

# **The Weight of a Heavy Hour: Understanding Teacher Experiences of Work Intensification**

## **Le poids relié aux « heures surchargées » : comprendre le vécu des enseignants en lien avec l'intensification du travail**

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Article abstract

The teachers in this study identified the experiences related to increases in the intensity of teachers' work to be a misunderstood and under-discussed aspect of the profession. During research conversations that took place in the context of a year-long narrative inquiry, the term *heavy hours* was coined to describe these experiences. The salient features of heavy hours described include: rapid professional decision-making, being pulled in an excess of directions, and the residue that lingers long after the hour is over. After exploring the ways in which the teachers in this study experienced and defined heavy hours, this paper asserts that foregrounding this understanding has implications for the way in which we prepare and support teachers throughout their careers.

# THE WEIGHT OF A HEAVY HOUR: UNDERSTANDING TEACHER EXPERIENCES OF WORK INTENSIFICATION

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**ABSTRACT.** The teachers in this study identified the experiences related to increases in the intensity of teachers' work to be a misunderstood and under-discussed aspect of the profession. During research conversations that took place in the context of a year-long narrative inquiry, the term *heavy hours* was coined to describe these experiences. The salient features of heavy hours described include: rapid professional decision-making, being pulled in an excess of directions, and the residue that lingers long after the hour is over. After exploring the ways in which the teachers in this study experienced and defined heavy hours, this paper asserts that foregrounding this understanding has implications for the way in which we prepare and support teachers throughout their careers.

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**RÉSUMÉ.** Dans le cadre de ce projet de recherche, les enseignants participants ont mis en lumière un aspect incompris et peu discuté de la profession : les expériences vécues en raison de l'augmentation de l'intensité du travail. Au cours de discussions tenues dans le cadre d'une recherche narrative d'une durée d'un an, le terme « heures surchargées » s'est imposé pour décrire ces expériences. Les caractéristiques marquantes de ces heures surchargées sont l'obligation de prendre un nombre élevé de décisions professionnelles en un court laps de temps tout en étant sollicité de toutes parts et le ressac d'émotions qui persistent plusieurs heures après la fin des classes. Après avoir exploré la manière dont les enseignants vivent et définissent les heures surchargées, les auteurs de l'article affirment que prioriser la compréhension de ce phénomène a des conséquences sur la façon dont nous formons et soutenons les enseignants tout au long de leur carrière.

Teaching has been identified as a highly stressful occupation (Johnson et al., 2005), and issues around workload have been found to significantly contribute to teachers' feelings of stress, dissatisfaction, and even attrition from the profession (Howes & Goodman-Delahunty, 2015; Van Droogenbroeck, Spruyt, &

Vanroelen, 2014). Given the large impact of workload on teachers, their pedagogy, and therefore, on students, much research has explored not only the impacts of workload and related issues for teachers (Buchanan et al., 2013; Jones, 2012; Leithwood & Beatty, 2007), but also the ways in which this work is intensifying (Ballet, Kelchtermans, & Loughran, 2006; Hargreaves, 1994). Hargreaves (1994), for example, drew on the work of Larson and Apple to define the “intensification thesis” or, how the work of teachers has undergone a “bureaucratically driven escalation of pressures, expectations and controls concerning what teachers do” (p. 108). These escalating pressures routinize and prescribe the work of teaching and the ways in which teachers are accountable; thereby reducing the space teachers have to exercise their own professionalism. As Ballet and Kelchtermans (2009) highlighted, “intensification entails more than simply working longer hours, managing an increasing number of diverse tasks, attending more meetings, doing more administrative work, and so on” (p. 1155), there is also the “experience of intensification” (p. 1156) and this too must be considered.

The teachers in the present study identified their experiences of increases in both the amount and intensity of teachers’ work to be an often misunderstood and largely under-discussed aspect of the profession. During research conversations that occurred during a year-long narrative inquiry (Clandinin & Connelly, 2000), these three teachers coined the term *heavy hours* in order to describe experiences related to the contact or classroom hours of teaching. Heavy hours can be contrasted with lighter hours of a teacher’s day, such as planning time or exam supervision. The salient features of heavy hours described by the teachers in this study include: rapid professional decision-making in the midst of complexity; being pulled in multiple directions, too many to turn to in an hour; and the residue that lingers long after the hour is over. The articulation of the experience of increasing teacher workload in the present article offers a deep understanding of the nature and impacts of the intensification of teacher work. Some of the explored impacts include: feelings of not “really teaching” during heavy hours, but just “passing time”; and challenges of maintaining one’s identity as a teacher when the teacher in mind becomes increasingly different than the teacher one is able to be within the context of a heavy hour. This paper concludes by asserting that foregrounding an understanding of these impacts has implications for the way in which we prepare and support teachers throughout their careers.

## THEORETICAL FRAMEWORK

### *Dewey’s ontology of experience and narrative inquiry*

This narrative inquiry began, not with questions around teacher workload, but with a broader wonder about teacher experience, and how experiences continue over time. The ontological frame for this study, a Deweyan view of

experience (Dewey, 1934/2005, 1938/1997), inspired its initial research puzzle. From a Deweyan view, one of the key features of experience is that it continues. Each experience we have is influenced by past ones, and experiences either open up, or foreclose upon, future possibilities. This continuity of experience re-frames leaving teaching, or staying, or any other seemingly singular event, as not “a thing happening at that moment, but an expression of something happening over time” (Clandinin & Connelly, 2000, p. 29). Viewing experience in this way, and considering my earlier research exploring early career attrition (Beck, 2010), I became intrigued by assertions that the same feelings that inform a teacher’s decision to leave teaching may lead those who stay to cling to “practices and attitudes that help them survive but do not serve the education needs of students” (Feiman-Nemser, 2003, p. 25). To me, this statement, written in support of improving teacher induction experiences, invited a deeper exploration into the complexities of the experiences of those who stay. How do those beginning experiences *continue* for those who stayed in teaching? What possibilities do those early experiences enable or deter? As I encountered similar statements about the importance of early experiences for later teaching (Anderson, 2009; Ingersoll, 2002), I became increasingly curious about the space in-between simply surviving in teaching versus thriving, and the ways in which that space changes over time as teachers continue their careers.

Dewey’s philosophy of experience is described by Clandinin and Connelly (2000) as a constant “conceptual, imaginative backdrop” (p. 2) to narrative inquiry, the selected methodology for this study. Dewey’s philosophy directly shapes the three-dimensional inquiry space: “the personal and social (interaction); past, present, and future (continuity); combined with the notion of place (situation)” (Clandinin & Connelly, 2000, p. 50). From this viewpoint, experience is storied, continuous, and constructed through the “confluence of social influences on a person’s inner life, social influences on their environment, and their unique personal history” (Clandinin & Rosiek, 2007, p. 41).

Dewey (1934/2005) also characterized experience as having an inherently emotional quality. He described this emotional quality of experience as the very part of *an experience* (singular), which separates it from the whole of *experience* making up our lives. Dewey drew attention to emotions as complex and evolving, and as needing to be understood narratively. Often occupying a “marginal role” in teacher education research (Uitto, Jokikokko, & Estola, 2015), teacher emotion can be a neglected aspect not only of teacher stories, but also of teaching practice (Hargreaves, 2000). The range and complexity of teacher emotion is too little understood (Isenbarger & Zembylas, 2006).

Methodologically, the Deweyan framework for inquiry inspired a long research period (in this case, one year) as well as research conversations with teachers that explored their past, present, and imagined futures. The framework demanded that the emotions of teaching, in this case, those associated with experiences

of teachers' heavy hours, be an integral part of our discussions and of final research texts. Including discussions of the emotional aspects of a heavy hour of teaching allowed for a deeper discussion of the guilt (Hargreaves, 1994) and moral residue (Webster & Baylis, 2000) that teaching can leave behind.

### *Teacher identity*

Within this Deweyan understanding of experience, as continuous, transactional, and emotion-full, is an entwined understanding of *identity*. Identity is not an end-point, but "an ongoing and dynamic process which entails the making sense and (re)interpretation of one's own values and experiences" (Flores & Day, 2006, p. 220). Identity formation (within this Deweyan understanding) occurs always in context, in interaction, as "we respond to the space available by accepting, rejecting, or negotiating [our] role through the way we position ourselves in the space or shape the space to reflect our identity" (Pinnegar, 2005, p. 260). Connelly and Clandinin (1999) conceptualized this ongoing process narratively as *stories to live by*: a way of thinking about identity that highlights its inter-connectedness with knowledge and context.

This view of teacher identity — as complex, nuanced, and ever evolving — is often at odds with more dominant, stereotypical understandings of teaching. Britzman (2003) described how persistent stereotypes of teachers — such as those portraying teachers as "bookish" or "brainy," or even the stereotypical image of the "good" teacher as "self-sacrificing, kind, overworked, underpaid, and holding an unlimited reservoir of patience" (p. 28) — serve to "engender a static and hence repressed notion of identity as something already out there, a stability that can be assumed" (p. 29). These images inform the ideal teacher that teachers hold in mind. This ideal tends to be relatively fixed and can be considerably different than the lived and ever-evolving experience of teaching. This is particularly the case in lived experiences within heavy hours.

In my inquiry into the experiences of teachers who left the profession within their first five years, those moments when teachers could not be the teacher they had in mind marked areas of tension, and of confusing and overwhelming emotions (Beck, 2010). Spaces like these might be navigated at times by the creation of "cover stories," defined by Clandinin and Connelly (1996) as stories that "enable teachers whose teacher stories are marginalized by whatever the current story of school is to continue to practice and to sustain their teacher stories" (p. 25). *Stories to leave by*, or "the stories teachers begin to tell themselves when they can no longer live out their personal practical knowledge in their stories to live by" (Clandinin, Downey, & Huber, 2009, p. 146) are often cover stories. Cover stories do not tell of struggles teachers face in school contexts, but are stories that make leaving acceptable, such as leaving for graduate school, or parenthood, or a better paying job (Clandinin et al., 2009). These more "acceptable" cover stories, themselves an emotional burden, allow teachers to keep their "good" teacher identity intact while leaving much

hidden from view. I wondered what was hidden from view in teachers' *stories to stay by* and sought to create a research space where I could invite teachers to more deeply attend and share those stories.

## METHODOLOGY

Narrative inquiry is a methodology offering a unique, multifaceted window into individual experiences. As a methodology framed by a transactional view of experience, it places relationality as central to any research process. "Transactional" here is meant in the Deweyan sense of an exchange of influence: Experience, even in research contexts, happens in relationship, relationships between self and environment, and self and other. Therefore, narrative inquiry spaces are ones where individuals are invited into transactional inquiry spaces that offer possibilities for change, new discoveries, professional development, or personal growth. Narrative inquiry spaces are, in this way, pedagogical spaces, and have the potential to sustain teachers as they compose stories to stay by (Huber, Caine, Huber, & Steeves, 2013).

This narrative inquiry began with an invitation to teachers in their seventh to tenth year of teaching. Teachers were invited to "collaboratively explore their teacher stories" with a small group of peers over monthly dinners for a one-year period. I first met each potential collaborator informally to discuss the research proposal (shared with them in advance of our first meeting). This was also an opportunity for us to get to know each other. I felt a great responsibility in these first meetings as the collaborators could not meet each other before each agreed to join this inquiry.

Three teachers and I formed the final narrative inquiry group. Carlos, Serena, and Mara (their self-selected pseudonyms) each worked in a different school district, though they all lived in the same geographic area, a large urban centre in a Western Canadian province. Carlos was teaching high school drama and the occasional English course at the time, Serena taught secondary humanities courses, and Mara was teaching primary school. The diversity of assignment and district between these three teachers proved advantageous to discussions of our experiences in teaching over time. Without a shared day-to-day context, we sought the broader or deeper commonalities of their stories to stay by. Those parts of context they shared, such as working in the same province during a time of budgetary cuts to Education, impacted each of them in unique ways. For example, Carlos's school responded to the budget cuts by increasing his course load and removing a preparatory period, Mara's elementary school lost funding for classroom assistants, while Serena's high school reduced support positions, such as Counselors. While not teaching in the K-12 system at the time, I was able to share my own experiences of teaching at the university level, and my prior experiences as a high school English teacher. This I did freely, in order to confirm my understandings of the stories shared from the perspectives of my research friends.<sup>1</sup>

Our meetings spanned one calendar year, occurring in March, April, May, and June of one school year, and in October and November of the next school year. Therefore, our one-year inquiry covered two school years and the transition period between them. At times, I gently structured our two-hour research conversations with a question, prompt, or activity, such as the prompt to share a positive experience from our beginning years at our first meeting. At other times, our conversations were left open to arising topics. Whether or not I offered a prompt or question to begin depended on my reflections on the meeting prior, or on what I felt might be most conducive to deepening our research conversations. More than once, my intentions shifted after arriving and hearing what my research friends had on their minds. Most importantly, I worked to create a space where the four of us as teachers could shed our cover stories, engage in dialogue with responsive colleagues, and be nourished by a healthy meal and rich conversation.

### *Field texts and research texts*

The research texts (Clandinin & Connelly, 2000) I collected over the course of the inquiry included audio of our conversations, artifacts we created such as the “annals” or timelines of teaching experiences (Clandinin & Connelly, 2000), created in our last meeting, as well as the one-on-one and group emails we exchanged. As I had a long drive to our meetings, I spent a great deal of time listening to the recordings of our previous research conversations. These listenings reminded me not just of the words we shared, but also of the non-verbal and/or ambient moments in our discussions. Wanting to keep these memories fresh during the writing process, I continued to listen to the recordings — making notes, sometimes pausing to write narrative or analytical pieces — throughout a highly recursive inquiry, analysis, and writing process.

As I listened, I was mindful of those stories that seemed to move beyond cover stories, and those stories that revealed the ways in which Serena, Mara, and Carlos were composing their stories to stay by. I listened for moments when those stories came easily, and moments where there was greater struggle. Our discussions of what we came to call the *heavy hours* of teaching and the impact the weight of these hours had for Mara, Carlos, and Serena were just one of the many explorations of identity and experience we shared. Carlos first offered the word “heavy” to the group as he was trying to articulate the difference between hours in other professions that are “busy” in significantly different ways. During conversations exploring teaching hours as heavy hours, Mara, Serena, and Carlos at times expressed a wish that some of what we were discovering or articulating would make its way into education-related conversations beyond our own. This was how Serena, Mara, and Carlos described the fundamental misunderstanding about teacher workload that they felt as they tried to find themselves in the dominant narratives of teachers and teaching. Their wish reminded me of the importance of having and sharing conversa-

tions that moved beyond “cover stories,” and influenced the ways in which I drafted the interim and final research texts (Clandinin & Connelly, 2000) representing our work together, of which this article is one.

A key part of this journey, from field texts to research texts, involved situating our conversations within the academic literature. Since the topics we explored in our research conversations were not predetermined, this was an ongoing process. At times, I would share what I was finding in the literature in our research conversations, and as I wrote, I sought to juxtapose the lived experiences shared in our group with more theoretical explanations. To reflect this process in the final research texts, and to give readers a sense of how the narrative inquiry unfolded over time, I present the literature alongside excerpts of our research conversations. The dialogues below are composed of pieces of the many conversations we had over the year about the heavy hours of teaching. The dialogues are also edited to enhance clarity for readers not present during those meetings, though most of the words are verbatim. Carlos, Serena, and Mara also had a chance to offer input into this paper, this so I could ensure their experience was reflected in ways that felt true for them, and to be sure I had not overlooked anything they felt critical to an understanding their experiences of heavy hours.

## THE TEACHERS' EXPERIENCES OF HEAVY HOURS

In the conversations my research friends and I shared, we developed several key understandings that together form one possible description of the heavy hours of teaching. We came back again and again to the complexity characteristic of a heavy hour, and to the ways in which the weight of teaching hours seemed to be increasing. Mara, Carlos, and Serena highlighted the most salient aspects of heavy hours in their experience. These include rapid professional decision making in the midst of complexity; the reality of being pulled in multiple directions, too many to turn to in an hour; and the residue that lingers long after the hour is over. In what follows, each of these aspects of heavy hours are described in detail.

### *A heavy hour of rapid professional decision-making*

For Carlos, a key difference between a heavy hour of teaching and any other hour is the professional decision-making required while managing the complexities of the classroom environment:

“I think sometime on my second practicum, I started to really understand the kinds of decisions I was responsible for as a teacher,” he remembers, “beyond the curricular stuff, that is. I realized, for example, I have to know whether and if a student can go for a bathroom break now.”

Serena, Mara, and I chuckle a bit at Carlos's chosen example of professional decision-making as he continues to explain,



“No really, my go-to response, when people ask me why my job is so hard is: ‘Can I go to the bathroom now?’ And likely that person will laugh and think that I’m joking, but I am really asking them to think about what it would be like to determine whether or not they would allow me to go to the bathroom at that moment. I get asked this question three or four times a day, and as a teacher, you have to evaluate everything about that decision every time. So ‘can I go to the bathroom?’ actually means:

What’s the classroom environment like at this time?

What is this person’s individual history?

What do you know about them?

What do you know about the kind of school it is?

Is it a Friday? Or a Monday?

Is it the afternoon or is it the morning?

Has this person been successful or not successful?

Are they asking for a break?

Are they asking this because they need a personality break from the people in the room?

Is it the kind of work in which a break would be more helpful to their future success?

Or is it the kind of break that is actually detrimental to the work that you’re doing in the classroom?

Are they leaving other students behind?

Is the nature of the work such that the students can continue without that person there?

And if they cannot then maybe this break should be scheduled for another time.

How close are you to the end of class?

If you do not provide that release are they going to become more difficult to handle, so much so that they remove resources that could be better spent on other students?”

Mara replies, laughing, “and all they’ve asked is, ‘can I go to the bathroom?’”

“And that’s not even the biggest doozy of a question you’re going to get in that hour,” Serena adds, “That’s one of the relatively simple ones. Most of the decisions we’ll make in that hour are much more complex.”

As I thought more deeply about Carlos’s description of his thought processes in response to this one question, I turned to the literature for resonant descriptions of the professional decision-making of teachers. Biesta’s (2015) teacher professional “judgment” and Brante’s (2009) concept of teaching as “synchronous work” both reflect something of Carlos’s experience. Biesta (2015) defined *teacher judgment* as a process through which teachers prioritize

the oscillating, sometimes compatible, and sometimes opposing goals of education: qualification, subjectification, and socialization.<sup>2</sup> Similarly, Brante (2009) offered the concept of *synchronous work* to make visible the many goals teachers are holding simultaneously in each teaching hour. First, she posits, teachers hold “content and relation” (p. 434) in tension: Teachers must, in every teaching hour, attend to the content to be taught, and the multiple relationships which are present. Within “content” further concept-pairs must also be held: “knowledge and norms and values” and “invasive work and hidden curriculum” among others. Brante (2009) asserted that navigating the tensions between the concept pairs is work that includes a moral dimension, and that this work is profoundly influenced by the “organizational and spatial-temporal structures particular to the teaching profession that more or less force the practitioners to handle work in certain ways” (p. 435). The factors that Carlos reflected upon when he responded to the bathroom question reflect his consideration of competing goals and tensions as he wondered if the bathroom break would help or hinder the student or class’s curricular work, or perhaps offer a needed “break” of another kind. As Carlos moved through his day, he held these interconnected factors in tension, weighing the importance of each in an ongoing way over time within the relational, always evolving context of the classroom, and within the time given in each heavy hour. The professional space in which Carlos can hold these tensions, in which to be responsive to students as individuals and as a group, and to make decisions that are best in each moment, is, for Carlos, a defining aspect of being a professional, and is key to differentiating a heavy hour of teaching from any other hour of work.

“I feel it’s this kind of complexity, involved in the heavy hour itself, that is not really well understood by outsiders,” Carlos speculates.

“No, it’s not,” Serena agrees, “and many of the factors that we’re talking about – class size, class composition, curricular changes, certain accountability measures – all of these things add to the weight of that hour, because they increase the complexity of the hour.”

Serena here highlighted the tendency to link increased class size with more work before or after class, such as more photocopying or marking (Butt & Lance, 2005). However, when linked to those experiences related to professional decision-making and *within* a heavy hour, more students means more decisions, and it means each decision is more complex. When we consider that, in Carlos’s decision-making processes, he considered whether and what impact one student taking a break will have on others, with more students, there are more others, or more factors to consider. The classroom environment increases in complexity because there are more students interacting not just with the teacher, but also with each other. Likewise, when the composition of a class becomes more diverse, the complexity of each decision increases in similar ways. While additional marking is problematic, the increased weight of the hour itself was more significant for Carlos, Mara, and Serena.

Some of the other factors Serena mentioned – curricular changes and accountability measures – also increase the complexity of the heavy hour as they serve to constrict the professional space teachers have in which to use their own judgment. Mara keenly experienced this as she described her school district's frequent introduction of “flavour-of-the-month” literacy programs, some of which included student assessments requiring a large portion of class time. With each accountability measure or learning strategy that she was required to implement, the space she had in her classroom to enact her own professional judgment diminished. Biesta (2015) and Brante (2009) both echo this as they describe how the professional space teachers work within is constricted and scrutinized in ways that limit an individual teacher's ability to act in autonomous, relational, and responsive ways. These restrictions, felt as an increase in complexity and difficulty within those heavy hours, add again to their weight.

### *A heavy hour of being pulled in multiple directions simultaneously*

For Mara, another key feature of a heavy hour is being pulled in too many different directions at the same time. The resulting weight of an overburdened hour is about more than just time, it is about not having enough time and space for the “real” work of teaching, and the resulting difficulties in composing a coherent story to stay by.

“This year has been a real challenge,” Mara says, speaking of her elementary class, “at the start of the school year I had three students who I knew would need a lot of additional help. Those three students were struggling with attention deficit, autism, literacy setbacks, among other things. I knew it was going to be difficult without an aide in the room, which we lost due to cuts. But then about a week into the year, a new student was added to my class. She was experiencing some extreme social and family issues, in addition to struggling with literacy. Then the very next day, yet another student was added, a newcomer to Canada just beginning with English and struggling with behaviour. So, these are five very high needs students in my class, and I knew I would never be able to get to them all. I watched them and I thought, if I could just work with them one-on-one, I could move them forward, I could change their lives. But the reality of working in a class with no aide is that I feel constantly pulled in a million different directions, and it's impossible.”

“In some ways, you're actually prevented from doing your job,” Serena summarizes.

“Yes,” Mara agrees, “I'm watching these kids falling between the cracks, and I find myself detaching from the students. I feel shut-off because there's no aide, no support, and I'm over-stressed. If you have some supports in place it's easy to keep giving to your students, but with no supports you just enter self-preservation mode.”

“Well, without the aide you have to turn your attention away from certain students,” Carlos reflects, “because if you don't, they'll end up taking all of your time with the moment-to-moment. I had three autistic students in one class last year, and when the aide wasn't there, they got busy work, and that's just how it had to be.”

“Yes, I’ve done that,” Mara admits. “With one student, sometimes I just say, ‘you don’t have to do this, just go read a book,’ because literally five other students are clamouring for my attention. And I feel guilty about it, and I want to help, and I know I have the skill-set to help, but there’s not enough time in that hour, and I’m constantly putting out little fires. The worst though, is that when I share these struggles, the response I get most often is: ‘you have to teach differently.’”

“Differentiate, right?” Serena adds, “Somehow if you could just teach 12 different things at once you could be meeting everyone’s needs.”

“Yes. But I can’t always differentiate for behaviour,” Mara replies, “and for some students, if they don’t get the care they need, they’re off in all directions. Ideally, you have that support from admin, from aides – you want them to honour the craft of teaching along with you, but when you can’t really teach, you’re just passing time.”

Mara’s description of “passing time” rather than “teaching” in the classroom as a result of the multiple, simultaneous demands she experiences prompted me to search for similar discussions from other educators. Wiebe and MacDonald (2014) extended and critiqued Hargreaves’s (1994) treatment of the “intensification thesis” described earlier. Wiebe and MacDonald (2014) wondered why it is that a common administrative response to increased workload – more preparation time – often fails to ameliorate teachers’ experiences of work intensification. Reflecting on teacher narratives they gathered during a large research project, the authors theorize that it is not just that teachers have *too much* to do; it is that there is not *enough space* for the expressions of teaching that teachers find most valuable:

Teachers, meanwhile, want to “teach.” The heart that holds this conviction is at bottom a heart aspiring to and professing a need to personally care for the individual student...that moment, the pedagogical moment of interpersonal relationship, the moment a student says “a-ha” – for many, this is the moment that teachers appear most determined to hold fast and bear witness. It is, sadly, a moment for which not enough time has been made. (Wiebe & MacDonald, 2014, p. 22)

Wiebe and MacDonald (2014) noted that providing teachers “more time” to complete tasks such as marking, planning, or accountability paperwork, does not create space for these moments of pedagogical relationships. Instead, taking teachers out of the classroom entirely takes them even further from those moments they treasure, an experience lamented by teachers in their study. Mara’s wish for administrative and support staff to honour the craft of teaching along with her, likewise calls our attention to the sacredness of that classroom space, of that context that holds the possibility of those educative moments. This is something that the conceptualization of the term heavy hours also seeks to explore. Mara felt that the heavy hours she was experiencing did not offer the context for those moments. Yet, when she tried to articulate this, it was suggested that she just needed to “teach differently,” feedback that might

encourage internalized feelings of guilt or failure. There is a need to recognize that making space for the work of teaching, the part of that work most valued and precious to teachers and students, cannot be placed on teachers' shoulders alone, nor it is solely the work of balancing the equation of time. More importantly, it is balancing the conditions before, after, and especially within each heavy hour. For Mara, without the right balance within the hour, without the opportunity for those pedagogical moments, she is just passing time.

This experience of passing time, of feeling stressed, of self-preservation mode, Mara was able to contrast directly with the teaching experience she had two years prior. That year, her strong relationships with the administration left her feeling supported, appreciated, and respected as an educator. She had a manageable class size and the composition of the class was such that the students as a group were positive and receptive to her.

"I would literally hum everyday," Mara reminisces, "the students would comment, 'Oh Ms. M., you're always singing,' and we had such a lovey-dovey classroom. I found myself able to do so many fun things – skits, recipes – it was just, so fun! And I *know* the students learned so much that year."

Knowing the pedagogical space possible in her classroom serves to highlight for Mara what is missing. While she recognizes that as a professional responsible for the safety of her students, choosing to manage the class as a whole instead of offering support to struggling students individually is the choice she must legally and responsibly make, she still knows she is doing less than her best. She is left to navigate her feelings of guilt about that, an experience she shared with Serena, and which is explored further below.

### *A heavy hour and its lingering residue*

Serena's experiences in her large high school humanities classes were, like Carlos's, full of rapid professional decision-making amidst growing complexity, and like Mara's, full of things left undone at the end of the hour. After two years of a "7-out-of-8" course load,<sup>3</sup> Serena articulated how adding another heavy hour is significant not just because it means more preparation and evaluation, but significant because, by the end of each day, Serena did not have the time or capacity to process another heavy hour. The weight lingers.

"What I'm finding especially hard is that the social-emotional needs of students are surprisingly off-the-wall," Serena explains, "I am really shocked by the amount of stuff I feel I need to be a psychologist for, students who have been jumped, brothers on cocaine, severe depression. This is not me having long conversations with students, this is what is right on the surface in their essays, it's severe!"

"My colleague, who is in her 25th year of teaching says there are way more depression, dating issues, and similar things than ever before," Carlos adds, "and she feels it's all more present in the classroom than it ever was before. Something about this generation maybe."

"You're right," Serena continues, "maybe it is the Facebook generation where they're used to putting everything out there online. But I find it very taxing. And sometimes it's not things they tell me directly, but just things I overhear. For example, based on one conversation I heard happen near me, I worried that something bad was going to happen at a party that weekend. And part of me was like 'okay, do I have to talk to this girl? It seems like she might be putting herself in harm's way, like this might be a potential date-rape situation.'"

Serena described how, after too many heavy hours, after being pulled in too many different directions at once, some of these social-emotional concerns are ones she has to let go.

"It's really hard for me to shut down on that kind of thing," Serena explains, "but I feel I almost have to..."

"Well, because it's constant," Carlos affirms, "and we know this about teenagers, that everything gets to alert status really fast. As adults, you can't take it all on, because it starts to affect you. But it's getting harder and harder to differentiate between the more typical teenage urgency and real urgency."

"Well, and what kind of intervention is really possible in the heavy hour?" Serena wonders. "The conversation I needed to have with her needed to last longer than the 10 seconds I had to spare, and really, it would have been reckless to intervene in a haphazard way. Asking for counseling support isn't an option either as any kind of psychology position in the school has been reduced to minimum levels. Then there's the spill-over," Serena adds, "with no preps and with the weight of those hours there is so much more evening psychic time. Like during exam week, those are all light hours, people don't get that."

The four of us considered friends and family members who have jobs that while *busy*, may not be *heavy* with residue.

"When my fiancé does two hours on a Saturday during his busy season for example, he's done after those two hours," Serena notes, "but if I'm marking on a Saturday, I'm thinking of all those kids and the stories stay with me: thoughts of their academic success, etc. And marking, that's just normal teaching, not necessarily *heavy*. With 22 students, I'm taking the time to intervene about the potential date rape, with 36, I can't, I'm more likely to take the attitude 'it will be okay.' But, I'm also more likely to suffer from that later on too."

The word *residue* denotes simply that which is left behind ("Residue," n.d.). For Serena, the residue of heavy hours played a significant part in her eventual decision to leave the school district in which a 7-out-of-8 course load was the norm. Serena described the "psychic spill-over" of heavy hours, the residue of rapid professional decision-making amidst complexity and from being pulled in too many directions simultaneously. This residue includes both the more routine reflection on decisions made within each heavy hour, plus reflection on the excess that could not be attended to within that hour. For Serena and

Mara, the decisions made in order to simply survive the heavy hour and those things left undone leave a residue even more challenging to process — feelings of guilt. Some of the guilt Serena and Mara described is reflective of the “depressive guilt” and the “guilt-traps” described by Hargreaves (1994, pp. 144-145).<sup>4</sup> For Serena though, particularly in the example of not intervening when she suspected students’ social plans might lead to a less-than-safe social situation for one of her students, the guilt can be heavy, and can linger, becoming a kind of *moral residue*:

that which each of us carries with us from those times...[when we] have seriously compromised ourselves or allowed ourselves to be compromised. These times are usually very painful because they threaten or sometimes betray deeply held and cherished beliefs and values. (Webster & Baylis, 2000, p. 218)

Adding an extra heavy hour to a teacher’s day adds more residue. The residue might be routine professional reflection, unpacking all those professional decisions made in complex spaces, regret or guilt about not being able to meet the needs of students, or a kind of moral distress that begs existential questions about who we are not only as teachers but also as people.

#### DISCUSSION: A HEAVY HOUR HAPPENS ALL AT ONCE

As Lampert (2003) articulated, the work of teaching is complex in that “many of the problems teachers must address to get students to learn occur simultaneously, not one after another. Because of this simultaneity, several different problems must be addressed by a single action” (p. 2). The term *heavy hours* addresses the complexity or simultaneity that Lampert and others describe, while also considering that heavy hours have now become so complex that teacher actions, even actions which address “several different problems” are insufficient to address everything occurring within the boundary of each hour. The combination of the increasing complexity and simultaneity within the hour and the things left undone at the end of an hour leave a residue for teachers that must also be considered.

As I searched available literature for resonant descriptions of some or all of the components of heavy hours, I became more keenly aware of the understandable tendency that education research has to inquire into one or another singular aspect of teaching practice. In doing so, the components of a heavy hour are fractured in ways that can oversimplify the complexity of teachers’ experiences, so as to erase the significant boundary of an hour in ways that tend to neglect the impact of their weight for individual teachers. Biesta (2015), Brante (2009), and Wiebe and MacDonald (2014), whose work is shared above, are some researchers offering discussion of the simultaneous experiences an hour of teaching contains. Research like this shares my own goal of moving beyond or enriching understandings of teachers’ work as more than having merely “intensified” in the sense of increased workload. More than an imbal-

ance between “work” and “life,” more than simply not having “enough time,” the work of teaching is suffering from an insidious and a pervasive increase of intensity. Teachers are struggling to find a way to hold the multiple and increasing demands of teaching within the confines of each heavy hour in ways that allow them to create educative environments with and for their students.

Even in this article, three of the most salient aspects of heavy hours experienced by Serena, Carlos, and Mara have been artificially separated in order to be fully explored. The final key to an understanding of the weight of a heavy hour may be to recognize that all aspects of the heavy hour combine in unique ways in each moment, and their interactions also add weight. For example, as Serena is overhearing social events unfolding in the classroom, she is also making back-to-back professional decisions in the complex classroom environment. She is being pulled in too many directions, while carrying the lingering residue of moments passed. While holding all of this, she is also carrying the needs and wants of her district, school, and administration as they make accountability and curricular demands that she must meet, adding to the new residue she will carry forward into the hours ahead.

“Workload is really not about how many hours we’re in the building” Serena suggests. “The willingness to stay late or to work weekends for example is actually irrelevant to how much can be accomplished in the hour. People don’t understand that you can’t always be employing every bell and whistle at once.”

It is not just an issue of “workload” or “multitasking,” or even “intensification” (Biesta, 2015; Brante, 2009; Wiebe & MacDonald, 2014), but an increasingly complex and unwieldy weight diverting teachers’ attention from that which is most important to teachers and to students, those moments of learning and relationship. This has profound implications for schools, for students, and for teachers composing stories to stay by. Within such a debilitating context, the rift between the ideal teacher in mind, and the lived experience of teachers, becomes wider and more difficult to bridge. The more that teachers’ stories to stay by are filled with stories of compromise, of things left undone, and with lingering residue, the harder it is to reconcile experience with desired identity.

#### **IMPLICATIONS: WHAT THE CONCEPT OF HEAVY HOURS ADDS TO AN UNDERSTANDING OF TEACHER PRACTICE**

The term “heavy hours” draws our attention to the key importance of time as boundary. Even though teaching hours look no different from the outside — they still happen between the morning and afternoon school bells — what is expected *within* each hour is ever-increasing. Teachers cannot simply work longer to accomplish these tasks, as the heavy teaching hour ends and the students go home. Rather, they are left with all that they failed to accomplish within the boundaries of those earlier hours.



Serena, Mara, Carlos, and I also discussed how the heavy hours of teaching do not necessarily “get better” over the course of a career. Rather, the weight of teaching hours will change from year to year with new students, with changes to official curriculum, with fluctuating funding for aides or psychology staff within schools, with new administrations, with changes to accountability measures, and so on. While the ideal of teaching may be, from a beginner’s perspective, one of an upward trajectory towards greater and greater professional success, this may not be the lived experience of teaching. Mara described her fifth year of teaching as far more professionally satisfying than her seventh. This can be a confusing experience for teachers composing stories to stay by, as what they are able to accomplish in the classroom is not always reflective of the refined pedagogical knowledge and skills that they have earned from experience. This has a significant impact for teachers’ identities. As they are composing their stories to stay by, they might be imagining that they will inch closer and closer to the teacher ideal they have in mind. The inability to compose that story can cause teachers to experience dissonance and to feel guilt or shame at not doing their best. Relief of the depressive guilt Hargreaves (1994) described may come in part from an awareness of the impact of heavy hours. However, if, as Dewey (1934/2005) suggested, emotion colours experience, then there is a danger that feelings of guilt, moral distress, and moral residue may prevent teachers from feeling they are accomplishing anything at all in the classroom. As Mara described, they may instead just feel as though they are “passing time.”

Since, as a relational profession requiring rapid professional decision-making, the hours of teaching will always be heavy, understanding and foregrounding the experience and impact of heavy hours has important consequences for the work of teaching, and for the work of those seeking to support teachers.

For teacher educators, the term heavy hours offers a way to discuss the challenges of teaching with beginning teachers, and demands that the skills required to “do” the heavy hours of teaching be explicitly addressed. Meeting the challenges of teaching is not just about a willingness to work long hours, which many beginning teachers are willing and able to do; it is about managing the weight within each hour, and then managing the lingering and complex residue each hour leaves behind. How to manage this weight and residue is a question for both individual education professionals, and for our profession as a whole. These skills need to be identified and included as part of our professional learning.

Considering the weight of heavy hours might also mean that administrators must question how those hours can be made or kept light enough to be tenable, especially in districts where another heavy hour is added to teacher’s day in the place of a preparatory period. Leithwood and Beatty (2007) for example, suggested several ways administration might reduce workload or work complexity for teachers through timetabling, class composition and size, the

way in which new initiatives are introduced, or how funding for support staff is prioritized. There are limits to how heavy an hour an individual teacher can carry, while still being effective.

Recognizing these limits may also encourage teachers to support each other more compassionately over time. For teachers themselves, being able to highlight hours that are particularly heavy may give them a new way to advocate for their students. For example, when asked to add a specific type of assessment or accountability strategy to a class, they may be able to articulate the reasons why they cannot do so while continuing to manage the existing complexity of the classroom space in a way that benefits their students.

It is also important to recognize that particularly heavy hours and the residue they leave behind may contribute to experiences of burnout that develop and accumulate overtime. Burnout is a psychological syndrome characterized by “overwhelming exhaustion, feelings of cynicism and detachment...and a sense of ineffectiveness” (Maslach, 2006, p. 38). Ideally, when teachers enter the classroom, they will be offered a context that allows them to draw on and live out their personal practical knowledge, and to respond to the needs of their students in positive ways.

If we are to fully understand and effectively support teachers in their work, we first need to understand their experiences from their perspective. We need spaces in which cover stories can be shed, and that ever-evolving space between the ideal teacher in mind and the lived and often contradictory experiences of teaching might be explored and deeply attended. The narrative inquiry space in which four research friends could come together for food and conversation offered one such space, a space Serena, Carlos, and Mara felt did not commonly exist in their experience of schools. The concept of heavy hours is reflective of the rich insights that can arise in paying close attention to the experiences of teachers.

## NOTES

1. Originally, teachers were invited into this inquiry as “collaborators” (Clandinin & Connelly, 2000; Finley, 2005), reflective of the collaborative nature of the conversations, the transactional ontology upon which the inquiry is framed, and the importance of relationality in narrative inquiry. “Research friends” later emerged as a term by which we could more easily address each other, both to each other and to outsiders. When meeting, by chance, one day in public, for example, Serena introduced me as her “research friend” and I could do the same.
2. Qualification “has to do with the transmission and acquisition of knowledge, skills and dispositions,” while socialization is how “through education we also represent and initiate children and young people in traditions and ways of being and doing, such as cultural, professional, political, religious traditions, etc.,” and subjectification refers to the ways in which education influences individual students as people (Biesta, 2015, p. 77).

3. Carlos and Serena were both teaching in high schools using a 2-semester system. "7-out-of-8" refers to a schedule in which teachers have a preparation period during only one of the two semesters, rather than a preparation period in both semesters (6-out-of-8). Over the course of our inquiry together, Carlos's district joined Serena's in scheduling secondary teachers for 7-out-of-8 classes.
4. Hargreaves (1994) described in detail the nexus of four aspects of teachers' work that create conditions of "constraint and expectation" conducive to feelings of guilt. These four aspects are: teachers' commitment to caring, the open-ended nature of teacher work, pressures of accountability and intensification, and the individual teacher's "persona of perfectionism" (pp. 144-151).

## REFERENCES

- Anderson, G. L. (2009). *Advocacy leadership: Toward a post-reform agenda in education*. New York, NY: Routledge.
- Ballet, K., & Kelchtermans, G. (2009). Struggling with workload: Primary teachers' experience of intensification. *Teaching and Teacher Education*, 25(8), 1150-1157. Retrieved from <https://doi.org/10.1016/j.tate.2009.02.012>
- Ballet, K., Kelchtermans, G., & Loughran, J. (2006). Beyond intensification towards a scholarship of practice: Analysing changes in teachers' work lives. *Teachers and Teaching*, 12(2), 209-229. Retrieved from <https://doi.org/10.1080/13450600500467415>
- Beck, J. (2010). *Breaking the silence: Beginning teachers share pathways out of the profession* (Unpublished master's thesis). University of British Columbia, Vancouver, BC. Retrieved from <https://circle.ubc.ca/handle/2429/27689>
- Biesta, G. (2015). What is education for? On good education, teacher judgment, and educational professionalism. *European Journal of Education*, 50(1), 75-87. Retrieved from <https://doi.org/10.1111/ejed.12109>
- Brante, G. (2009). Multitasking and synchronous work: Complexities in teacher work. *Teaching and Teacher Education*, 25(3), 430-436. Retrieved from <https://doi.org/10.1016/j.tate.2008.09.015>
- Britzman, D. (2003). *Practice makes practice: A critical study of learning to teach* (Rev. ed.). Albany, NY: University of New York Press.
- Buchanan, J., Prescott, A., Schuck, S., Aubusson, P., Burke, P., & Louviere, J. (2013). Teacher retention and attrition: Views of early career teachers. *Australian Journal of Teacher Education*, 38(3). Retrieved from: <https://pdfs.semanticscholar.org/8fe0/96d64f50ac42c88a38dc1f6dca74ebba8d1b.pdf>
- Butt, G., & Lance, A. (2005). Secondary teacher workload and job satisfaction: Do successful strategies for change exist? *Educational Management Administration & Leadership*, 33(4), 401-422. Retrieved from <https://doi.org/10.1177/1741143205056304>
- Clandinin, D. J., & Connelly, F. M. (1996). Teachers' professional knowledge landscapes: Teacher stories. Stories of teachers. School stories. Stories of schools. *Educational Researcher*, 25(3), 24-30.
- Clandinin, D. J., & Connelly, F. M. (2000). *Narrative inquiry: Experience and story in qualitative research*. San Francisco, CA: Jossey-Bass.
- Clandinin, D. J., Downey, C. A., & Huber, J. (2009). Attending to changing landscapes: Shaping the interwoven identities of teachers and teacher educators. *Asia-Pacific Journal of Teacher Education*, 37(2), 141. Retrieved from <https://doi.org/10.1080/13598660902806316>
- Clandinin, D. J., & Rosiek, J. (2007). Mapping a landscape of narrative inquiry. In D. J. Clandinin (Ed.), *Handbook of narrative inquiry* (pp. 35-41). Thousand Oaks, CA: Sage.
- Connelly, F. M., & Clandinin, D. J. (1999). *Shaping a professional identity: Stories of educational practice*. New York, NY: Teachers College Press.
- Dewey, J. (2005). *Art as experience*. New York, NY: Perigee Trade. (Original work published 1934)
- Dewey, J. (1997). *Experience and education*. New York, NY: Simon and Schuster. (Original work published 1938)

- Feiman-Nemser. (2003). What new teachers need to learn: Addressing the learning needs of new teachers can improve both the rate of teacher retention and the quality of the teaching profession. *Educational Leadership*, 60(8), 25-29.
- Finley, S. (2005). Arts-based inquiry: Performing revolutionary pedagogy. In N. K. Denzin & Y. S. Lincoln (Eds.), *The Sage handbook of qualitative research* (3<sup>rd</sup> ed., pp. 681-694). Thousand Oaks, CA: Sage.
- Flores, M. A., & Day, C. (2006). Contexts which shape and reshape new teachers' identities: A multi-perspective study. *Teaching and Teacher Education*, 22(2), 219-232. Retrieved from <https://doi.org/10.1016/j.tate.2005.09.002>
- Hargreaves, A. (1994). *Changing teachers, changing times: Teachers' work and culture in the postmodern age*. New York, NY: Teachers College Press.
- Hargreaves, A. (2000). Mixed emotions: Teachers' perceptions of their interactions with students. *Teaching and Teacher Education*, 16(8), 811-826. Retrieved from [https://doi.org/10.1016/S0742-051X\(00\)00028-7](https://doi.org/10.1016/S0742-051X(00)00028-7)
- Howes, L. M., & Goodman-Delahunty, J. (2015). Teachers' career decisions: Perspectives on choosing teaching careers, and on staying or leaving. *Issues in Educational Research*, 25(1), 18-35.
- Huber, J., Caine, V., Huber, M., & Steeves, P. (2013). Narrative inquiry as pedagogy in education: The extraordinary potential of living, telling, retelling, and reliving stories of experience. *Review of Research in Education*, 37(1), 212-242. Retrieved from <https://doi.org/10.3102/0091732X12458885>
- Ingersoll, R. M. (2002). The teacher shortage: A case of wrong diagnosis and wrong prescription. *NASSP Bulletin*, 86(631), 16-31. Retrieved from <https://doi.org/10.1177/019263650208663103>
- Isenbarger, L., & Zembylas, M. (2006). The emotional labour of caring in teaching. *Teaching and Teacher Education*, 22(1), 120-134. Retrieved from <https://doi.org/10.1016/j.tate.2005.07.002>
- Johnson, S., Cooper, C., Cartwright, S., Donald, I., Taylor, P., & Miller, C. (2005). The experience of work-related stress across occupations. *Journal of Managerial Psychology*, 20(2), 178-187. Retrieved from <https://doi.org/10.1108/02683940510579803>
- Jones, B. K. (2012). A new teacher's plea. *Educational Leadership*, 69(8), 74.
- Lampert, M. (2003). *Teaching problems and the problems of teaching*. New Haven, CT: Yale University Press.
- Leithwood, K. A., & Beatty, B. (2007). *Leading with teacher emotions in mind*. Thousand Oaks, CA: Corwin Press.
- Maslach, C. (2006). Understanding job burnout. In A. M. Rossi, P. L. Perrewé, & S. L. Sauter (Eds.), *Stress and quality of working life: Current perspectives in occupational health* (pp. 37-51). Charlotte, NC: Information Age.
- Residue. (n.d.). In *Online etymology dictionary*. Retrieved from <https://www.etymonline.com/word/residue>
- Pinnegar, S. (2005). Identity development, moral authority and the teacher educator. In G. F. Hoban (Ed.), *The missing links in teacher education design: Developing a multi-linked conceptual framework* (pp. 259-279). Rotterdam, Netherlands: Springer.
- Uitto, M., Jokikokko, K., & Estola, E. (2015). Virtual special issue on teachers and emotions in Teaching and Teacher Education (TATE) in 1985-2014. *Teaching and Teacher Education*, 50, 124-135. Retrieved from <https://doi.org/10.1016/j.tate.2015.05.008>
- Van Droogenbroeck, F., Spruyt, B., & Vanroelen, C. (2014). Burnout among senior teachers: Investigating the role of workload and interpersonal relationships at work. *Teaching and Teacher Education*, 43, 99-109. Retrieved from <https://doi.org/10.1016/j.tate.2014.07.005>
- Webster, G. C., & Baylis, F. E. (2000). Moral residue. In S. B. Rubin & L. Zoloth (Eds.), *Margin of error: The ethics of mistakes in the practice of medicine* (pp. 217-230). Hagerstown, MD: University Publishing Group.
- Wiebe, S., & MacDonald, C. (2014). Intensification and complexity in teachers' narrated worklives. *Canadian Journal of Education*, 37(4), 1-26.

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