

# Thema

## Teaching an epistemology course in a Canadian university for the professionalization of emergent scholars

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*In Canada, doctoral programs provide advanced research training by developing student knowledge and skills (Maymon et al., 2019). The subject of epistemology is critical for PhD students to better understand research paradigms and facilitate their professionalization as novice scholars (Dayer, 2009). In this article, we use the Scholarship of Teaching and Learning (Gayle et al., 2013) to examine the foundational, meta, and humanistic knowledge (Kereluik et al., 2013) learned in an Epistemology and Research course taught at the Faculty of Education of the University of Ottawa. The results from seven dyadic interviews (Morgan et al., 2013) between a university professor and her former student reveal how lived experiences (mis)align with the intended conception and implementation of the course.*

### 1. Introduction

In the Canadian academic context, doctoral programs offer research training to students who are on their way to becoming scholars, to deepen knowledge and develop skills that foster their autonomy in the design and implementation of research projects (Maymon et al., 2019). Typically lasting between four and six years, these study programs include: 1) compulsory courses; 2) a comprehensive exam; 3) the development and implementation of an innovative research project; and 4) the writing of a dissertation and its defense (Rose, 2012). The mandatory course load, completed during the first year of studies, provides a reference point for disciplinary and interdisciplinary knowledge that contributes to the theoretical and methodological knowledge of novice researchers. Then, under the guidance of research advisors, doctoral students produce their research projects and bring them to fruition, acquiring concrete experience in all the steps involved. This allows for the socialization in the academic environment and the professionalization of future researchers (D  ri, 2022).

#### 1.1 Professionalization of doctoral students

Today, the profession of researcher in academia involves multiple spheres of responsibility, including not only research, but also teaching and administration (Monin, 2017). Although not everyone who graduates from a doctoral program will obtain a position in a university, the professional expectations are similar for researchers employed in government departments, private companies or not-for-profit organizations. To this end, there are several typologies outlining the cross-disciplinary skills to be developed by future PhD holders (Adoc Talent Management, 2017; Association des doyennes et des doyens des   tudes sup  rieures au Qu  bec [ADESAQ], 2015; Vitae, 2010) for them to become competent novice researchers. These three typologies (French, Canadian, and British) have several commonalities, including communication, collaboration, autonomy, creativity, and resource management. However, one of the typologies emphasizes cognitive skills and leadership, while the other two stress the importance of digital literacy. In any case, it is essential to distinguish between ‘competencies’ and ‘being competent.’ According to Le Boterf (2006), a person may have developed several competencies but not know how to act competently. Therefore, the level of competence of an individual lies in their ability to mobilize a combination of relevant resources (competencies) in the professional situations they may face (Durette et al., 2012).

According to Wittorski (2022), the concept of professionalization combines socialization (through the sharing of similar activities) and training (through mechanisms that develop competencies) to facilitate the insertion of a person into a given profession. That is how doctoral students internalize the culture and the norms at play in their new environment to build a social identity (Deschamps & Moliner, 2008). This social reality is appropriated through transformation of the student with the aim of becoming a full contributor to their intended scientific community. It is therefore possible to socialize in advance, by projecting oneself into the future along a trajectory leading to a desired job through the implementation of a training process. This

learning takes place through transmission between established and new members of the organization, so that the latter internalize the knowledge to develop skills (how to do) and attitudes (how to be) as they gradually integrate into their new environment (Perrot et al., 2005). Although it is expected that PhD students will work closely with their research advisor (Denis, 2020), doctoral programs maximize the learning experience by offering opportunities to engage with other scholars (Deslauriers, 2019). This is particularly important during the first year of study when doctoral students complete their mandatory course load to build foundational knowledge that will facilitate the development of their research proposal.

Among critical knowledge to be acquired by novice scholars, the subject of epistemology has become essential because its teaching is associated with greater academic success (Hofer, 2001). In this regard, when PhD students develop an understanding of epistemological foundations, they are better positioned toward their own conception of knowledge development in their research project (Dayer, 2009). The Faculty of Education at University of Ottawa (Canada) includes the course *EDU8506 Epistemology and Research* during the first term of the first year of its doctoral program. In this 12-week course, a cohort of approximately eight doctoral students (domestic and international) learn about epistemology in relation to knowledge development and research paradigms, as well as its implications underlying diverse research designs (University of Ottawa, 2024).

### 1.2 Teaching epistemology in doctoral programs

The Epistemology and Research course discussed in this article was introduced around 2010, following a decision taken in consultation with the entire Faculty of Education staff. The subject of epistemology had not previously been a specific element of the doctoral program content. Students received training on quantitative or qualitative methodologies, but not on the ontological, epistemological, and axiological issues involved in research design. The aim of this new course therefore was to enable PhD students to familiarize themselves with foundational knowledge and reflect on their own epistemological postures.

This decision reflected the *zeitgeist* (spirit of the times). First and foremost, it stemmed from the interest in epistemology and research in higher education pedagogy (Avenier & Gavard-Perret, 2012; Béchar, 2008; Hofer, 2001). It is now becoming a priority to understand how different researchers position themselves toward participants and communities in professional fields, such as education, medicine, sociology, etc., and identify the values underpinning these positions (Bélisle et al., 2016; Denis, 2020; Lison & Bédard, 2014). The specification of various paradigms also encourages awareness of the diversity of visions in research design (Creswell & Poth, 2017; Le Moigne, 2007; Paillé & Mucchielli, 2006). For example, it is primarily the positivist/postpositivist and constructivist traditions – specifically their respective quantitative or qualitative methodologies – that are taken into consideration in scientific writings (Charmillot, 2017; Guba & Lincoln, 2005; Pourtois & Desmet, 2007; Savoie-Zajc, 2019). In addition to these main visions is the participatory/transformational paradigm, which targets issues relating to equity and social justice (Anadón, 2007; Mertens, 2017). There is also the question of recognizing and defining pragmatism as a paradigm (Morgan, 2007). More recently, epistemological questioning focuses, among other things, on visions relating to the indigenous paradigm and the definition of complexity as a paradigm (Ellington, 2019; Morin, 2018; Nsonissa & Ampini Gévi, 2019). Each of these paradigms raises ontological, epistemological, axiological, and methodological issues that novice scholars need to be aware of (Théberge & Déri, in press).

The growing importance of these different visions is fueling epistemological knowledge in academic circles, engaging researchers who teach in universities and prompting them to create training mechanisms<sup>1</sup>. The proliferation of these paradigms has led to the creation and implementation of a compulsory course in epistemology and research, the subject of our current reflection. To better understand the teaching and learning experiences related to this training mechanism as part of a doctoral program, we aim to answer the following research question: How does the creation and implementation of an epistemology and research course contribute to the professionalization of doctoral students, as emergent scholars?

<sup>1</sup> The term ‘mechanism’ is defined as the technical arrangement and strategic implementation of rational means to achieve a precise objective. It implies a rational calculation aimed at adapting means and strategies to the agents, context, and circumstances of the activity. In training, the systematic use of this term since the 1990s has tended to emphasize the interrelationship between supply and use, and matching the forms of intervention planned by designers with the actual behaviour of the target audience (Albero, 2010).

## 2. Theoretical Framework: 21<sup>st</sup>-Century Learning

At the turn of the 21<sup>st</sup> century, scientific writings and institutional reports put into perspective the need to make changes to education systems, whatever the teaching and learning environment, to meet the training needs of diverse populations. To analyze and synthesize the concepts and major trends that emerge, Kereluik et al. (2013) developed a model entitled “Synthesis of 15 different 21<sup>st</sup> century learning frameworks” that identifies three broad categories of knowledge, divided into three sub-categories: (1) Foundational knowledge (digital/information and communication technology (ICT) literacy, core content knowledge, cross-disciplinary knowledge); (2) Meta knowledge (problem-solving & critical thinking, communication & collaboration, creativity & innovation); and (3) Humanistic knowledge (job/life skills, cultural competence, ethical/emotional awareness) (p. 129-131).

According to this model (Kereluik et al., 2013), foundational knowledge is essential for understanding fields of study that deal with digital literacy, disciplinary knowledge, and interdisciplinary knowledge. Meta knowledge complements this through the study of related processes; these include the ability to solve problems and think critically, to communicate with clarity and actively listen, and to collaborate harmoniously with a variety of people. This meta knowledge also recognizes the importance of creativity and innovation in the implementation of disciplinary and interdisciplinary core knowledge processes. Humanistic knowledge completes these educational requirements in the 21<sup>st</sup> century by emphasizing the individual’s contribution to the society in which they evolve. This last category includes professional skills, life skills, and cultural competence. It also concerns ethical skills and emotional awareness, including “the ability to imagine oneself in someone else’s position and feel with that individual as well as the ability to engage in ethical decision-making” (Kereluik et al., 2013, p. 131).

Kereluik et al. (2013) ascribe equal importance to these main categories of knowledge (foundational, meta, and humanistic). However, the mixed-method study conducted by Mishra and Mehta (2016) revealed that the three subcategories of meta knowledge (problem-solving & critical thinking, communication & collaboration, creativity & innovation) should be given higher priority in today’s world. The subcategories of job/life skills and ethical/emotional awareness follow, just ahead of the cultural competence subcategory reflecting humanistic knowledge. In last place are the subcategories of core content knowledge and cross-disciplinary knowledge, far below the digital/ICT literacy subcategory. The results of the survey administered in this study underline a marked importance for the teaching of meta knowledge and humanistic knowledge over foundational knowledge, except for the digital/ICT literacy subcategory.

Given that the Epistemology and Research course was created around 2010, the various scientific writings, reports, and studies of the first decade of the 21<sup>st</sup> century, as well as the model of Kereluik et al. (2013), served as the main referential sources in the identification of foundational knowledge, meta knowledge, and humanistic knowledge included in the course design. In the stream of ideas prevalent at the time, the aim was to encourage emerging scholars to acquire epistemological knowledge that would contribute to developing the competencies expected of today’s researchers. Over the past fifteen years, the course has been taught by the same professor, which facilitates follow-up of the training mechanism’s evolution, and its recognition by faculty (informal feedback) and students (course evaluations). However, closer examination of the course was warranted to reflect on the teaching and learning of epistemology within a doctoral program for the professionalization of emergent scholars.

## 3. Methodology: Scholarship of Teaching and Learning

Our scientific approach falls within the Scholarship of Teaching and Learning (SoTL), initially developed by Boyer (1990), which encourages university educators to take a reflective look at their teaching practices. To this end, the majority of university professors are disciplinary experts, but not necessarily trained in pedagogy to fulfill their teaching responsibilities and optimize the student experience. Thus, they are perceived as ‘professionals’ in research, but this professionalism does not seem to extend to the other dimensions of their work. One of SoTL’s goals is to encourage university professors to also see themselves as teaching ‘professionals.’ This requires them to approach their teaching responsibilities in the same way as their research interests: (1) by developing a deep understanding of their disciplinary practices; (2) by investigating new practices that can benefit far more than their disciplinary circle; and (3) by communicating their findings within the academic community (Gayle, 2013). We thus adhere to the principles of SoTL, even though we are specialists in the

sciences of education and have been teaching epistemology for several years. In our view, it is still important to reflect on teaching and learning this subject, by conducting a literature review and discussing our experiences with colleagues and students. In addition, we consider it essential to disseminate the results of our research in a variety of ways, including through this article which looks at a training mechanism as part of a doctoral program, such as the Epistemology and Research course.

In keeping with our methodological approach, we have adopted the roles of both researcher and participant in examining the Epistemology and Research course as a training mechanism for the professionalization of doctoral students. On the one hand, Mariette has been a professor for 35 years in the Faculty of Education at the University of Ottawa and has reached the status of full professor. As a specialist in the arts education, she mainly teaches courses in that field to undergraduate students. Since 2011, she has also been teaching the Epistemology and Research course to PhD students and is therefore able to explain her motivations for teaching this course, the preparations for its design and implementation, and adjustments made along the way. On the other hand, Catherine graduated in 2022, so she had the opportunity to take the Epistemology and Research course in 2018, at the start of her doctoral program. She specializes in the theoretical foundations of adult teaching and learning. As a part-time professor, she has been teaching at university levels for five years, including Introduction to Research and Methodology courses for undergraduate and graduate students. She is therefore in a position to share her experience from the Epistemology and Research course, and explain how this training mechanism contributed to her professionalization as a novice scholar at the start of her academic career.

To collect our data, we conducted seven dyadic interviews to co-construct our version of the research object by discussing our respective experiences (without the presence of a facilitator). According to Morgan et al. (2013), this type of exchange “allows participants to stimulate ideas that might not have been either recognized or remembered” (p. 1277). Given the power dynamic between a teacher and a student, there was a risk that the lived experiences we shared with each other would not be authentic, or that it would not be possible to challenge our thoughts and ideas to further our reflection. However, the level of professional and personal trust established between us, through previous teaching collaborations and research projects, fostered mutual respect for our respective contributions in our discussions.

During the first four interviews, we used a semi-structured interview guide that we had developed together beforehand, offering flexibility to ask each other follow-up questions at opportune moments. We addressed four main themes, including: (1) our motivations for teaching epistemology; (2) our representations of what epistemology is; (3) our strategies for teaching epistemology; and (4) our challenges in teaching epistemology. We then decided to conduct three more interviews for this article, specifically to discuss the learning experience of PhD students and our respective transformations as teacher and former student. All interviews were conducted over a period of five months and lasted 48 minutes and 34 seconds on average. These interviews were interspersed with readings on the teaching and learning of epistemology, although there is limited coverage on this topic in scientific literature.

To facilitate data analysis, we recorded our interviews in video and audio formats, using Zoom videoconferencing services. We then used the transcription functionality in Microsoft Word to convert recordings into transcripts. Finally, we carried out a conceptual analysis (Gohier, 2011), referring to the three categories of knowledge in the selected theoretical framework (Kereluik et al., 2013). This allowed us to identify the types of knowledge taught and learned during the Epistemology and Research course, as well as to reflect on their influence in the professionalization of doctoral students. In the next section, we present our findings, differentiating between the distinct relationships of teaching and learning in regard to the training mechanism under exploration.

#### 4. Findings

The findings are presented in two sections: the first deals with the professor’s (Mariette) creation and implementation of the Epistemology and Research course, while the second reports on a former doctoral student’s (Catherine) experience with the training mechanism. These results allow for the specification of intentions and values advocated in this course design, as part of a doctoral program, while reflecting on the pedagogical approach to facilitate the acquisition of foundational knowledge, meta knowledge, and humanistic knowledge. As for the testimonial from a student perspective, it provides insight on how this knowledge fosters the professionalization of emergent scholars enrolled in doctoral programs.

#### 4.1 The creation and implementation of a doctoral course in epistemology and research

Regarding the creation and implementation of the Epistemology and Research course, taught by Mariette since 2011, two intentions have remained constant in relation to categories of knowledge taught and learned. The first intention is to make the meta language of research accessible and comprehensible to all students taking the course, regardless of their personal, professional, or academic backgrounds. This intention emphasizes the acquisition of core content knowledge and cross-disciplinary knowledge. This means that in the choice of content and implementation of the course, the aim is to support doctoral students in their understanding and differentiation of multiple research paradigms with regard to their ontological, epistemological, axiological, and methodological meaning. In doing so, it is important to take into account the diverse cultural and social backgrounds of students. To this end, this first intention predominantly focuses on humanistic knowledge (Job/Life skills; Cultural competence; Ethical/Emotional awareness).

In the implementation of the training mechanism, meta language is achieved, for example, by attributing specific terms to be defined and used by groups of students, and by specifying meanings, such as how knowledge is developed in relationships between researchers. The aim is not primarily to simplify this content, but to encourage communication with and between students so they grasp that epistemology is necessary foundational knowledge of the research profession. This intention is also expressed in the individual contacts with doctoral students, including one-on-one meetings to discuss their assignment evaluations. Since the course is delivered to a relatively small cohort (approximately eight students each year), and takes place over a 12-week period, it is possible to provide tailored support to each student. During these personalized interactions, Mariette can gauge each student's learning needs and adapt her teaching strategies accordingly.

The very nature of the abstract and complex knowledge covered in the first few weeks of the course “generates stress and anxiety...” (D3, 52:08) for some students. They may feel disoriented. However, many of them realize that they are embarking on a career transition that requires in-depth learning. “They receive support to deal with this anxiety...” (D3, 52:35) because both their success and well-being are important. The support that underlies this first intention implies commitment on both sides, and being available for meetings is part of this commitment.

The second intention is to raise awareness of the contributions and limitations of different research perspectives when conceptualizing the relationship with participants and their community(ies), as well as the values advocated in the development and implementation of research projects. In this regard, meta knowledge comes into play in relation to foundational knowledge to develop critical thinking skills (Problem-solving & critical thinking; Communication & collaboration; Creativity & innovation). Analyzing case studies and research project outlines fuels discussions about the epistemological postures assumed by researchers, and instills mutual respect for the opinions and values expressed. These discussions help integrate humanistic knowledge (Job/Life skills; Cultural competence; Ethical/Emotional awareness).

As part of the implementation of this second intention, each doctoral student is called upon to present a dissertation chapter or an article related to their subject of interest, and write papers on various paradigms. These assignments help students sketch out the thoughts, ideas, and values underlying their own visions of research, and the priorities they consider important. During the ensuing exchanges, the implications of decisions made while carrying out research projects are put into perspective, and further discussion unfolds on the role played by the researcher and their inherent values of respect, accountability, responsibility, and integrity. Through these reflections, the fundamental knowledge of epistemology that students have already acquired is deepened, providing them with a framework for discerning what is ethically permissible in Canadian research projects, a particularly useful tool for the international doctoral students.

This second intention is as important as the first in devising this training mechanism, as Mariette “chose to teach epistemology... because it [teaches her] to think differently” (D3, 47:44). By targeting both meta and humanistic knowledge, this intention recognizes that it is essential for researchers to keep abreast of the changes taking place in society, so that their research contributes to this evolution. For this reason, it tends to offer support that leads “students, who are future research professionals... to assume an identity as researchers, possibly by choosing an epistemological posture” (D3, 48:11, 50:11). As such, the students reflect upon their own epistemological postures, without having to make a definite choice at the beginning of their doctoral journey.

## 4.2 Experience of a doctoral student in the Epistemology and Research course

In this final section of the results, we will focus on the lived experience of a former doctoral student (Catherine) in the Epistemology and Research course, identifying what she has learned as a student using the training mechanism of interest. It will then be possible to identify whether learning has materialized in the three knowledge categories of the theoretical framework (foundational, meta, and humanistic). In addition, we will look at how this learning experience has contributed to her professionalization to the scholar profession.

### 4.2.1 Foundational knowledge

The Epistemology and Research course exposed Catherine to a range of research paradigms that can be adopted in the field of education, in order to “construct new knowledge through research” (D5, 04:12). In this respect, exchanges with other students, many of whom were working as practitioners in schools, contributed to better understanding of the issues that could constitute objects of scientific exploration related to the domain of expertise (Core content knowledge). Moreover, the analogies used by the professor (Marianne) facilitated the assimilation of abstract and complex notions; for example, the image of a house in which each room represents a different epistemological posture helped students understand that they could explore and adopt different postures throughout their research careers. Thus, whether in educational research communities or other disciplinary fields, the doctoral student realized that she was now able to identify the perspectives of authors of articles she read or researchers presenting at conferences she attended (Cross-disciplinary knowledge). “Even if some researchers don’t say where they stand, [she] has developed a sense for grasping their posture, which [enables her] to position herself in relation to them to better understand them” (D5, 09:48). The development of this so-called foundational knowledge also continued to benefit the doctoral student after graduation when working with different research teams as a co-researcher and needing to adopt distinct epistemological postures.

### 4.2.2 Humanistic knowledge

Considering that Catherine entered her doctoral program after being employed within the federal government for 25 years, she had adopted a writing style that was rather concise and direct. She started to learn academic writing through producing written work in the Epistemology and Research course, by grasping the correct meaning of new terminology. For example, in individual meetings between the professor (Marianne) and her student, the latter benefited from constructive feedback received to: “better relate [her] ideas and nuance [her] statements, instead of just making assertions” (D5, 26:14) (Job/Life Skills). Apart from summative assessments, several learning activities required interaction between students (in person) in the classroom. The doctoral student points out that the cultural diversity of her cohort brought a particular richness to the exchanges thanks to: “people who came from different backgrounds...their ideas or views on things were different from [hers]” (D5, 28:02). She considers learning from others to be essential, and even wonders whether it is possible to learn epistemology “on your own” (Cultural competence). This openness to others was also essential when reading texts by authors from different geographical regions in the world of research which reflected: “a diversity of ideas and a diversity of expressions that truly represents learning in Academia” (D5, 20:29) (Ethical awareness).

### 4.2.3 Meta knowledge

At the end of her doctoral program, Catherine considers that the most significant transformation she has experienced relates to her way of thinking, which used to be more functional, given her previous professional experience as a civil servant. Now, when faced with a problem, she no longer feels the need to make a quick decision but gives herself time to reflect. It was during the Epistemology and Research course that she began to realize that it was possible to “explore a situation from many angles and discuss it from an intellectual point of view - for the sake of it” (D5, 35:19) (Problem-solving & critical thinking). For example, she was able to adopt an epistemological posture for her dissertation, which she deconstructed, understood, and applied throughout her research project. “It [also enabled her] to relate better to her research advisor because [she] then understood where she was coming from and used the same language as her” (D5, 09:31). Moreover, the doctoral student benefited from the Epistemology and Research course by developing a new vocabulary that became useful to her when entering her intended professional environment (Communication & collaboration). Overall, the Epistemology and Research course helped her to define a new identity as an apprentice-researcher for her doctoral project, while knowing that her scholarly identity can continue to evolve, allowing her to innovate throughout her career (Creativity & innovation).

## 5. Discussion

In light of the results obtained, it is possible to establish points of convergence and divergence between the doctoral student's lived experience and the intentions behind the design and implementation of the training mechanism, with regard to the knowledge categories identified (Kereluik et al., 2013). Firstly, learning new terminology aligns with the aim of teaching abstract and complex terms in an accessible and understandable way (Foundational knowledge). Moreover, the improvements the student was able to make to her written work, based on the feedback obtained by the professor during individual meetings, confirm that this evaluative practice is beneficial at the doctoral level (Humanistic knowledge). In contrast, the transformation in the student's way of thinking had not been identified by the professor as a teaching objective (Meta knowledge). Although this is a favorable outcome, it may have been specific to this student who had already worked in a professional environment for several years and had undertaken her doctoral program as part of a career transition. Finally, the development of the student's identity through the choice of an epistemological posture for her doctoral project represents a teaching aim with certain limits. It is important to remember that each doctoral student is first and foremost directed by a research advisor; the professor teaching the Epistemology and Research course must therefore proceed carefully when advising students on their respective research projects to avoid interfering in the work of colleagues or contradicting the perspectives of dissertation committees.

The results did not highlight the Digital/ICT literacy subcategory, defined as "the ability to effectively and thoughtfully evaluate, navigate, and construct information using a range of digital technologies" (Kereluik et al., 2013, p. 130). This could be explained by the fact that doctoral students are expected to start their study program with a certain level of digital literacy and if they are lacking in this area, they have access to institutional resources for support. Moreover, the student in this study had already developed digital skills during her work with the government, thus she may not have perceived it as a learning gap (Foundational knowledge). The Emotional awareness subcategory was also underrepresented in our findings, if we refer to its actual definition: "the ability to intuit the feelings of others...a deep understanding of human emotions and successful human interactions." (Kereluik et al., 2013, p. 130). However, it is implicit in the open-minded nature of the exchange between students and in the attitude toward a diversity of course material, as well as the individualized support provided by the professor (Humanistic knowledge). It goes without saying that the small number of students enrolled in the course favors these privileged contacts, and that this is not necessarily the case in all doctoral programs. Given that this course is offered in the first term of the doctoral program, there is nothing to suggest that these foundations are deepened thereafter, and that all students in this course continue to reflect on the implications of the epistemological postures they advocate in their research projects, for example, toward more vulnerable communities. It is therefore important not to assume that the interest in epistemological knowledge shown by the student in this study is the prerogative of all other novice scholars in this course. In the same vein, even if the second intention behind the training mechanism was to raise awareness of the contributions and limitations of different research paradigms, and foster critical thinking, issues of social desirability (Congard et al., 2012) may come into play for students who would not venture to explicitly express both their own visions and epistemological postures within the course.

In terms of professionalization, more specifically, the Epistemology and Research course enables students to engage in activities related to the scholar profession. Reading scientific texts and engaging in intellectual exchanges with an experienced researcher (the professor) and novice researchers (the other students) are some of the ways doctoral students acquire knowledge and develop competencies. In this respect, the typologies of cross-disciplinary competencies required by competent researchers (ADESAQ, 2015; Adoc Talent Management, 2017; Vitae, 2010) focus more often on skills (how to do) and attitudes (how to be). On the other hand, knowledge frequently implies the demonstration of an ability to learn within a disciplinary field or in multidisciplinary contexts. Therefore, the theoretical framework selected for this article was particularly interesting, as it enabled us to focus on knowledge that, in our opinion, is essential to the training of doctoral students. Indeed, it is from this fundamental knowledge that novice researchers develop many of the skills they need to demonstrate in their doctoral studies or professional integration. Nevertheless, it must be remembered that the training mechanism is not a panacea since it represents only one course within the curriculum of a doctoral program. Moreover, since the majority of doctoral students will transition into work environments other than academic institutions after obtaining their diplomas, it is important to continue reflecting on how to better adapt training mechanisms to professionalize novice researchers for a diversified labor market (Rose, 2012). Therefore, the Epistemology and Research course should be seen as an opportunity to establish a solid foundation, at the start of the doctoral program, so that students can eventually achieve intellectual autonomy to "conceptualize,

develop, and implement research projects that give rise to new knowledge and new interpretations” (Council of Ministers of Education, Canada, 2007), no matter where they decide to work in the future.

All in all, initiating a dialogue on teaching epistemology has made us more aware of the intentions underlying our decisions on selecting course content, the strategies to enhance students’ experiences, and the epistemological positions toward doctoral students more specifically. Referring to SoTL provides an anchor that continues to inform our understanding of teaching epistemology. However, while we appreciate the dyadic work presented in this article and do not wish to limit ourselves to it, we believe it is important to view it as a contribution that seeks to resonate with colleagues. Ideally, we would like other university educators to adopt this reflective approach so they can learn about other ways of exploring this knowledge relevant to our teaching profession in a context that also supports the professionalization of emerging researchers. To this end, our dialogue is far from a finished conversation, rather an invitation to pursue it.

## 6. Conclusion

In this article, we examined the creation and implementation of an Epistemology and Research course in a doctoral program at the Faculty of Education at University of Ottawa from the perspective of acquiring foundational knowledge, meta knowledge, and humanistic knowledge (Kereluik et al., 2013). This choice of theoretical framework is all the more relevant given that, in the face of the changes occurring in society, it is extremely important to exercise critical thinking and cultivate the ability to approach problems in a variety of ways to find innovative solutions. To this end, our results suggested that questioning research paradigms in this course helped doctoral students (individually and collectively) to develop a reference scheme for understanding the academic discourse currently prevalent in the research profession. They can then transfer this fundamental knowledge when discussing with their research advisor, publishing articles, or presenting at conferences. This questioning also prompts axiological reflection on the values underlying paradigms, as well as on the role researchers play in society and contribute to its evolution. The course also looks at the identity transition in which doctoral students find themselves, so that they become aware that this transition is a necessary part of their professionalization.

On another note, we highlight our choice of methodological approach, inspired by SoTL (Boyer, 1990; Gayle, 2013) and reflecting our desire to deepen our own research approach to teaching and learning epistemology. This approach allowed us not only to examine a training mechanism, but to formulate a meta reflection on the intentions and values at the core of decision-making in creating the course. It revealed the learning that resulted from implementing the training mechanism, and weaved links between the knowledge covered and the skills tending to develop intellectual autonomy in novice scholars. This approach enabled us to bring together our transgenerational and situational expertise and experience, as professor and former doctoral student, generating a dialogue in which representations of knowledge and competencies can be confronted. It is in this sense that the knowledge inscribed in the Epistemology and Research course curriculum becomes in itself an object of knowledge and an object of research, deepening our own knowledge through our exchanges. We feel privileged to have been able to explore the teaching and learning of epistemology, and hope that this opportunity for exchange can also be adapted to other contexts, to encourage questioning of what is taught and learned during the training of doctoral students, whatever the field of study.

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**Keywords:** Epistemology, teaching and learning, doctoral programs, Canada, SoTL

## Unterricht eines Epistemologiekurses an einer kanadischen Universität zur Professionalisierung von angehenden Forschenden

### Zusammenfassung

In Kanada bieten Promotionsprogramme eine vertiefte Forschungsausbildung zur Entwicklung von Wissen und Kompetenzen (Maymon et al., 2019). Die Erkenntnistheorie ermöglicht es Doktorierenden, Forschungsparadigmen zu verstehen, und fördert ihre Professionalisierung als Nachwuchsforschende (Dayer, 2009). In diesem Artikel nutzen wir das Konzept des *Scholarship of Teaching and Learning* (Gayle et al., 2013), um das grundlegende, metakognitive und humanistische Wissen (Kereluik et al., 2013) zu untersuchen, das in einem Kurs zum Thema Epistemologie und Forschung an einer pädagogischen Fakultät erworben wurde. Anhand der Ergebnisse von sieben dyadischen Interviews (Morgan et al., 2013) zwischen einer Professorin und ihrer ehemaligen Studentin werden die Erfahrungen mit den Absichten bei der Konzeption und Durchführung des Kurses verglichen.

**Schlagworte:** Erkenntnistheorie, Lehren und Lernen, Doctorat, Kanada, SoTL

## Enseignement d'un cours d'épistémologie dans une université canadienne pour la professionnalisation des chercheur-se-s émergent-e-s

### Résumé

Au Canada, les programmes de doctorat offrent une formation avancée en recherche pour développer des connaissances et des compétences (Maymon et al., 2019). L'épistémologie permet aux doctorant-e-s de comprendre des paradigmes de recherche et facilite leur professionnalisation de chercheur-se-s novices (Dayer, 2009). Dans cet article, nous utilisons le *Scholarship of Teaching and Learning* (Gayle et al., 2013) pour examiner les connaissances fondamentales, méta et humanistiques (Kereluik et al. 2013) acquises dans un cours d'*Épistémologie et de recherche* enseigné dans une Faculté d'éducation. Les résultats de sept entretiens dyadiques (Morgan et al., 2013), entre une professeure et son ancienne étudiante, comparent les expériences avec les intentions de conception et de mise en œuvre du cours.

**Mots-clefs :** Epistémologie, enseignement et apprentissage, doctorat, Canada, SoTL

## Insegnamento di un corso di epistemologia in un'università canadese per la professionalizzazione di ricercatori emergenti

### Riassunto

In Canada, i programmi di dottorato offrono una formazione avanzata alla ricerca per sviluppare conoscenze e competenze negli studenti (Maymon et al., 2019). L'epistemologia permette ai/alle dottorandi di comprendere i paradigmi della ricerca e facilita la loro professionalizzazione come ricercatori emergenti (Dayer, 2009). In questo articolo utilizziamo il *Scholarship of Teaching and Learning* (Gayle et al., 2013) per esaminare le conoscenze fondamentali, meta e umanistiche (Kereluik et al., 2013) acquisite in un corso di Epistemologia e Ricerca insegnato in una Facoltà di Scienze dell'Educazione. I risultati di sette interviste diadiche (Morgan et al., 2013), tra una professoressa e la sua ex studentessa, mettono a confronto le esperienze vissute con le intenzioni di progettazione e realizzazione del corso.

**Parole chiave:** Epistemologia, insegnamento e apprendimento, dottorato, Canada, SoTL

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