant limitations, the data collected are largely used to name issues, to raise questions, and to suggest further lines of inquiry rather than to come to conclusions.

Observing the Transformation of Prior Knowledge in Tutorials

As noted above, transfer-as-application models continue to circulate as scholars describe how students use what they learned in one context as they move into other contexts. In writing center research, where studies of transfer are still relatively new, these models have the potential to take hold. Almost immediately, though, in my own study, there emerged a disconnect between the kind of transfer I was observing and the practice of application, which involves using knowledge in the same way it was used in the previous context. Consequently, one of the first issues that emerged during the course of the study was the need for a definition of transfer that did not rely on theories of application. As I observed the tutorials, I noticed what Beach (1999) and Wardle (2007) describe in their own research and scholarship on transfer (albeit in different
contexts), namely that students, and in the case of my study, peer tutors, were transforming their prior knowledge rather than simply applying it. In my own study, these instances of transfer are dynamic, necessitating a more expansive understanding of transfer—one that moves beyond the application model wherein knowledge is static. In fact, the regularity with which tutors referred to prior knowledge, either during the tutoring session itself as a way to explain the source of their knowledge to the tutee or to me during the follow-up interview, underscores the need for a dynamic understanding of transfer. As I discuss later, such a dynamic understanding can be mobilized during tutor-education courses to better prepare tutors to access their prior knowledge.

In her tutorial with Matthew, excerpted just below, Sandra, the tutor, draws on her prior knowledge about music to help Matthew expand upon an end-of-the-semester assignment for a reflective essay, in which he compares his progress as a writer to his experience of learning how to play music.

Sandra: Has the content of your essays changed or become stronger, and can you somehow connect that?
Matthew: Yeah, because originally when I started writing, I’d have a quote, and I wouldn’t explain it, and I just moved on to the next one so I guess, content-wise, my quotes [now] support my argument, my thesis more.
Sandra: Yeah, you could definitely talk about that. There was a composer . . . he composed like everything. He composed Harry Potter and . . .
Matthew: John Williams.
Sandra: John Williams. Have you heard of [the song] “The Planets”?
Matthew: Yes.
Sandra: Have you ever noticed the similarities there?
Matthew: Yes, the themes.
Sandra: He like stole half of “The Planets” because [it wasn’t] copywritten. He’s quoting . . . and he explains the quotes through music. He just constantly steals and steals and steals. He’s really good at it. My AP [advanced-placement] music teacher [used to say], “See, John Williams. We all love him but he’s just really good at stealing other people’s music.” You don’t want to do that in your writing, but you can quote and explain your quotes like he does.

In this tutorial, Sandra outright describes the source of her prior knowledge, namely her AP music class. Yet, Sandra is no longer the student being taught by a teacher about John Williams but has become the tutor teaching a peer. Beach’s (1999) term “generalize” offers a useful description of what is happening here: the “transformation of knowledge, skill, and identity across various forms of social organization” that is marked by “interrelated processes rather than a single general procedure” (p. 112). As Sandra’s identity transforms from student to tutor, she is also transforming declarative knowledge from
her advanced-placement music course taken more than four years prior into procedural knowledge about the relationship between composing music and composing essays, particularly in terms of how to integrate quotations (i.e., “quote and explain your quotes”). To use Beach’s terms, “interrelated processes” are going on rather than a “single general procedure” as Sandra finds ways to draw upon and then transform her prior knowledge to help illuminate for the student—and herself—ways of connecting different forms of composition. Beach’s theories remind us that this is an altogether dynamic situation that transfer-as-application models do not adequately capture.

Returning to another tutorial with Sandra, we see her drawing again on procedural prior knowledge to help the student apply the “forwarding” technique from Joseph Harris’s (2006) *Rewriting*, with which Liza, a student, was struggling.

Liza: Do I forward in this essay because I have to do that too. Do I forward [the author’s] thoughts?
Sandra: Do you understand what forwarding means?
Liza: No.
Sandra: Basically what it means is that . . . you’re furthering [the author’s] ideas by applying them to your concept. You don’t have to just use quotes for support. You can use them to go farther than that and you can forward [the author’s] ideas by putting them into context with other texts and you can forward your ideas by applying [them] to your example. Does that make sense?

Notice that in Sandra’s extended description just above she begins by drawing on prior declarative knowledge as she describes to Liza what forwarding is (“you’re furthering [the author’s] ideas”) but ultimately transforms that declarative knowledge into procedural knowledge as she explains to Liza how to go about doing so: “You don’t have to just use quotes for support. You can use them to go farther than that and you can forward [the author’s] ideas by putting them into context with other texts, and you can forward your ideas by applying [them] to your example.”

Interestingly, Sandra explained in the follow-up interview that the technique of forwarding was not something she learned in her first-year writing course even though she had the same instructor Liza had. Instead, Sandra would need to develop an understanding of this technique, and she did so by drawing on prior knowledge of related concepts that seemed similar to forwarding. She explained in the follow-up interview.

I think the terms [my first-year writing professor] used when I had him [were] just “explaining and analyzing” . . . which are kind of the same concept[s]. He also talked about them to further your point rather than just make your point. It’s kind of the same idea [as forwarding].
In the first example above, Sandra transformed her prior knowledge about musical composition. The description just above, too, details a remarkable instance of knowledge transformation wherein by recognizing similarities among processes, Sandra is able to help this student understand and apply a concept Sandra was never taught outright. Sandra draws on her prior knowledge of how she was taught to “explain” and “analyze” but goes on to transform that knowledge in light of this new concept of forwarding. She does so in this new context so she can better understand and then convey to Liza how to forward an author’s idea.

But there was at least one other source of Sandra’s prior knowledge, which she also acknowledged. Because this was not the first time Sandra saw this type of assignment and found herself helping a student forward an author’s idea, she could also draw on prior procedural knowledge from other tutorials. In fact, in a follow-up interview, Sandra explained, “We approached the same concepts [in my first-year writing course], just not with those terms . . . now that there are these terms that are reoccurring [across assignments in first-year writing], I just pick them up from students [who come to the center].” Although downplaying the metacognitive work she must engage in to make these connections, Sandra now not only has a different term, namely “forwarding,” for what she previously understood as “explaining and analyzing” but also has a richer way of thinking about this process. Notice that in her description of forwarding, Sandra talks about the importance of a new context, of application, and of “going farther,” terms she does not use to describe what it means to explain and analyze.

Both examples taken from Sandra’s tutorials suggest the importance of using a dynamic definition of transfer when studying these tutorials, which, like many tutorials in a writing center staffed by generalist tutors, involve the transformation of prior knowledge so that it better maps onto the needs of a tutorial. As Sandra takes on the identity of a tutor and transforms her declarative knowledge into procedural knowledge, we are witnessing “the construction of knowledge, identities, and skills, or transformation, rather than the application of something that has been acquired elsewhere” (Beach, 1999, p. 119). To reduce this event to a task of mere application as do transfer-as-application definitions is to miss opportunities to recognize and study all of these dynamics. Beyond underscoring the importance of using dynamic definitions of transfer in research on transfer in writing centers, these examples also raise questions about widely circulating definitions of context, which is a key aspect of all transfer-of-learning studies. The next section addresses these questions in detail.
Rethinking the Near and Far Binary in Studies of the Transfer of Learning

Having noticed Sandra was transferring procedural prior knowledge during the two tutorials above (as well as others), the next step for a researcher studying transfer would be to determine whether these were instances of near transfer or far transfer. These two categories allow researchers to judge the relationship of contexts to each other in the transfer of learning. As Kathleen Blake Yancey, Liane Robertson, & Kara Taczak (2014) note, “A conceptual breakthrough occurred in 1992 when David Perkins and Gavriel Salomon—often thought of as the godfathers of transfer—. . . argued that researchers should consider the conditions and contexts under which and where transfer might occur” (p. 7). Yancey, Robertson, & Taczak explain that one of the three subsets Perkins & Salomon used to redefine transfer was “near versus far transfer, or how closely related a new situation is to the original” (p. 7). Since then, studies of transfer in education, composition, and writing center studies have used these categories to indicate the importance of context (and the contexts’ relationship to each other) to both studying and teaching for transfer. According to Perkins & Salomon (1992), “Near transfer refers to transfer between very similar contexts” while “far transfer refers to transfer between contexts that, on appearance, seem remote and alien to one another” (p. 4).

Despite Perkins and Salomon’s (1992) concession that the designations “near” and “far” “resist precise codification” (p. 4), these remain widely used categories, including in recent studies on transfer within writing centers such as Driscoll (2016) and Pam Bromley, Kara Northway, & Eliana Schonberg (2016). In Driscoll’s (2016) study of transfer, determinations as to which contexts are near to and far from each other are easy to make—and are so by design—as Driscoll is, in effect, studying the extent to which students transfer what they learned in their tutor-education course to tutorials (near transfer) and the extent to which they engage in far transfer as they transfer what they learned in the tutor-education course to their future professions and personal lives.

Bromley, Northway, & Schonberg’s (2016) study, which has a more open-ended design like my own, found that far transfer was the most common form of transfer: “Most student visitors to the writing center report engaging in all types of transfer, with a large majority practicing far transfer. . . . Students explain that they learned specific strategies and approaches in the writing center that they transferred to later work, with most reporting precise occasions of far transfer occurring on a regular basis as a result of writing center sessions” (p. 5, 7). In fact, Bromley, Northway, & Schonberg note that “a significant finding [of their cross-institutional study]” is that “most student participants, largely repeat visitors” identified transferring “writing task knowledge” or “writing
process knowledge,” and “in most cases, this transfer can be classified as far transfer” (p. 10).

Bromley, Northway & Schonberg detail students’ transferring what they learn from their tutorials into various assignments for courses, which are presumably the instances of far transfer to which they are referring although they don’t explicitly say so. On the one hand, I can imagine how these researchers may have arrived at this conclusion. The uniqueness of the writing center as a context—a third space, as it has been called—potentially predetermines the “far” status of many if not most cases of transfer (excluding those connected to tutor-education courses). On the other hand, the case could be made that all instances of transfer from the writing center, at least to other academic settings, are cases of near transfer because they are all happening within the larger context of a student’s education. This lack of clarity surrounding whether what occurred in their study should be labeled near or far transfer is a symptom of the problem with the very categories of near and far, particularly when applied to the writing center context. When left with nothing more than the rather vague designations of near and far, researchers risk forestalling precise analytical work that has the potential to expand and enhance how writing center studies understands the transfer of learning.

A Multidimensional Conceptualization of Context

For a more precise and multidimensional view of context, we can look to human development scholars Susan M. Barnett and Stephen J. Ceci, who have developed a nine-dimensional taxonomy of far transfer that would allow those studying transfer in writing centers to move beyond the broader definitions of near and far in order to consider different dimensions within them. The benefits of adopting a multidimensional conceptualization of context and the promise that studying transfer in the writing center holds are both detailed in this section.

Rather than thinking about contexts largely in terms of metaphorical distance from each other, Barnett and Ceci (2002) developed a taxonomy that describes six dimensions of context (and three dimensions of content), including “knowledge domain, physical context, temporal context, functional context, social context, and modality” (p. 623). Barnett and Ceci explain that they developed these dimensions because there is evidence from transfer literature and psychological research, among other sources, that these aspects of context do matter (p. 624), a point further supported by my study. I focus on four of the six dimensions in the remainder of this piece. The first aspect, knowledge domain, refers to “the knowledge base to which the skill is to be applied, such as English class versus history class” (p. 623). The physical context refers to the concrete environment, while the temporal context refers to the time between
training and testing. The *functional context* refers to the “function for which the skill is positioned” (i.e., an academic activity or a “real-world” activity) “and the mind-set it evokes in the individual,” while the *social context* “refers to whether the task is learned and performed alone or in collaboration with others” (p. 623). Finally, the *modality* refers to whether the task is “auditory, written or verbal, linguistic or hands-on (e.g., model building), and so on,” as well as the format of the task, such as “multiple-choice format or essay format, and so on” (p. 623).

If those of us studying transfer were to adopt this taxonomy, we could no longer say a student transferred learning from one context to another without specifying more clearly to which dimensions of each context we are referring. Moreover, determining whether something is near or far transfer becomes more complex and precise, as spelled out by Barnett and Ceci:

A transfer task may satisfy the requirements for far transfer on some of these dimensions but not on others. To be classified as true far transfer, does a study have to qualify as far on all dimensions? . . . We could decide to reserve the label *far transfer* for studies that satisfy all these criteria (which might be very rare), but it is perhaps more fruitful to avoid use of the summary term and instead specify whether the transfer situation is near or far along each dimension. In this way, more precise evaluations of study results could be performed. (p. 623)

To experience what it would be like to adopt this approach, let’s look at one scenario that came up in this study, an example of what at least initially appears to be a straightforward example of near transfer. In the excerpt below, the tutor, Sandra, transfers into the tutorial declarative prior knowledge of the Kate Turabian documentation practice that then she must transform into procedural knowledge to indicate to the student how to use footnotes.

Sandra: Have you ever seen a paper in Turabian format?
Rayna: No.
Sandra: Do you want me to show you one? . . . I’m actually going to pull one up [on my laptop computer] because I have it easily accessible. It’s one of my papers that I did Turabian on, and then you can see what footnotes are.
Rayna: All right.
Sandra: Now these aren’t all for books, so your citations aren’t all going to look like this, but it’s going to be formatted in the same way with footnotes. . . . So if you take other history classes you’re probably going to have to do this again. [Sandra points to the superscript numbers and the corresponding notes at the bottom of the page.] Here’s the first page of it, and the footnotes are down here. At the end of that quote, there’s a little number. And that number corresponds to the number at the bottom of the page that says who the quote is by and where it’s from and
all of that.
Rayna: So it’s not quotes?
Sandra: If you quote something, that’s where you do a footnote.
Sandra seems to be engaging in a straightforward instance of near transfer in which she almost automatically applies her prior declarative knowledge of Turabian citation practices to the tutorial. Sandra even connects the two situations more closely by sharing the citations from one of her own history assignments with the student who is working on citations in her history assignment. But reducing this to simply an instance of near transfer obscures other elements that might be considered when thinking about context, including those presented on Barnett and Ceci’s (2002) taxonomy. The table below, in which the term situation is used to avoid the term context, uses Barnett and Ceci’s taxonomy to analyze the tutorial excerpted above.

**Table 1**
*Analyzing Tutorial Excerpt Using Barnett and Ceci’s Transfer Taxonomy*

<table>
<thead>
<tr>
<th></th>
<th>1st Situation</th>
<th>2nd Situation</th>
</tr>
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<tbody>
<tr>
<td>Knowledge domain</td>
<td>History class</td>
<td>Writing center tutorial</td>
</tr>
<tr>
<td>Physical context</td>
<td>History classroom</td>
<td>Writing center</td>
</tr>
<tr>
<td>Temporal context</td>
<td>——-2 years——-</td>
<td></td>
</tr>
<tr>
<td>Functional context</td>
<td>Citing correctly</td>
<td>Teaching another student how to cite correctly</td>
</tr>
<tr>
<td>Social context</td>
<td>Performed alone as part of a class</td>
<td>Performed in collaboration with student</td>
</tr>
<tr>
<td>Modality</td>
<td>Auditory</td>
<td>Verbal</td>
</tr>
</tbody>
</table>

The categorizations above are certainly not the only ones possible, and Barnett and Ceci (2002) “admit freely to the lack of sharp edges that [their] framework generates in making quantitative predications” (p. 634). The designations above, though, prove less important than what a more multidimensional conception of context would allow access to when studying transfer in writing centers. What seems to be the closest thing that might qualify as near transfer, the transfer of declarative knowledge about documentation practices from an earlier educational context into a contemporary educational context, becomes a bit more complicated as these other elements are taken into consideration. Moreover, this taxonomy foregrounds certain elements of
context important to the writing center context but not captured in the widely circulating, two-dimensional definition of context.

In fact, Barnett and Ceci (2002) break down the six categories on the table even further. “Time constraints,” which is not listed on this table, is a subcategory of the temporal context. This subcategory is an aspect of transfer of learning highly relevant to writing center work. Barnett and Ceci note of this subcategory that it is “usually ignored in transfer studies” and “it is possible that training conducted in a context with no time constraints would transfer to a non-time-constrained transfer test better than it would transfer to a time-constrained test and vice-versa, for example” (p. 623). In writing center work, time constraints play a significant role. Tutors are bound by the length of the session (however that is defined by each center). Their ability to transfer in prior knowledge may very well be affected by that temporal constraint, which may not have been present in the initial learning situation. Without a more robust understanding of context, one cannot judge as precisely the extent to which time constraints affect the transfer of prior learning, including how Sandra transferred her knowledge of Turabian documentation practices. The point is that because time constraints are so germane to the writing center session, it seems necessary to take them into account when studying transfer in writing centers.

It is also worth considering how physical context might affect transfer in the writing center, another dimension of context currently absent from widely circulating definitions of context. Barnett and Ceci (2002) explain that “both macroaspects, such as whether the training and transfer phases are conducted at school, in a research lab, in the home environment, and so on, and microaspects, such as whether the exact same room is used and whether the experimenter is the same, make up the physical context” (p. 623). The physical space of the writing center has long been a pressing concern in the field of writing center studies (Hadfield, 2003; Hadfield, Kinkead, Peterson, Ray, & Preston, 2003; McKinney, 1998; Singh-Corcoran & Amin, 2011). Questions such as where the center should be on campus, what it should look like, how it should be designed, and what supplies and materials it should have on hand continue to inform both formal scholarship and informal forums such as the WCENTER and WPA listservs (Carpenter, 2016; Glushko & Griffin, 2015; Purdy & DeVoss, 2017). Writing center studies scholarship has long encouraged WPAs and writing center directors to create writing center spaces that are inviting and comfortable and deliberately different from classroom spaces on campus. While these intentional differences between the physical space of the classroom and the physical space of the writing center may make both students and tutors more comfortable and open, they may make transfer harder to achieve. Unless researchers consider physical context
an important dimension of the more general concept of context, we are left wondering how physical context impacts transfer.

While this article does not afford the space necessary to explore the benefits of attending to each aspect of context in depth, I do want to consider the potential in considering one more aspect of context, namely the social context, as Ceci and Barnett’s taxonomy encourages. The social context foregrounds the role of collaboration in transfer, which would include how students and tutors develop knowledge together, one of the very foundations of peer tutoring. Moreover, attending to the social context also provides a way of addressing how collaboration among tutors affects transfer. On many occasions during this study, I witnessed tutors collaborating to support each other as members of a community of practice, settings where people with similar worldviews “develop, negotiate, and share them” (Wenger, 1999, p. 48). In fact, I observed several tutorials in which a tutor looked to another tutor for help, sometimes to confirm an interpretation of an assignment, help locate something in a handbook, or fill in a gap in prior knowledge. A taxonomy like Barnett and Ceci’s, which addresses the social context, makes this aspect visible, allowing researchers to take into consideration the effect social context has on transfer in writing centers.

Recognizing whether the knowledge was developed alone or in collaboration is especially useful when considering another unique aspect of writing center work that emerged during my study, namely transfer that occurs between (and among) tutorials. As tutors worked on the same assignment across tutorials, tutors learned about the assignment and related content in collaboration with the students during the tutorials. During follow-up interviews, the tutors regularly spoke of the impact of prior tutorials on later tutorials. Consider the following excerpt from an interview with a tutor named Jean in which she explains how she helps students with “lens/artifact” assignments. Common in the university’s first-year writing program, these assignments ask students to apply a concept or theory from the course’s reading to an artifact of their choosing. Jean explains in a follow-up interview,

Several students come in for the same assignment. When you start to see patterns, it’s easier for me to ask those students, what’s the main idea . . . and how could you connect that to an example of your choosing? A lot of students struggle with the same problem as far as getting to the main point of Percy’s essay [“The Loss of the Creature”] because it’s a very dense text. So, I get right to the point . . . by asking them to tell me what the main idea is and then asking them to connect it to something outside.

Based on her experience of working with several students on the same assignment, Jean describes why she thought a student was having particular difficulty.

[The student] said he was trying to compare European culture to Native
Americans and the clash there. I knew that sounded a little abstract from what I’ve been hearing from all of the other students that have come in for the same assignment. It seemed a little too historical for what the assignment was asking. That’s when I asked him, “Are you comfortable with the two cultures that you picked or can we think of something a little more personal?”

As suggested by Jean’s comments above, tutors tend to work on the same assignment with many students. This is not surprising for a writing center whose clients are largely from a small first-year writing program with a handful of instructors. In the process Jean describes, peer tutors develop a deeper understanding of the assignment—while working collaboratively with students—than would be possible if they only encountered each assignment once and on their own. Tutors also see all the different ways of responding to assignments, and based on this work, as well as the instructors’ comments on drafts, begin to develop a sense of which responses are most successful and why. As Jean steers the student away from his initial example to one she thinks will be more successful, Jean uses what she has learned alongside students in prior tutorials to facilitate this session. Essentially, Jean has generalized her procedural knowledge about the most effective ways of approaching the assignment from other tutorials, as well as from the instructors’ comments on drafts. Although not in those terms—remember she doesn’t have them—Jean explains this transfer in the follow-up interview excerpted above. A taxonomy like Barnett and Ceci’s would allow these details to emerge and, in so doing, would allow researchers to ask questions about the range of dimensions of context that have the potential to affect transfer.

In the example above, Jean uses prior knowledge gleaned from other tutorials to help a student avoid a pitfall. In the excerpt below, from a follow-up interview, Evan, another tutor, describes the importance of using his prior knowledge from an earlier tutorial to support the student’s work in a specific genre.

Evan: I had a tutee from before who came in with [the same assignment]. He had a draft already done [unlike this student].

Researcher: How do you think your experience with that first tutee and the same assignment impacted how you addressed it in this session, if at all?

Evan: It did to some degree. The other tutee had the draft pretty much completed aside from the Works Cited page. [Because of that, when this tutee came in,] I knew it was going to be a reflection paper. The [questions within the assignment] could be answered pretty much off the cuff. I wouldn’t have to ask the tutee questions like Where did you get this? Did you read it in this article? Do you remember what the article was? Can you remember the terms that were used? Did you write down the
page numbers? It was a little easier to kind of go into that mind frame. . . . Sometimes I don’t really understand the prompts as much because I haven’t read them, but I knew this was going to be a reflection paper.
Researchers: So the fact that you knew it was a reflection helped?
Evan: Yeah, it narrowed down what I was going to talk about.

Although Evan, like Jean, traced his prior knowledge to earlier tutorials, he would have also had experience with mandatory reflective assignments in his first-year writing course. Evan’s prior knowledge of the genre of the reflection paper, thus, might be traced to at least two sources, or contexts, even though Evan cites just one. This complication reminds us that although research on the transfer of learning depends heavily on self-reports, the validity of these reports is questionable. This raises the related question about the possibility of multiple sources of prior knowledge and how these multiple sources might be addressed in studies of transfer. For example, in studies designed as experimental tests, like Driscoll’s, it may not be sufficient to point to the peer-education course as the only source of students’ prior knowledge. While the problems associated with dependence on self-reports in studies of transfer cannot be totally erased, they can be mitigated by the use of taxonomies like Barnett and Ceci’s. While such a taxonomy does not directly address the obstacles posed by self-reporting, a multidimensional conception of context lends more specificity to studies of transfer, including some of the most important aspects of context that define the peer tutorial, such as temporal, physical, and social aspects. Certainly, a taxonomy may make studies more complex than is necessary for our purposes. Still, those studying transfer should be aware of the available tools for doing so and consider the stakes associated with decisions about these means and methods.

Recommendations for Peer Tutor Education Courses

By way of conclusion, I want to think about what a focus on the role of prior knowledge in tutoring might contribute to tutor education. Two recent studies of transfer-focused tutor-education courses, Driscoll (2016) and Hill (2016), found that what students learned in the peer-education course did transfer beyond it, although Hill notes that for more consistent transfer, she plans to spend more time on transfer in the course. Unlike these studies that look at how students incorporate their knowledge of transfer into tutorials (Hill) and how students use what is learned in the tutor-education course in future professional and personal settings (Driscoll), I posit that there are benefits to looking backward rather than just forward. Incorporating attention to transfer of learning into tutor-education courses—by asking new tutors to also look back rather than always only forward—can potentially give peer tutors more confidence. Often, prospective tutors view tutoring as totally
distinct from anything they have done previously and do not readily recognize connections among earlier academic work, personal experiences, and tutoring. Tutor-education courses might encourage prospective tutors to activate that prior knowledge and those experiences that have prepared them to tutor since doing so can positively impact their abilities and quell some of the anxieties new tutors experience. Prospective tutors might reflect on previous courses in which they participated in collaborative or peer-centered activities, as well as on academic and/or personal experiences that helped them build their interpersonal skills.

Despite being a potential limitation in other studies, this study’s reliance on tutors’ perceptions, in this case about the source of their prior knowledge, is an important resource. Students’ perceptions or attitudes, as opposed to simply their intellectual preparation, have been shown to affect their academic work in profound ways (Bandura, 1977; Chemers, Hu, & Garcia, 2001; Spaulding, 1992). Educational psychologists often describe this as an issue of self-efficacy. Students who do not believe (or perceive) they can succeed at a task are less likely to engage in that task. This lack of self-efficacy can undermine students’ intrinsic motivation (drive that comes from within) and result in their retreating from the task at hand (Spaulding, 1992). A better understanding of tutors’ perceptions, even if they are just that, about the sources of their prior knowledge can help writing center directors begin to notice patterns in their perceptions about the sources most useful in tutoring. This information can then be used in tutor-education courses to help tutors develop self-efficacy and the confidence to take on tutoring, which can be a daunting task for even the most accomplished students.

While self-efficacy is becoming an increasingly studied phenomenon as the fields of composition and writing center studies have turned attention toward habits of mind and dispositions, most of this work focuses on the tutees rather than the tutors. These studies, some of which were conducted in the writing center (Schmidt & Alexander, 2012; Williams & Takaku, 2011), and others that looked at curricular-based writing-fellows programs (Regaignon & Bromley, 2011), were not invested in the tutors’ self-efficacy, as I am describing, but rather in how tutors help students develop self-efficacy. While some studies have discussed the importance of supporting tutors’ development of self-efficacy, the goal of this work is often retention (Devet, 2016), or this support is described as a side effect of focusing on helping tutees develop self-efficacy (Auten, 2010). Research on how writing center directors and tutor-education programs can support the development of tutors’ self-efficacy—with goals beyond retention—remains an important but missing piece in conversations surrounding transfer in the writing center.

Understanding tutors’ perceptions about the sources of their prior knowledge, as I am calling for, has the potential to help tutors develop the
dispositions important to facilitating transfer in the first place. Driscoll and
Wells (2012) point out that students’ dispositions, including their openness
and desire to learn, play a crucial role in whether their learning transfers.
Through a focus on prior knowledge, tutor-education courses can help foster
that openness and desire to learn while simultaneously quelling new tutors’
anxieties about the “novelty” of tutoring.

Part of quelling new tutors’ anxieties as they look backward might
involve introducing them to dynamic conceptions of transfer, which by defini-
tion do not demand that tutors already have the knowledge they need to be a
successful tutor, as is exemplified by Sandra’s tutorials above. I regularly witness
new tutors becoming anxious because they worry they do not know enough
to help students, particularly those outside their majors. Introducing students
to more dynamic definitions of transfer, like Beach’s (1999), may release that
pressure because transfer is not about “the application of something that has
been acquired elsewhere” (p. 119). Instead, peer-education courses can focus
with tutors on how tutors can transform existing knowledge to serve the needs
of tutorials. Exploring dynamic definitions of transfer, as well as considering
the implications of them, has the potential not just to build the confidence of
tutors but also to facilitate a “potentially transformative educational experi-
ence” (Nowacek, 2011, p. 140) marked by a metacognitive awareness of how
to transform prior knowledge within and beyond the writing center.

This is not to say that the more common recommendations for helping
tutors anticipate future uses of what tutors learn in the tutoring course are
not important. Instead, I am suggesting that in addition to looking forward
to future contexts, tutors should be prompted to look backward at previous
contexts to imagine how tutors can transform prior knowledge. This reflection
would provide a more comprehensive approach to incorporating attention to
the transfer of learning into peer-education courses.

This more comprehensive approach, marked by its attention to prior
knowledge, though, must be further explored. Although in the tutorials I ob-
served peer tutors were able to generalize and transform their prior knowledge
successfully, Driscoll and Wells (2012) point out that prior knowledge might
be helpful but can be detrimental. For example, a tutor misreading the situa-
tion, misapplying prior knowledge, or assuming incorrectly that certain prior
knowledge is relevant can potentially prevent the tutor from offering sound
advice. Moreover, a student may have no relevant prior knowledge, or what
Yancey, Robertson, & Taczak call (2012) “absent prior knowledge,” which can
result in negative transfer wherein “learning in one context impacts negatively
on performance in another” (Perkins & Salomon, 1992, p. 4). Yancey, Rob-
ertson & Taczak (2012) explored this phenomenon in high-school students
transitioning to college-level writing: “Perhaps not surprisingly, what at least
some students do . . . is draw on and generalize their [prior] experience . . .
in ways that are at odds with what college composition instructors expect, particularly when it comes to concepts of writing” (p. 110). Although Yancey, Robertson & Tacza are thinking about negative transfer as it relates to a somewhat different population of students and in a different context, at least one of their recommendations for addressing prior knowledge is relevant to this discussion: “Teachers, for example, may want to ask students about their absent prior knowledge and invite them to participate in creating a knowledge filling that absence. Put differently, if students understand that there is an absence of knowledge that they will need . . . they may be more motivated to take up a challenge that heretofore they have not understood” (p. 108).

Within the context of the peer-education course, the instructor of that course can devote time to the very concept of absent prior knowledge and present to students the challenge of filling in those gaps. More must be known, though, about how this preparation might play out in tutorials. In other words, how absent prior knowledge and negative transfer might enter into tutorials as a result of emphasizing backward-reaching transfer and prior knowledge still requires careful consideration.

Preliminary in nature, the study discussed in this article is but an early contribution to this emerging area of interest that has the potential to expand our understanding of and provide more ways to talk about the learning that happens in writing centers. How we understand the context of the writing center—and Lori Salem (2016) reminds us that “the inequality that stubbornly pervades the rest of the American education system also shapes writing center work” (p. 161) — will necessarily determine how we categorize the transfer that happens within and beyond that context. Using imprecise models of transfer, such as those that depend upon metaphorical distance, has the potential to obscure these disparities and disallow future studies of how learning transfers, including studies of specific populations of students. Moreover, if writing center directors can’t provide precise evidence of how writing centers contribute to student learning and related assessment goals at their institutions, they run the risk of losing funding and other forms of support from their institutions, particularly in times of tight budgets.

As writing center studies recognizes the value of more dynamic definitions of transfer, the field has the opportunity not just to contribute to ongoing, cross-disciplinary discussions of transfer but also to help shape them. By exploring how taxonomies like that developed by Barnett and Ceci have the potential to improve current methodologies for studying the transfer of learning, writing center studies is at the forefront of this research, research that highlights the measurable contributions of writing centers to the curricular and assessment goals of postsecondary institutions.
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References


Appendix: IRB-Approved Follow-up Interview Questions for Tutors

1. Could you list some of the key moments of writing instruction in the session you held? This could be in the form of specific writing advice or strategies you imparted to the tutee and/or something you tried to teach them about writing or about anything that came up during the session.

2. What in your background—classes, writing experiences of your own, a specific instructor, experiences outside of school or anything else—prepared you to come up with that advice, instruction, or strategies?

3. Thinking back to the tutee’s writing issues, would you have done anything differently in the session? If yes, why do you think you didn’t come up with that at the time?

4. Could you describe why you think tutoring is important and why you value it?

5. How strong of a writing center tutor do you think you are?

6. How strong of a writer do you think you are?

7. What strengths and weaknesses do you bring to tutoring?

8. How much control do you think you have over the success or failure of a session?

9. Do you set any goals regarding your work as a tutor?

10. Do you set any goals regarding your own writing?

*Note: Follow-up questions more specific to the individual tutoring session will be added as needed since these are crucial to addressing my research questions.

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