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Inquiry into the teaching and learning practice: An ontological-epistemological discourse

Ahmad Samarji[1]* and Neil Hooley[1]

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*Corresponding author: Ahmad Samarji, Department of Education, Lebanese American University, Beirut, Lebanon
E-mail: ahmad.samarji@lau.edu.lb

Additional information is available at the end of the article

Abstract: Tertiary education has been actively moving over the last two decades from the lecturer-centred to the student-centred approach, focusing more on "what the student does" rather than on "what the student is" or "what the teacher is". We, as academics, teacher educators, and teachers, do attend many workshops and seminars promoting student-centred learning. However, the question that arises is "are we prepared to truly develop from the conventional lecture-based learning, which is hard to eliminate, to the innovative student-centred learning, which may be hard to accept, adopt, and sustain?" The way we plan, organise and deliver knowledge might be mostly epistemological. However, there exists an ontological stance on how we perceive knowledge and on our belief—informed opinions—of "the most effective pedagogy" in organising and emphasising such knowledge. This paper will present a personal reflective study on the ontological–epistemological discourse that a novice academic experienced in first accepting the idea of a student-centred learning approach, implementing such strategy and in reflecting back on this experience. This study promotes a rethinking of our teaching and learning practice as an ontological and epistemological form of inquiry and generates insights which may be further extended and researched. This paper finally offers a reread of the

ABOUT THE AUTHOR

Ahmad Samarji is an academic at the Department of Education, Lebanese American University, Beirut. He is also an adjunct fellow of Victoria University, Melbourne, Australia. His diverse expertise and interests in education include: STEM education, forensic science and forensic medicine education, ICT in education (ICTE), internationalisation of the curriculum and higher education role in knowledge management and sustainable growth. Throughout his everyday research and teaching and learning, Samarji pays particular attention to educators' and teachers' professional development, lifelong learning and reflective practice. Samarji's paper is one of the several papers developed by academics at the College of Education (Victoria University) which inquires into teachers' educational growth and professional development through the Praxis Inquiry Model. The model prompts teachers to think and rethink their teaching practice and respond to contemporary issues of importance and relevance to teaching and learning.

PUBLIC INTEREST STATEMENT

This paper offers a critical analysis into developing professional practice in general and the practice of teachers in particular. The paper argues that professional development and growth require a thorough conversation between our internal beliefs, perceptions and attitudes (ontology) and our behaviours, acquired knowledge, experience and practices (epistemology). When exposed to situations where they actively engage in efficient methods and practices, professionals (e.g. teachers) consciously and subconsciously start rethinking their initial beliefs and attitudes towards their everyday practice and start changing them in a manner which reflects the conversation across an internal lens and an external one. Inquiry into such conversation can provide insights into why people respond differently to training or professional development sessions. Even participants (e.g. teachers) who seem to resist change (e.g. student-centred approach) can be markers to trainers to rethink ways that prompt a more successful conversation (O-E Discourse) between participants' ontological lens and epistemological experiences.

Experiential Learning Cycle of the Praxis Inquiry, a model established and adopted by the College of Education, Victoria University, Melbourne.

Subjects: Education Studies; Educational Research; Higher Education; Philosophy of Education

Keywords: teaching and learning practice; Praxis Inquiry; student-centred learning; epistemology; ontology; ontological–epistemological discourse; self-determined learning

1. Introduction

Tertiary education has been actively moving over the last two decades from the lecturer-centred teaching and learning strategy to the student-centred teaching and learning approach, focusing more on "what the student does" rather than on "what the student is" or "what the teacher is" (Biggs & Tang, 2007). There has been a global awareness within academia on the necessity of developing the lecture-mode teaching and learning settings within universities to a more active, engaging and mutual students–lecturer–university relationship. Hence, many universities have been running professional development programmes, seminars and workshops for academics in an attempt to promote students' active engagement in both lectures and tutorials. However, the adoption of student-centred teaching and learning practices is not as easy and feasible in universities as it may be in schools for a number of reasons, the least being the lengthy content that a lecturer needs to cover within a short period of time.

Victoria University, Melbourne Australia, organises a Graduate Certificate for Tertiary Education (GCTE) as part of the professional development required for novice academics and for a number of academics seeking promotion. One of the main focuses of the GCTE is to promote student-centred teaching and learning practices both in lectures and tutorials. The underpinning theme of the GCTE is the "Praxis Inquiry" (Burridge, Carpenter, Cherednichenko, & Kruger, 2010), a model developed and adopted by the School of Education at Victoria University. Academics enrolled in the programme experience Praxis Inquiry when they develop their current practice through experiencing a cyclic process which starts by describing practice, explaining practice, theorising practice and finally changing practice.

This paper presents a critical personal reflective study of the challenges a novice academic, who was enrolled in the GCTE, experienced in changing his practice from the "conventional steady lecturer-based mode" to the more "engaging student-centred mode". This study offers a deep philosophical analysis of the ontological–epistemological phases that this novice academic passed through as he inquired into his practice and finally developed it. By doing so, this paper offers a philosophical reread of each of the phases of Experiential Learning Cycle of the Praxis Inquiry and proposes a philosophical framework which may be generalised to other professional development programmes.

2. Informing literature

The debate about what is ontological and what is epistemological was, is and will continue to be a deep philosophical one. Which notion precedes is a question similar to the question "which came first: the hen or the egg"? Before this paper approaches such a debate and articulates a stance from, it is beneficial to explore ontology and epistemology each as a term, concept and perception.

2.1. Ontology

In simple terms, ontology is the philosophical inquiry into "reality, nature of existence, or being" (Mills, Durepos, & Wiebe, 2009, p. 630). Ontology also focuses on the lenses "through which we see and experience the world" (Allison & Pomeroy, 2000, p. 92). Human perception is a reflection of an "ontological level of reality, which manifests its categorical novelty in the emergence of meaning" (Albertazzi, 2010, p. 199). Chappell (1997) in his read and analysis of *Descartes' Ontology* adopts common nouns such as "being", "entity" and "item" in referring to the being of things and to the

ontological categories of items. Hence, ontology deals with existence and being and with "what can be rationally understood"—even partially, in relation to such existence and being (Poli, 2010, p. 1). Ontological discussions are often problematic, where debates arise around ontological issues between the physical and concrete visible "being", the invisible "being" to the perceived "being" or "reality" and the relativity of such perceptions to each individual, society and culture (Mills et al., 2009). Along with these debates, philosophical inquiries are set about "what is ontic?; that is, what is really real" (Mills et al., 2009, p. 629).

This paper will adopt a working definition of ontology as being the inquiry about the being and identity of a practitioner (e.g. teacher, educator and lecturer) and all the perceptions formed around such being and identity.

2.2. Epistemology

Epistemology is the philosophical questioning of knowledge, the assumptions upon which it is based and therefore questioning what we "do know" and "can know" (Allison, 2000, p. 13). Epistemology has moved beyond the "static environment" of "individual knowledge and its acquisition" to inquire "information change, its flow among groups and its place within interaction" (Girard, Roy, & Marion, 2011, p. 1). Epistemological inquiries focus on—but is not limited to—"the concept of knowledge, evidence, reasons for believing, justification, probability, what one ought to believe, and any other concepts that can only be understood through one or more of the above" (Fumerton, 2009, p. 1). Similar to ontology, this field of philosophy incorporates "epistemic" questions; that is, what is valid knowledge? (Fumerton, 2009, p. 1).

This paper will adopt a working definition of epistemology as being the inquiry about the concept of knowledge which constitutes best practice for a practitioner (e.g. teacher, educator and lecturer).

2.3. Ontology vs. epistemology

In his reconstruction of social theory, Giddens heavily emphasises the members of a society or community as ontological individuals and agents who "reflexively produce and reproduce their social life" (1979). He argues that the conceptualisation of individuals as knowledgeable agents and the understanding of their everyday activities—an epistemological standpoint—form the basis of the ontological security: "a belief in the reliability and durability of social life" (Tucker, 1998, p. 76). In his distinction between front- and back-stage behaviour when discussing ontological security, Giddens argues that "the back-stage is a place where self-conceptions can be repaired, and people can engage in criticism of and resistance to front-stage demands and conventions" (1987, p. 62).

Epistemology, as a stance, an interpretation and application, lies in the basis of Dewey's arguments about truths and inquiry. Dewey believes that truth does not lie "in its correspondence to something wholly outside experience" (Tiles, 1990, p. 104), but rather exists in an "experienced relation among the things of experience" (Dewey, "Middle works", p. 126). In other words, Dewey argues that truth of something or about someone does not exist in the ontology of this something/someone, but rather in our epistemological experiences with this something/someone.

> It would be a great gain for logic and epistemology if we were always to translate the noun "truth" back into the adjective "true", and this back into the adverb "truly"; at least, if we were to do so until we have familiarized ourselves thoroughly with the fact that "truth" is an abstract noun, summarizing a quality presented by specific affairs in their own specific contents. (Dewey, "Middle works", p. 118)

Dewey approached ontology from an epistemological stance, arguing that our ontological perceptions of the past or future are formed from a present experience which stands for something that is not present: past or future (Tiles, 1990). Both Dewey and Giddens believed in one or the other in the interdependency of epistemology and ontology and broadly in an epistemological–ontological

continuum. However, Dewey gave more weight to epistemological stances in such interdependent continuous relation, whereas Giddens gave more weight to ontology in this respect. Similarly, a number of scholars argued for the coexistence between knowing (epistemology) and being (ontology) (Polanyi, 1969; Thomson, 2001). This coexistence will be further explored in this article as an ontological–epistemological "discourse", where discourse in such context is referred to as a "conversation" and a "process of reasoning" (Mills et al., 2009, p. 304) across ontological choices and epistemological inquiries to better understand teaching and learning.

Despite the stance of this paper in adopting the coexistence between ontology and epistemology, separation between the two concepts is necessary—yet complex—in order to categorise certain inquiries as mainly rooted within ontological choices versus others which demand epistemological decisions. To facilitate this uneasy and unholy separation, this paper will employ the lens of social psychology to assist in classifying what is ontological versus epistemological in data analysis and the discussion that follows.

In social psychology, thinking takes place on two levels: "intuitive" and "deliberate" (Kruglanski & Gigerenzer, 2011). Hence, thinking occurs both at an unconscious and automatic level and at a conscious and deliberate level (Myers, 2010). Nobel laureate psychologist Kahneman (2011) argues that humans do thinking, both fast and slow. Hence, this paper will consider the intuitive, unconscious and slow thinking as "ontological". On the other hand, the deliberate, conscious and fast thinking which is directly influenced by the knowledge transactions displayed will be classified as "epistemological". For example, the pre-informed opinions and perceptions of a teacher about what constitutes good practice will be classified as "ontological". However, the response of a teacher to a certain situation, problem and/or inquiry will be classified as "epistemological".

3. Challenges for change

This paper will refer to the learning cycle that the leading author (LA) experienced as part of the professional development programme he enrolled in and completed. At the beginning of March, 2010, the LA started his career as a novice academic at Victoria University (VU). Four months later, an opportunity to enrol in the GCTE program emerged. The LA voluntarily chose to enrol in this programme as he believed that it was a critical opportunity in his professional development as a novice academic. One of the major focuses of the GCTE was improving and developing the current teaching and learning practice of academics enrolled in the programme. Such improvement was informed by the Experiential Learning Cycle of the Praxis Inquiry (Figure 1).

The GCTE course comprised 8 units of study, underpinned by the Praxis Inquiry notion:

- Learning Matters at Victoria University (AET4100)
- Negotiating Learning (AET4101)
- Learning and Diversity (AET4102)
- Student Assessment (AET4103)

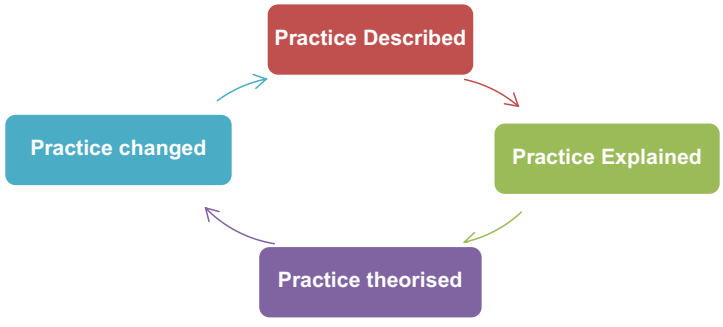


Figure 1. Experiential learning cycle of the Praxis Inquiry Model (Burridge et al., 2010, p. 23).

- Designing for Learning (AET4104)
- Managing Learning (AET4105)
- Improving Practice (AET4106)
- Teaching Portfolio (AET4107)

Throughout these units, the various phases of the Praxis Inquiry Learning Cycle were critically reflected upon. The LA annotated the concerns, challenges and conceptions he had in his inquiry for professional development in each of the eight units which comprised the GCTE. Those annotations were then analysed in order to identify the stance of the LA during each phase of the Praxis Inquiry Learning Cycle:

Practice described: Units AET4100 and AET4102 required the LA to describe his current teaching and learning practice in a critical self-reflective manner. At the time, the LA's practice was mainly focused on him as being the instructor whilst encouraging questions and catering for limited group work activities for two main reasons: the lengthiness of the content and the fear of losing management of the classroom with too many group work tasks.

Practice explained: Units AET4101 and AET4103 required the LA to explain his current practice in terms of other practices and experiences. During this phase, the LA experienced being both an observer of others' practices and an observee, where colleagues enrolled in the GCTE observed the LA at more than one occasion whilst delivering his unit. The LA observed and experienced the programme coordinator of the GCTE running a number of activities based on the Jigsaw Approach. The theme underpinning this approach was to promote student-centred teaching and learning practices. The LA was impressed with the effectiveness of the Jigsaw Approach but felt uneasy and anxious in adopting it, given his concerns about losing the discipline in the classroom and being unable to cover the planned content during the planned duration.

Over the course of the GCTE, the LA experienced the programme coordinator facilitating additional activities and workshops using the Jigsaw Activity. Subsequent to such exposure to a number of situations where teaching and learning was facilitated using a student-centred approach, the LA became more convinced than ever on the success and effectiveness of the student-centred approach for a number of reasons. First, the LA, himself, made the most out of the activities that were run via the Jigsaw Approach. His learning was optimised by peer discussion, learning and teaching and by the ownership he experienced, especially when he was required to explain what he mastered to members of other groups. Second, the LA noticed that the programme coordinator was in full control of the classroom and of the teaching and learning taking place whilst facilitating, coaching and guiding, rather than instructing. By doing so, she (the programme coordinator) gained the respect and admiration of all academics enrolled in the GCTE. Third, the peer learning, discussion and teaching that were taking place saved a lot of time which would have been wasted on the teacher ensuring that each student understood the activity and gained the competency planned within such activity.

Practice theorised: Subsequent to his experiences with the Jigsaw-designed activities, the LA started a deep rethinking and reconsideration of his current practice. Such rethinking mainly took place over units AET4104 and AET4105. The LA began generalising a number of conceptions towards improving and developing such practice. The LA now believes that student-centred learning is neither a threat to the teacher's competencies and management of the teaching and learning process nor a waste of time. On the contrary, it is a reflection of the confidence and capability of the teacher in promoting effective teaching and learning practices.

Practice changed: Following rethinking and theorising his teaching and learning practice, the LA started changing his practice unit AET 4106: Improving Practice. He started adopting the Jigsaw Approach in the delivery of a number of topics in his classroom. He adopted group work in mainly

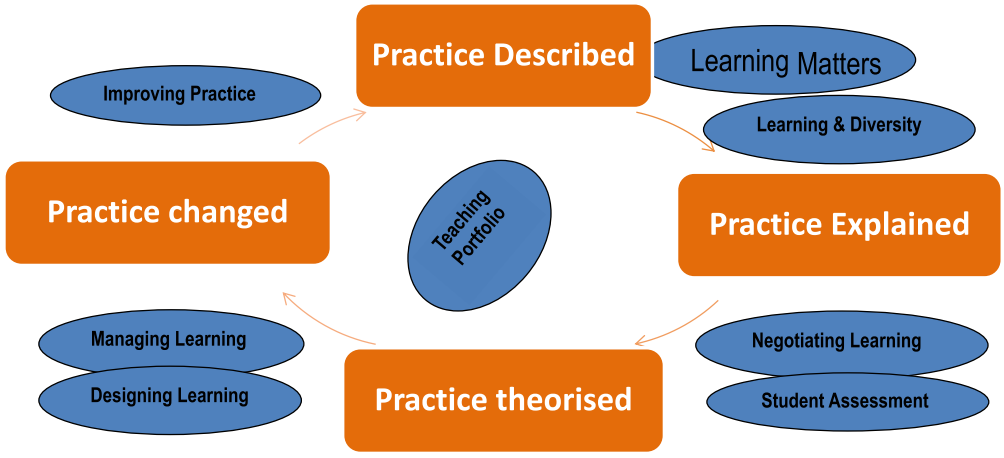


Figure 2. The Praxis Inquiry journey throughout the GCTE.

every session he delivered following some modelling. By doing so, the students who did not understand the aimed concept from the modelling had a second, third and fourth chance to acquire the concept through peer learning, peer discussion and through the extra support the LA was providing to each group as he was facilitating the lesson and circulating from one group to the other. The LA became more confident in the effectiveness of his teaching and learning practice and received impressive feedback from his students, colleagues and seniors.

The final unit of the GCTE was AET4107: Teaching Portfolio, where each student in the programme created a portfolio of his/her overall Praxis Inquiry journey throughout units AET4101–AET4106. These portfolios were discussed and evaluated by the unit coordinator, the teaching staff of the programme and the enrolled students. Figure 2 demonstrates the Praxis Inquiry Journey throughout the eight units of the programme.

4. A deep philosophical analysis of the Praxis Inquiry

This paper, based on the arguments of many scholars, adopts the position of continuum between being and knowing: ontology and epistemology. In many instances, situations and examples, it might be hard to tell whether a perception, conception, action and/or reaction is ontological or epistemological, as it might be both. However, for the purposes of the analysis, this paper will assume a conception to be mainly ontological as long as it lies between the individual and himself/herself, i.e. the individual is talking to himself/herself. Once, the individual shares, applies and/or communicates such a conception, the process then becomes mainly epistemological. By adopting this assumption, this paper rethinks the phases of the Praxis Inquiry which the LA experienced from an ontological–epistemological stance.

The phase of "practice described" seems to be a call for ontological response, where the LA reflects upon his current practice—at the time—and reveals perceptions, feelings and conceptions mainly related to his "being": How he perceived the image of the lecturer as being the instructor? How he believed students' learning was mainly his responsibility? How he feared that student-centred approaches might pose a risk of losing his management of the classroom and of wasting time required to cover the planned content?

The phase of "practice explained" seems to call for an epistemological inquiry, where the LA experienced situations where knowledge is organised and applied in a certain context: organising the Jigsaw activity, implementing it with all peer learning, discussions and teachings which accompanies such implementation, etc.

The phase of "practice theorised" seems to demand ontological choices, where the LA thinks to himself: rethinks his current practice, reconsiders the pedagogies applied and rethinks his concerns.

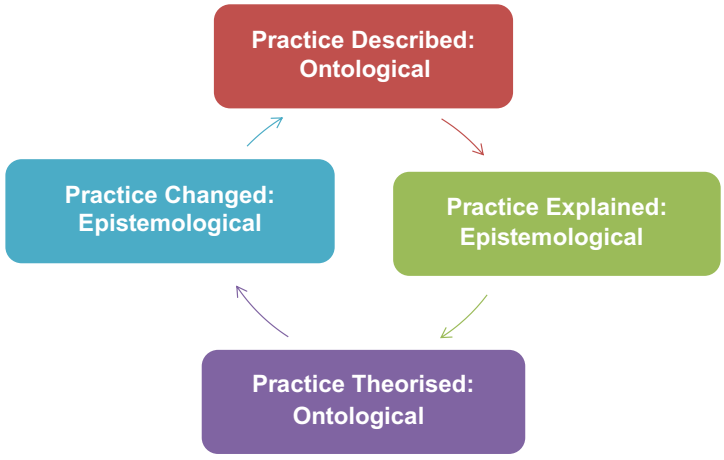


Figure 3. Ontological–epistemological development of the experiential learning cycle of the Praxis Inquiry Model.

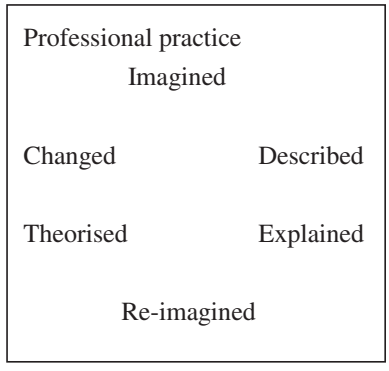


Figure 4. Praxis Inquiry cycle (Arnold et al., 2012).

Finally, the phase of "practice changed" seems to call for epistemological responses, where the LA applies the rethought stances and conceptions within a new context. Hence, the Experiential Learning Cycle of the Praxis Inquiry develops in the following model (Figure 3).

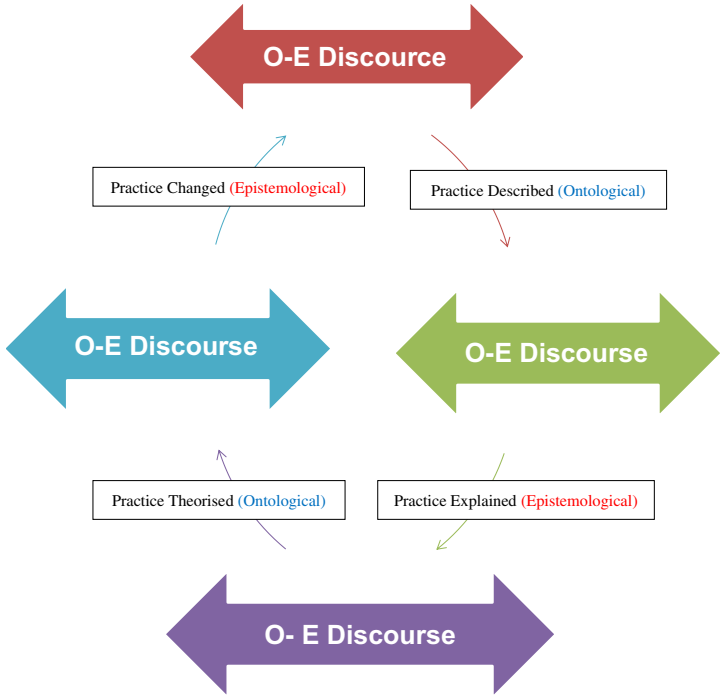
The Experiential Learning Cycle of the Praxis Inquiry has been recently further explained and developed to incorporate two phases on top of the existing four phases (Arnold, Edward, Hooley, & Williams, 2012). The first is Practice Imagined and it precedes Practice Described. The second is Practice Re-imagined. Figure 4 presents the further developed Praxis Inquiry Cycle.

Whilst this paper will only consider the initial four phases of the Praxis Inquiry Cycle, the categorisation of both the Practice Described and Practice Theorised phases as being mainly ontological acknowledges Arnold et al's. preceding phases: Practice Imagined and Practice Re-imagined (2012). Practice Described is viewed in this paper as a phase where all the feelings, imaginations and perceptions integrate whilst individuals attempt to describe their practice. Likewise, Practice Theorised is considered mainly ontological as it incorporates the re-imagination and retheorising of perceptions following explaining the practice, Practice Explained Phase.

5. The missing link: back to the ontological–epistemological continuum

The philosophical analysis of the Praxis Inquiry provides philosophical projections for each phase of this inquiry. However, a scrutiny of such analysis suggests that there is a missing link somewhere between the phases of Practice Described (initial ontological stance) and Practice Explained (experienced—yet, still initial—epistemological stance), on the one hand, and the Practice Theorised (new ontological stance) and Practice Changed (new epistemological stance), on the other. Referring back to the literature and to the big idea of the ontological–epistemological continuum provides this missing link.

Figure 5. The developed O-E discourse model of Praxis Inquiry.



Following the initial ontological (Practice Described) and epistemological (Practice Explained) stances, there is a deep and thorough ontological–epistemological discourse (O-E Discourse) taking place. This discourse is what shifts Practice Explained to Practice Theorised by reconceptualising the initial ontological stance (Practice Described) into a new ontological position (Practice Theorised). This discourse continues between the new reconceptualised ontological stance, following theorising the practice, and the initial epistemological stance (Practice Explained). The result of this discourse is recontextualising the initial epistemological stance into a new epistemological position. This is because the way the LA applied the knowledge in his classroom after rethinking his practice—although inspired by his observations during the practice explained phase—is personalised and reflective of his identity and different from the way the GCTE program coordinator applied knowledge.

Likewise, an O-E Discourse shifts the recontexualised epistemological stance into a default or initial ontological stance (Practice Described) and the cycle starts all over again as the LA moves on with his practice, experiences and professional development. By identifying the missing link, the phases of the Praxis Inquiry develop into the following model (Figure 5).

6. Implications of OED for teacher education

Participation by the LA in the GCTE is offered as an example of how immersion in challenging practice can result in new ideas and understandings being formulated. The implication for professional learning generally and for teacher education in particular is that practice that is orthodox and conformist does not necessarily challenge ideas and understanding and does not necessarily generate new practices for change and improvement. Unlike conservative approaches, practices that require tacit and/or explicit integration of ontological and epistemological processes will involve negotiation of interesting and often unorthodox problems and dilemmas for both students and teachers and for which answers are unknown or at least problematic. For teacher education, project teams could negotiate investigation of a range of serious educational problems in schools and set about proposing a range of solutions without prejudice. If it is considered by the project team that ontologically all humans want to learn and that central to all learning is the “social act” (Mead), then epistemologically, a range of activities will be conducted and investigated in relation to language use and the construction of meaning. Discussion amongst learners (students and teachers) as projects unfold

and problems are confronted and resolved will therefore be essentially ontological–epistemological in character, as distinct from more conservative approaches that are teacher directed and rely on predetermined knowledge being transmitted. Conceptualising teaching and teacher education as requiring democratic and informal ontological–epistemological discourses around negotiated projects of student and teacher interest conjures up classrooms that are fundamentally different to traditional formats. Teaching strategies for schools and for teacher education that focus on praxis inquiry structures, for instance, will often need to be primarily "site-based" in schools so that problems and issues can be discussed immediately, changes made and impacts observed in continuing cycles of professional practice. This is a challenge for teacher education in ensuring that practice and theorising of practice occurs "on the spot" and that the theorising of and reflection on practice alerts practitioners to discourses of ontology and epistemology as they take place.

7. Conclusion

The OED that the LA experienced through each of the phases of the Praxis Inquiry Model as he attempted to describe, explain, theorise and retheorise, and develop his professional practice as a teacher educator and academic was significant. The ontological fear of the perceived inversely proportional relationship between managing learning and students' ownership in the teaching and learning process was epistemologically neutralised through exposure to settings where students enjoyed a great deal of ownership of the education process, whilst the teacher was equally enjoying a professionally managed and facilitated teaching and learning process. The LA has since been more convinced and confident—ontologically—and more capable and equipped—epistemologically—in facilitating teaching and learning practices that are student centred and which grant students' ownership in the teaching and learning process.

This paper offers a reread and rethink of the phases of the Praxis Inquiry Model (Figure 1) by projecting a philosophical framework. Such framework developed the Praxis Inquiry Learning Cycle to a model which rethinks such a cycle from ontological and epistemological perspectives (Figure 3). The model further develops (Figure 5) subsequently in devising the ontological–epistemological discourse, a process which offers an explanation of the reconceptualisation and recontextualisation of stances which take place throughout the various phases of the Praxis Inquiry.

This paper offers a lens for viewing professional development and personal sustainable growth as functions of OEDs. The OED might seem a pure philosophical projection on the Praxis Inquiry Cycle. However, the OED can be viewed as a mechanism which supports sustainable and lifelong learning growth and development on professional, social and personal levels. The OED can also be employed as a diagnostic device to find solutions to workplace challenges such as: Why do certain practitioners professionally develop whilst others are resistant to such development/change? Why do the outcomes for members of the one group who have experienced same/similar settings of a Praxis Inquiry Experiential Learning Cycle vary?

Answers to these questions and many others can be approached through inquiring into the OEDs taking place across the phases of the Praxis Inquiry Cycle: whether the OED during any of the four phases was incomplete or interrupted and hence the learning cycle was retarded. The OED can remain incomplete due to ontological reasons (e.g. the individual was not yet prepared to rethink or re-imagine her/his practice), epistemological ones (e.g. the knowledge, experience, models and examples displayed were not convincing) or a combination of both. Hence, approaching Praxis Inquiry from an OED can assist mentors and facilitators identify what extra support might be needed to help academics, teachers, pre-service teachers and practitioners, in general, in continually thinking, rethinking and developing their everyday practice.

The findings of this paper are limited to a personal reflective study. However, the generated implications support further research to inquire into the Praxis Inquiry Learning Cycle of a group of participants. The position that this paper reached (OED) strongly connects to and promotes further investigation into Dewey's notion of continuum.

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Author details
Ahmad Samarji[1]
E-mail: ahmad.samarji@lau.edu.lb
Neil Hooley[1]
E-mail: Neil.Hooley@vu.edu.au
[1] Department of Education, Lebanese American University, Beirut, Lebanon.

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