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Graduate Students' Meaning-making of Teaching and Learning in an International Doctoral Forum

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The purpose of this paper was to make meaning of doctoral students' experiences as they expanded their understanding of teaching and learning through reflection. Using case study as a methodology approach, a group of doctoral candidates examined purposeful events that unfolded during their participation in an international doctoral forum in China. Guided by transformative learning theory and reflective practice inquiry, the research findings indicated that graduate students' perceptions of teaching and learning in an international context were shaped by their various identities, past experiences, cultural backgrounds, and social interactions. The research also illustrated how participation in the forum supported doctoral candidates in advancing their scholarly identities as they reflected upon transformative moments throughout the event. The implications for the Scholarship of Teaching and Learning (SoTL) were significant as reflective activities surrounding the doctoral forum helped to explain how transformative learning experiences could contribute to doctoral students' transition into academia.

Keywords: Reflective Practice, SoTL, Doctoral Student Identity, Transformative Learning

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My heart and mind were wide open that day as we shared our wisdom, our understandings, our experiences, and best practices in our schools. Deep down inside me, I felt appreciation for the common understanding we shared in having a similar purpose to embrace learning at the forefront of every conscious decision and action for the sake of our students. Although our own lived experiences were vastly different, the entire room of educators desired to learn and know of each other's work performed on a daily basis.
(Excerpt from the second author's personal recollections of the doctoral forum)

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With this paper, we explore our perceptions of teaching and learning that emerged during our participation in an international doctoral forum in Beijing, China. Our group of four doctoral students and two professors from a research university's Faculty of Education examine how these experiences informed our meaning-making and understanding of the events that unfolded. We build our discussion around our participation in the international doctoral forum that we attended as a group. This forum led us to reflect on our scholarly progression and our views on teaching and learning. The opening vignette, for instance, showcases how one of the participating doctoral students recognized a mutual teaching codex when conversing with educational leaders during the conference. Drawing on these and other reflective accounts, we illustrate how doctoral students' reflective inquiry can lay the foundation for further advancements in the Scholarship of Teaching and Learning (SoTL). The Scholarship of Teaching and Learning is a practice that is built on systematic inquiry of student learning, that draws on the reciprocal relationship between teaching and learning in post-secondary settings (Boyer, 1990). Lastly, we point out how transformative learning experiences during graduate school can support doctoral candidates in advancing their scholarly identities and help them transition into academia.

Graduate School and Doctoral Identity

Doctoral students face many challenges when navigating graduate school, some of which are more explicitly recognizable than others. For instance, Austin (2002) pointed out how changing demands characterize the evolving nature of institutions of higher education. Consequently, graduate students must adapt accordingly to pursue their graduate education and transition into academic careers. One of the changes involves a shift from a teaching to a learning-focus at many institutions, often to accommodate an increasingly diverse student population (Austin, 2002). These and other demands fundamentally impact graduate experiences. Factors such as previous work experiences, family situations, or the person's age also shape the transition processes that take place during graduate school, and thus also contribute to students' academic profile formation. In fact, doctoral students draw upon a multitude of diverse identities by taking on elements of a specific cultural group to determine how they fit with internal values and beliefs (Foot et al., 2014). This maturation practice not only shapes doctoral learning processes and scholarly identity formation, but also determines how graduate students fit in and perceive teaching and learning. As future and current academics in the field of education, we aimed at identifying these undercurrents of our doctoral identity formation. We also planned to showcase how our perception of teaching and learning was shaped by our layered identities as educators, practitioners, doctoral students, and academics.

Context of Our Study

Our group of four doctoral students, accompanied by two professors from a research university in Western Canada, recently attended an international doctoral forum in Beijing, China. The forum was the key moment of an agreement between institutions of higher education in Australia, China, and Canada, whereby doctoral students come together annually for a week-long symposium. Our diverse group of Canadian delegates included international and Canadian doctoral students, as well as two university professors in the field of education. Participating doctoral students had prior practical teaching experiences at the K-12 and the undergraduate level, including social studies at the middle school level, mathematics and physical education at the high school level, or undergraduate courses on health and wellness in education. The forum

encompassed preparatory face-to-face meetings before travelling abroad with the intent to build relationships among the group. We also scheduled regular reflective activities including individual and group sessions before, during, and after the international forum. During these initial meetings, we realized that our experiences and perceptions of teaching and learning in an international context were scattered, which we attributed to our diverse personal backgrounds, as well as our scholarship of varied subs-specialties in education. Moreover, we found it challenging to imagine how our diverse identities would impact our understanding of educational activities during the forum, and how our doctoral student identities would advance and/or transform. We attended the forum in Beijing with these uncertainties in mind and continued to engage in our regular reflective activities. Upon our return to Canada, we were soon able to formulate the research question that guided this study.

The overarching question this study attempted to address was, *how do graduate students' experiences and perceptions inform their meaning-making practices of teaching and learning during an international doctoral forum?* We responded to the question by drawing on our experiences during the international seminar, and by expanding on our reflective practice inquiry before, during, and after attending the forum. The ongoing reflections helped us in coming to know our multifaceted experiences in China and understand our perceptions of teaching and learning we encountered abroad. Emerging research on doctoral students' reflections on teaching and learning has demonstrated how transformative learning experiences can be at the heart of advancements in SoTL (Kreber, 2006).

Upon returning to Canada, the group of doctoral candidates extracted important lessons learned from the experience of the forum. They explored how transformation in teaching and learning in an international context was perceived from six different perspectives including the views of their professors. After engaging in written reflective practice for this article, the group drew on two exemplary vignettes that illustrate the diverse nature of experiences and ways of coming to know, such as knowledge construction for SoTL (Kreber, 2006). The vignettes were written by two graduate students in education who participated in the forum. One individual worked as a teaching principal at the time and the other student worked as a high school mathematics teacher before starting his PhD studies. Both vignettes provide comprehensive reflections by comparing, complementing, and combining key insights from the international trip with the ongoing scholarly discourse in SoTL.

Ultimately, the outcome of our study, this article, was also intended to spark discussions on transformative teaching and learning and their influence on doctoral identity formation. We attempted to relate our reflective accounts on perceptions of teaching and learning to transition processes in graduate school. By expanding the discourse to doctoral identity formation, we were coming to know our developing scholarly identity as educational researchers. In addition, we situated this study in a larger field of inquiry on socialization processes and graduate school and doctoral identity formation.

Organization of this Paper

In this article we present how our understanding of teaching and learning as graduate students and professors has evolved as a result of our inquiry. The doctoral forum in China served as a lever in which we used self-reflection as a tool to examine how our experiences and perceptions informed our meaning-making of teaching and learning in an international context. With this inquiry, we attempt to contribute to the ongoing discourse on reflective practice and transformative learning and how it informs SoTL, and ultimately doctoral identities. In the

following section, we describe three major theoretical frameworks that guided our inquiry. Our research was framed as a case study, whereby we articulate our rationale and our approach in determining the cases' boundaries in the methodology section. We then include two vignettes in the article, which illustrate individual accounts of participants' experiences during the international forum in China. Simultaneously, the vignettes showcase how the issues raised by our research question could be addressed by reflective accounts to come to know our collective understanding of teaching and learning in graduate school. We conclude this article by pointing out how our identities as educators and emerging educational researchers have been shaped by our experiences in Beijing, and how our perceptions of teaching and learning have progressed by attending the international doctoral forum.

Theoretical Perspective

First, we discuss how Mezirow's (1991) *Transformative Learning* theory can be applied to SoTL. Following that, we also briefly examine a larger body of literature on SoTL for further critical analysis of our findings (Boyer, 1990; Felton, 2013; Kreber 2006; Kuh 2001, 2009; Trigwell & Prosser, 1991). Next, we describe Schön's (1983) *Reflective Practice* framework and its implications for the advancement of SoTL. Finally, we outline how doctoral identity formation processes have been characterized and we discuss how socialization processes in graduate school shape future academics (Austin, 2002; Foot et al., 2014).

SoTL as Transformative Learning

The history of SoTL goes back thirty years, whereby Boyer (1990) laid the seminal work in the field. Boyer founded the four aspects that are often considered to be foundational to SoTL, which are the scholarship of discovery, the scholarship of integration, the scholarship of application, and the scholarship of teaching (Boyer, 1990). Shulman (2000) built upon Boyer's (1990) groundwork by exploring how deep learning could be systematically improved. One of Shulman's (2000) strategies focused on enhancing the teaching quality among higher education academics, so that the result of the practice of teaching becomes true learning. For the purpose of this essay, SoTL was defined as the systematic reflection of teaching and learning (McKinney & Jarvis, 2009). This definition stated the features necessary for teaching to be classified as a scholarship activity.

Mezirow's (1991) transformative learning theory explained how adult learning was structured, for instance, by determining the processes that transformed our frame of reference, we utilized that to interpret and make meaning of our experiences. Transformative learning is a constructivist theory of adult learning, which contends that different factors help us to construct meaning from our experiences (Mezirow, 1991). The experiences are then reflected upon and interpreted, and the process results in the formulation of meaning (Mezirow, 1991). Furthermore, Mezirow (1991) summarized his theory by arguing that learning was a paradigm with five interrelated contexts: "a meaning perspective; the communication process; a line of action; a self-concept; and the external situation" (pp. 34-35). In other words, diverse adult learners interpret the same experience in their own personal contexts because of various factors originating in childhood memories, culture, belief systems, values, and education.

Mezirow's transformative learning theory, therefore, is interwoven with SoTL. Kreber (2006) explained that reflections for transformative learning can be linked to SoTL by integrating two vital elements: (i) the construction of knowledge, which can be internalized through reflection,

and (ii) the critical analysis of goals and intentions of post-secondary education. By recalling previous experiences, learners are able to examine their own assumptions, make personal connections, and engage in critical thinking about their own personal development in teaching and learning (Auten & Twigg, 2015; Felten, 2013; Kreber, 2006; Kuh, 2001, 2009). We drew on these SoTL frameworks to explore our own transformations that were grounded at the international forum, and to address the challenge of becoming integrated teaching and learning professionals in graduate school (Colbeck, 2008).

Schön's (1983) Reflective Practice

Our reflective inquiry was guided by Schön's conceptualization of reflective practice as described in his 1983 seminal book *The Reflective Practitioner*. Schön (1983) laid out how reflective practice inquiry determines professional development and continuous learning. Reflection was described "as the deliberate, purposeful, metacognitive thinking and/or action in which educators engage in order to improve their professional practice" (Schön, 1983, p. 2). Therefore, reflective practice is the ability to reflect on one's actions for the purpose of engaging in professional learning.

Schön (1983) defined the concept of *knowing-in-action*, which was described as acting based on an intuitive understanding of the situation. In other words, practitioners often apply their professional knowledge to instrumental decision-making processes without consulting additional sources in certain situations (intuitive knowledge and decision making). *Knowing-in-action* is thus particularly prominent in the teaching profession, as teachers are required to constantly analyze situations and base their following decisions on their understanding of these actions and scenarios. While it may seem self-explanatory at first, Schön (1983) highlighted how this ongoing seamless (inter)action of educational professionals and their students is indeed professional practice and requires further study to fully comprehend the complex underlying processes. In fact, students also engage in a form of *knowing-in-action*, as they constantly adapt to situations of learning by applying their knowledge and expertise. Conclusively, situations of learning are not predetermined, but rather emerge from the ongoing *knowing-in-action* of all participating individuals.

Reflection-in-action has been described as the generation of meaning from other individuals' *knowing-in-action* (Schön, 1983). In a teaching context, observers can assign meaning to children's *knowing-in-action* when analyzing their (inter)actions in situations of learning. Similarly, one can also observe a teacher's actions and thus determine which underlying processes have guided this individual's professional practice. Coming to know a professional practice by constantly engaging in reflection on the ongoing interaction is essentially *reflection-in-action*. For the purposes of this article, we engaged with the framework by coming to know our own understanding of situations of learning by generating interpretations of the *knowing-in-action* that took place. This process was further determined by our emerging scholarly identities grounded in professional educational backgrounds from various cultures, as well as our insights in educational research and scholarly practice during our doctoral studies. We elaborate further how these aspects impacted our analysis in a later section of this paper.

Identity Formation in Graduate School

Graduate school as socialization process

The graduate experience has been described as a socialization process of future faculty members, or a preparation phase for academic careers (Austin, 2002). The socialization during graduate school sets the precedent for careers in the academy and depends on a multitude of factors, some of which are changing personal values, individuals' attitudes and expectations, but also aspects such as age, family situation, or previous employment. New faculty members continue to be subject to high expectations, some of which include the anticipation that graduate school forms integrated professionals who are able to apply research skills to improve teaching and students' learning (Colbeck, 2008).

Austin (2002) highlighted the importance of observation in graduate school, also known as "apprentice of observation" (p. 104), which included observations of faculty, peers, and university administrators. These impressions ultimately determine graduate students' transition into faculty positions in academia. Austin (2002) reported that many graduate students' expectations remain unfulfilled, because their initial passion tends to be overshadowed by a lack of guidance, a focus on research over teaching, and unclear understanding of faculty roles and responsibilities. We addressed some of these difficulties by exploring our own socialization processes with regards to our experiences during an international doctoral forum. Drawing on Austin's (2002) notion of the apprenticeship of observation, our doctoral learning was impacted sustainably by observing the conference interactions in Beijing. Some of the observations we made during the forum encompassed cross-national faculty interaction and exchange of official, departmental gifts. Others required our doctoral students to observe, process, and actively apply insights, such as briefly summarizing own research interests, or engaging in small talk with faculty members from various disciplines and institutional backgrounds.

Doctoral identity formation

The transition processes during graduate school were also described as fundamental for identity formation processes of future academics. Foot et al. (2014), summarized the transition from past and professional lives to scholarly identities as a transformative process that occur within various academic and non-academic contexts. For instance, a doctoral student is exposed to institutional contexts of the specific college or university, the departmental and supervisory perspectives, as well as the overarching research context of the discipline. Previous belief systems and perceptions also influence the developing academic. According to recent research, doctoral students navigate among these contexts when building their developing doctoral profile, usually by going through multiple temporary identities whose values and beliefs overlap and may even contradict each other (Foot et al., 2014; Kovalcikiene & Buksnyte-Marmiene, 2015). Simultaneously, previous identities are constantly reshaped and reconsidered (Colbeck, 2008). It is therefore crucial that doctoral students are provided with the time, resources, and the appropriate guidance to navigate these transformation processes in order to fully advance a scholarly stance and an academic profile.

Foot et al. (2014) identified four disruptions in doctoral identity formation that tended to occur: Comparison to others, fear of the future, not knowing where one "fits", and fear of failure. To help formation processes take place, Foot et al. suggested self-study so that emergent doctoral identities could be advanced more easily without ongoing disruptions as described above. Personal

reflections can support identity development and should therefore be regularly pursued by future academics, so that a clear image of the future professional academic profile can be advanced (Kovalcikiene & Buksnyte-Marmiene, 2015). In terms of our visit to China, we brought a multitude of previous identities to the international forum, since all members of our delegation had been shaped by their different personal and professional backgrounds as well as their disciplinary specializations. Our reflections illustrated these underlying professional identities as educators and future educational researchers, for example, in terms of our past experiences and associated generation of meaning, but also by our disciplinary focus and diverse interests. The visit to China helped us to shine light onto our emerging academic identity formation, especially since we were able to perceive and review our Western Canadian institutional practice and our disciplinary lenses more clearly in the international context. In the following section, we explain the methodological considerations for our inquiry.

Methodology

Case study, a way of investigating complex problems, continues to be a significant and widely accepted research methodology in education (Merriam, 1998, 2009). We aligned more closely with Merriam's interpretive perspective on case study even though we were aware of other diverse interpretations of this methodology. We followed Merriam's (1998, 2009) holistic, flexible approach to case study, which was a constructivist, interpretive method to the inquiry. This echoed our personal beliefs that varying individual experiences were shaped by our backgrounds, culture, childhood memories, and individual contexts. Merriam (1998) defined a case study as "an intensive, holistic description and analysis of a bounded phenomenon" (p. xiii) and emphasized how it can explore and describe multifaceted problems. The salient feature of Merriam's (1998) case study methodology is that a case is viewed as a bounded entity. Our group of doctoral students fenced in the case by place, time, and participants in order to determine what we were going to study (Merriam, 1998). The case, therefore, was the doctoral forum in Beijing, China. The context of the case was bound by the time frame of our week-long participation in the forum; the place, a university in Beijing; the six participants from the Western Canadian university, as well as participants from the local post-secondary institution and their counterparts from Australia. Additionally, the case was also bound by our focus on participants' perceptions of teaching and learning during the international doctoral forum in China, whereby we explicitly acknowledged how these had been shaped by our prior experiences.

Our Experiences: Two Exemplary Vignettes

The vignettes were guided by Schön's (1983) principles of reflective practice, which manifested as our *knowing-in-action* when observing teaching and learning during the doctoral forum in China. The participants' experiences as educators in Western school systems, and their perceptions as emerging educational researchers impacted observations and reflections. Vignette one, for instance, was written by a practicing teaching middle school principal pursuing a doctoral degree simultaneously. Therefore, descriptions often entailed an analytic part in which the events and impressions are compared to previous experiences as a teacher and a principal. Indicative words such as "remind of" or "seem" show the persons' attempts to assign meaning to observations that appeared unusual or incomprehensible (owing to a language barrier), thus differing from the

individuals' own professional practice. Both accounts were written in first-person narration, which highlights the personal importance of the two events for the delegation members.

Vignette One: Reflections on Attending a Meeting of Secondary School Principals

On the second day of the forum, our delegation was invited to attend a university-based professional development meeting for principals. I entered the front steps of the local, inner-city university on this cold fall morning as a doctoral student, but I could not help but think of my elementary students I left behind in Western Canada. I already missed them. Coming from Canada, as a teaching principal, I was surrounded by a new culture, student scholars and professors from international countries, and a deep longing to belong. Navigating my way between being a leader in my school and doctoral student was both a privilege as well as a struggle for me: As a curious learner, who neither knew the local protocol, nor the doctoral procedures and etiquette, I soon became grateful for others around me. My inner desire to learn and grow gave me the confidence to trust in other participants' leadership. On that day I became a follower. Also, I became an observer, a listener, and an open-minded, reflective practitioner as each moment unfolded.

I entered a room where a large group of principals dressed in all black waited for us. We sat informally around a large table, and I remember the moment distinctly as I thought to myself: "You are a follower. You are a learner. Just listen and watch." As my eyes gazed around the room with the distinct smell of cigarette smoke, all eyes were on our delegation and their faces showed expectation and interest. I wondered if they were practitioners or scholars. I also wondered if they were visible instructional leaders in their schools. I was curious if their students hugged them. I wanted to know if their teachers trusted them. As these thoughts went through my mind, I realized that I was one of them because of our similar positions in schools, and yet I yearned to gain their wisdom about their own school leadership practices. I also yearned to know if they felt a responsibility to their students to help them learn and grow. Deep down I had hoped the principals wanted to help each other and reciprocate by creating new knowledge together. Calmly glancing over to my university professors to observe their behaviour, I tried to mirror their actions and follow presumable university etiquette because I wanted to fit in.

Engaging in dialogue, I listened attentively, as the group shared insights on the standards and requirements for becoming a principal, as well as the ways in which educational reform was taking place in the local country. I felt a deep connection with these school leaders as they explained electives and options to customize and personalize learning for their students. I realized there was an unspoken relationship with school principalship and how we were situated in school governance. As I entered into this new relationship with practices different from the ones in my own country, I came to know that the principals were compelled to make a difference in the lives of their students by helping them personally to grow into their authenticity. The principals' wisdom, what worked in practice, spoke to me because I had been promoting differentiated instruction at my school for a while and could easily relate to the challenges they highlighted. I sensed a strong desire for transformation in their schools. It was the same deep desire for change that my colleagues and I share. In our diverse countries, we all wanted our students to flourish.

As we engaged in more generative dialogue, the principals in the room wanted to know how we connect to students' parents in Western Canada. Without hesitation, I immediately stood up and shared my own personal experience of inviting parents into our school to observe how students learn in our differentiated and flexible classrooms. I said that we have an open-door policy to parents, and encourage parents to come into our school classrooms to view and participate in our learning environments, where we have flexible seating, as well as use technology to assist in reading and writing. I was surprised by the silence in the room that followed my comment. Did I

say something they did not understand? Was the language barrier too much? My impression was that the principals could not relate their school practice to these experiences. I quietly and humbly sat down and pondered the moments we spent together as principals in one room. I should have listened and observed, but my own intuitive understanding of the situation, the leader within me, compelled me to speak up and share my experience. I was engaged in my own professional learning, and I instinctively knew that to generate knowledge, I needed to engage in dialogue for learning to take place. My heart and mind were wide open that day as we shared our wisdom, our understandings, our experiences, and best practices in our schools. Deep down inside me, I felt appreciation for the common understanding we shared in having a similar purpose to embrace learning at the forefront of every conscious decision and action for the sake of our students. Although our own lived experiences were vastly different, the entire room of educators desired to learn and know of each other's work performed on a daily basis.

At the end of the international forum, as I left the front steps of the university in Beijing after seven unforgettable days, my life was placed in a reflective pause as I pondered on teaching and learning. I will forever recall the time filled with rich dialogue, research presentations, observations of teachers and practices from an international perspective, and the many cultural experiences encountered. Most importantly, I had time to reflect upon how I learned this past week, and the ways in which I came to know myself as a leader and learner through impressions and memories. The experiences during the doctoral forum, my interpersonal dialogue, my emotions, the act of listening, my attempts at being a follower, and the non-verbal interactions with others resulted in a deep, transformative moment of learning; one that more clearly than ever before indicated to me how I had started my journey towards becoming a scholar. I believe my transformational development towards doctoral identity has just begun—it is not out of reach, as I move closer toward the process of becoming. As I bridge the gap and challenge myself to work towards trusting the continuous process in pursuit of my doctoral identity, I will continue to make meaning as I systematically reflect on my personal connections, my assumptions, and my doctoral education.

Vignette Two: Reflections on a Lesson Observation during a School Visit

During one forum day, our delegation was invited to visit a local elementary school. The school's gated campus is located in China, and the part of the city was described as well-respected by our local guide, mostly because of the highly educated middle class which resides here. Upon our arrival, a uniformed guard removed metal barriers so we could enter the school grounds. We were greeted by the school principal. The school grounds seemed deserted at first, but I was able to see students inside some of the windows on the ground floor level. Students wore bright pink and light blue outfits, which I later identified as girl and boy school uniforms. The campus housed several multi-story buildings that made it almost impossible to estimate its size. I found out later that the school accommodates approximately 3,000 students.

During my work as a teacher and educational researcher I had seen many school grounds before, but this campus was different: The cleanliness of the yard, and the meticulously well-trimmed bushes and hedges stood out to me. Moreover, there was little green space or playground equipment visible. I was expecting more spacious areas to play, more sports fields, playground areas, and a parking lot. This campus, however, reminded me of a private college or a tech company estate, and little evidence indicated the presence of a public elementary school.

As part of our visit, we were able to observe a grade one mathematics lesson. Our delegation was led to a large room, where we were expected by a class of students, their teacher,

and several other audience members who had already arrived and been seated. In total, there were approximately 25 adults observing the class. The room itself had a similar layout to a movie theatre, with several rows of comfortable armchair-style seats which allowed good visibility of the students on the stage in front. I am sure that the class is normally taught in a different location. Similarly, to the school grounds, this space was nothing like I had seen in schools before, and I was eager to see the lesson unfold. Some students waved “hello” when we entered the room, but they remained seated and looked at us curiously. The groups of four consisted of two girls and two boys at each table. Some students talked to their neighbors quietly so that a murmur was recognizable, but the overall noise level was very low and would not, at least in my experience, allow to conclude the presence of more than 40 students in the room. Many students crossed their arms on the table and sat upright, which probably added to my overall impression of a well-behaved class. During my prior visits to elementary classes in Europe and North America, classrooms were usually buzzing with excitement and students would rarely await the beginning of a class quietly.

At the beginning of the lesson, all students got up and bowed towards the teacher. The mathematics lesson was taught entirely in the local language. To my surprise, however, I was able to follow most parts of the lesson without translation, since many teacher and student activities entailed manipulatives and visuals. I think that my personal history as a mathematics teacher and teacher educator also allowed me to identify elements and phases of the learning, but it still felt strange to see the engaged learners without recognizing any of the ongoing spoken interaction.

The first part of the lesson was mostly teacher-directed unless individual students were questioned, and they responded with short answers. The lesson’s theme was introduced through a story, and several accompanying drawings were shown on a digital screen while the teacher read the story to students. Students seemed to be able to follow along well and the observable level of engagement was high.

Next, students reached into bowls on their desks and took out a handful of dried beans. They placed them on paper plates and most students started counting them. On the teacher’s signal, students were expected to stop working on the manipulatives and refocus their attention to the front. This refocusing was done by most of the class immediately, and only very few students kept working or playing with the beans after the teacher’s spoken signal. I found that this switch of attention took place extremely fast, which indicated the high level of discipline of the class. This was again different from what I had seen in other elementary classrooms. Besides, students also rose from their seats when responding to the teacher’s questions, which added to the impression of strictness and discipline. Following another teacher prompt, students filled the beans in clear plastic cups, and then compared the height with their group members’ cups. They worked individually and in pairs for some time. One could observe how they would place their cups next to each other and lower their heads to look at it sideways to compare heights. This independent, mostly student-paced inquiry was remarkable, as the attention level still seemed high during this part of the lesson. I remember telling my neighbour that every early elementary classroom I had seen so far would have been distracted at this point, and I would have expected the beans to be spilled everywhere.

Two students were asked to come to the front and show their measurement technique to the class. The teacher pinned corresponding images of cups and beans to the board. Sharing results and introducing visual summaries are important steps in inquiry-based learning, and I have seen similar approaches in many mathematics classes before. The facilitated exploration of measurement strategies seemed to be ongoing as several other techniques followed. For instance,

a pencil was introduced to help with the cup-measure strategy, since it could be used as a line of reference when placed sideways across both cups. Later, students were asked to empty the beans from their cups onto rectangular paper trays. They compared the area covered by the beans to other students' paper trays and were thus also able to conclude which tray had more beans on it.

During the entire class time, I was impressed by the level of maturity with which the teacher-student discussions seemed to take place. Students waited until they were called out and the microphone was handed to them, and the vast majority of students followed along attentively. I would have associated this advanced level of discourse with older students. Overall, I am very grateful for this amazing opportunity and really appreciate the insights we were able to gain.

Discussion

We conducted an in-depth analysis of the lived experiences in the vignettes and our reflections associated with these descriptions. Guided by the theoretical frameworks of reflective practice inquiry and transformative learning, our group strived to unpack the events during the forum more holistically. For example, we discussed how our research foci and our teaching experience may have shaped our perceptions. We assumed that the vignettes were a first layer of exploration and we sought to examine underlying connections to previous and ongoing professional practices and highlighted relations to educational theory (Kreber, 2006). Additionally, we discussed how transformative learning and associated meaning-making through reflection could be at the heart of advancing SoTL for graduate students by exploring how one participant's teaching epistemology had developed in the process. Last, we examined how the vignettes were indicative of our layered identities as educators and scholars, and how these different personas affected our reflective practice (Foot et al., 2014). We wanted to unpack this interconnectedness to articulate how the events abroad and our ongoing reflexivity shaped our doctoral identity.

The vignettes provided first-hand impressions of two Canadian delegates' perceptions of teaching and learning, as well as their interpretations of the meaning of these observations and experiences. Kreber (2006) noted that practitioners gather information on certain teaching methods and associated student learning constantly, mostly by echoing own practices. The individuals' professional backgrounds as teaching principal (vignette one) and former mathematics teacher (vignette two) were infused throughout their reflective accounts. In terms of the scenario described in vignette two, the doctoral student could identify indicative practices of rich mathematical meaning-making and powerful moments of mathematics learning during the observed lesson. We wanted to caution how the doctoral student's interpretations of learning and teaching practices were primarily based on *reflection-in-action* (Schön, 1983). Even though the student spoke another local language and an interpreter was absent, he felt that he could intuitively grasp most of the intended classroom practices. Based on years of professional teaching, one can assume that the doctoral student constantly compared the observed classroom practices to his previous experience as an educator in Western classroom, and thus identified similarities and differences. Schön (1983) explained how this reflective practice inquiry could be at the heart of continuous learning and professional development for practitioners, whereby our paper connected this notion to SoTL and graduate student learning. Kreber (2006) described these professional processes of relating observations to personal experiences as knowledge construction in SoTL. The doctoral candidate perceived students as very well-behaved, which could be interpreted as an embodied realization of underlying cultural norms in the Chinese classroom but could also indicate local notions of learning and how it takes place. Our own teaching experience was therefore fundamental for

gaining insight into the teaching and learning principles of a classroom in China. More generally speaking, we suggest that practical teaching experience is a valuable asset for decoding complex situations of teaching and learning, especially with regards to using principles of reflective practice inquiry (Schön, 1983). Besides, reflective practice inquiry could enable graduate students to understand their own perceptions of teaching and learning more clearly and therefore advance SoTL to ultimately develop their own academic teaching identity.

A second focus of our discussion explores how forum activities such as lesson observations or leadership debates with local principals promoted transformative experiences. For the scenario described in vignette one, the teaching principal troubled her own perception of teaching and learning by navigating her role as principal, teacher, observer, learner, doctoral student, and follower. This moment in time demonstrated how she became aware, through the process of reflection (Schön, 1983), of how much she had in common with the Chinese teachers and administrators, and how her impressions resonated with her doctoral research on leadership practices of principals.

Two insights particularly spoke to her perception of leadership and her understanding of teaching and learning. First, she found that principals from both countries were motivated by a deep commitment to serve the interests and passions of their students. Moreover, she was reassured in her belief that student learning involved promoting and serving students' interests, so that they are empowered to make connections between their learning tasks, past personal experiences, and the wider social community (Kreber, 2013). This brief moment in China, engaging in a generative dialogue with other like-minded principals, gave the doctoral student an understanding of how educational practices may vary. She came to know that student learning was at the heart of every leader in the room, even though the context, culture, and ideologies, were different. Entering this relationship with leaders in another location, enabled the participants to reach consensus on best practices (Kreber, 2006), coming to an agreement on the preferred leadership practices at their schools.

Second, the teaching principal had previously perceived learning as "messy" but was able to expand her understanding of the process during the follow-up activities of the forum. The principal recognized that knowledge construction and learning can be validated through our own reflections (Kreber, 2006). As an example, she realized that learning, or coming to know, takes place in regard to who we are, our backgrounds, our culture, our past experiences, our memory, and our personal motivation to learn. This realization had been transformative because it influenced her teaching practice in several ways. She became more conscious of her students' ability to connect their learning to past personal experiences. She understood more holistically who they were as learners and how they perceived themselves. Also, she was more aware of how students come to know and learn, and how their backgrounds show in this process. The principal's teaching practices were transformed by reflecting on her own learning and relating these insights to her students (Schön, 1983).

The work of vignette one was steeped in Kreber's (2006, 2013) research on transformative learning and its significance for SoTL. The doctoral student reached the insights described above by critical analyses of the processes and conditions of the leadership discussion with her Chinese counterparts, and her ongoing reflections on the events during the forum. In other words, she engaged in moments of emancipatory learning (Kreber, 2006), and thus identified the professional practices for leaders in educational environments, regardless of place. As Kreber (2006) pointed out, rich reflective accounts could be a starting point of connecting practical knowledge with

educational theory, and therefore resulted in an enhanced understanding of SoTL. Thus, educational theory can be a second source for knowledge construction in SoTL (Kreber, 2006).

Kreber's (2006) notion of research-based knowledge can also be associated with the events described in vignette two. The doctoral student was able to generate research-based knowledge when he re-engaged with his initial reflective writing of the classroom observations. Rather unexpectedly for the doctoral student, he realized that theoretical underpinnings of mathematics education research in his area of expertise were unfolding when he re-read through his reflections, and he was able to relate his observations to specific educational theory. For instance, students explored different strategies for measuring quantity, which led him to conclude that they engaged in an in-depth exploration of the number concept. Learners often associated a number of objects (beans, fingers, etc.) with cardinality, a one-dimensional idea of number and how it can be represented. By comparing filling heights and area sizes, alternative representations of numbers were introduced and the doctoral student recognized concepts he had previously read about in academic publications (see Lakoff & Núñez, 2000). By adding this second layer of reflection-in-action (Schön, 1983), the doctoral candidate learned about the transformative potential of the events he observed and wrote about (see Mezirow, 1991). He came to know the lesson through a research-informed lens. He also learned that his identity as an educator and practitioner had become intertwined with his scholarly mind. In other words, he had started to transition into academia (Foot et al., 2014), whereby writing the vignette became a practical illustration for his layered identity. This identity drew heavily on the practitioner-informed persona for the first reflective account, but also bridged insight to the emerging doctoral scholar's mindset (Austin, 2002).

Conclusion

Attending the doctoral forum helped our group of graduate students and professors understand how previous work experience and graduate research skills could be integrated in pursuing a collaborative research endeavour of teaching and learning. Participants became more able to articulate who they were as doctoral students striving to become scholars (Foot et al., 2014). These realizations during the doctoral forum underlined the importance of first-hand experience and personal reflections in the process of becoming doctoral scholars (Foot et al., 2014). Engaging in rich learning experiences in a variety of contexts during years of doctoral education was therefore essential to advance a balanced, well-suited understanding of the field of interest, and not at least an entry-point into forming a sustainable doctoral identity for future research explorations. Our group engaged in regular individual and group reflections before, during, and after the international forum. These written recollections allowed us to revisit situations of meaning-making and identify transformative experiences in individual building processes of emergent doctoral identities. Participation in the doctoral forum was thus in itself transformative for our delegation because delegates became mindful of how reflection was a valuable tool in examining and preparing graduate students as future scholars and faculty (Foot et al., 2014).

Foot et al. (2014) pointed out how self-study can support formation processes in scholarly identity formation. Identity transformation occurs within multiple contexts that include various institutions, specific experiences, departments, and supervisors' perspectives (Foot et al., 2014). We constantly navigated among these contexts and advanced multiple temporary identities whose values and beliefs overlap and may even contradict. Our group experienced the prominence of these different identities during our engagements abroad, since the international context and the

forum's overarching theme invited us repeatedly to reflect and analyze our experiences as learners, educators, and doctoral students. Our delegation of doctoral students and professors was thus able to recognize our multiple layered personas more clearly, including our identities as educators, practitioners, and learners. These realization processes may require several reflective iterations, as the doctoral student in vignette two learned when attempting to make meaning of the teaching and learning practices described earlier.

Upon attending the doctoral forum, our group learned three important lessons. First, we realized the importance of having open minds for rich learning to unfold. Open and honest discussion with other delegates and professors benefited not only doctoral students but also our professors by creating new knowledge together. Our Canadian delegation created opportunities to transform our thinking on teaching and learning by being intentional and systematic about reflecting on our experiences. Second, participants understood their work as educators differently after attending the forum. For example, the doctoral student who reflected on the events in vignette one refined her understanding of learning. She realized that it came from intrinsic motivation, past experiences, discussions, language, culture, and from recognizing that students can engage in rich learning experiences without teachers. The delegate underwent a deep transformation in her understanding of what learning means and entails. Third, our ongoing *reflection-in-action* helped us to come to know the socialization processes of graduate school (Austin, 2002) and our transition towards scholarly identities (Foot et al., 2014). Connecting with other leaders through generative dialogue, spending time with doctoral students and professors from other countries and engaging in written reflective accounts on what constitutes SoTL was particularly transformative for the participating graduate students. We became more aware of our academic standing within the scholarly field and became more conscious of how our graduate student identities are shifting towards academic scholarly profiles.

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