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The Socratic method: adult education theories

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Postgraduate students need to explore their research question(s) from different angles, take ownership of the research process, and develop their own scholarly voice. Supervisors are often ill-equipped to guide students in a strategic and learner-centred manner. The Socratic method draws on strategies to elicit learning through uncertainty in the question-and-answer technique employed. Based on a qualitative study, various adult education theories are used to formulate a rationale for the application of the Socratic method as a tool to facilitate learning in the supervisor-student relationship. Theoretical perspectives which emerged as themes through this study include experiential learning, ontological coaching and empowerment. This article provides a conceptual framework for postgraduate supervisors which could act as a guide to enhance their supervisory practice and facilitate independent student learning.

Die Sokratiese metode: volwasseneleerteorieë

Nagraadse studente behoort hulle navorsingsvrae vanuit verskillende invalshoeke te ondersoek, eienaarskap van die navorsingsproses te neem en hulle eie akademiese stem te ontwikkel. Studieleiers is dikwels nie volkome toegerus om studente op 'n strategiese en leerdergesentreerde manier te lei nie. Die Sokratiese metode gebruik verskeie strategieë om 'n leerproses deur die onsekerheid van die vraag-en-antwoordtegniek wat gebruik word uit te lok. Gebaseer op 'n kwalitatiewe studie, word verskeie volwasseneleerteorieë gebruik om 'n rasionaal vir die toepassing van die Sokratiese metode te formuleer. Laasgenoemde dien as 'n hulpmiddel om die leerproses binne die student-studieleierverhouding te fasiliteer. Teoretiese perspektiewe wat deur die loop van die studie as tema's geïdentifiseer is, sluit leer deur ondervinding, ontologiese opleiding en bemagtiging in. Die artikel verskaf 'n konseptuele raamwerk wat studieleiers van nagraadse studente kan lei om hul studieleiding kan bevorder en om onafhanklike studenteleer te fasiliteer.

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> Socrates was aware, that each individual must seek the grounds of his own conviction, that truth is not something given from without, but must be found by the exercise of a man's own thought. He required all assumptions to be examined anew, no matter how old or how current they were, and that dependence should only be placed on proof and not on authority (Zeller & Reichel 1868: 95).

Supervisors know, as Socrates did, that their postgraduate students need to gain autonomy during the course of their postgraduate research process. In many cases supervisors may feel ill-prepared to facilitate this process in a strategic and learner-centred manner. One strategy to elicit learning through uncertainty in the question-and-answer technique employed is the Socratic method. However, supervisors need to be convinced of the rationale of exposing the student to this process as it challenges both the supervisor and the student. This article draws on various learning theories in the field of adult education to formulate a rationale for applying the Socratic method as a tool to facilitate learning in the supervisor-student relationship.

The article explores the theoretical underpinning of the Socratic method from an adult education perspective which could be used as a developmental tool in defining and refining research questions of postgraduate students and their supervisors. Three main theoretical arguments will explore this central theme from different angles, including experiential learning theories, theories underlying ontological coaching, and empowerment theories. The reflective experiences of three supervisors are integrated into each of these theoretical propositions, followed by an integrated conceptual framework.

1. The Socratic method

The Socratic method is based on the premise of a Socratic dialogue, in which both parties seek the so-called truth by means of critical questioning. In the classical Socratic dialogues, Socrates takes on the role of the critical friend, questioning his students to enable them to arrive at an understanding of their reasoning and argument. In these dialogues, Socrates initiates a conversation in which he continuously poses questions, but does not provide answers, advice or solutions

to his students' ponderings. He does not openly disagree with any argument put forth by his students, but rather continues to question in order for the students to arrive at their own answers.

Supervisors often encounter postgraduate students who struggle to formulate their ideas coherently, take ownership of their own research projects, become independent and/or find their scholarly voices. Supervisors started to experiment with the Socratic method as an approach to facilitate students' becoming, and achieved varying degrees of success. Supervisors were urged to delve more deeply into the theories that underscored their questioning practices. The exploratory journey in determining a theoretical background started at three different points, which will be discussed later. In the words of T S Eliot's (1944) "Little Gidding":

> We shall not cease from exploration
> And the end of all our exploring
> Will be to arrive where we started
> And know the place for the first time.

2. Methodology

In this exploratory study, qualitative data was collected from reflections of three participants of their experiences of using the Socratic method in supervisory practice with students. This article reports on the findings of the study of the three participants' reflections. This self- and collegial reflection process stimulated meaning-making from an adult education perspective. The aim of the study was to provide theoretical interpretation of the reflection and experiences of the use of the Socratic method in supervisory meetings. The data was analysed using open coding and thematic analysis. The analysis of the three participants' reflective accounts revealed different theoretical stances, which were used to explore the nature of the Socratic method from various theoretical angles.

3. Findings

Three themes there identified from the data collected. These themes relate to experience as a foundation for becoming independent, an

ontological perspective in cultivating critical thinking, and empowerment as a basis for critical dialogue in using the Socratic method in the postgraduate supervision relationship.

3.1 Experience as a foundation for becoming independent

> The vast majority of my postgraduate students are adult, part-time learners who have re-entered the higher education arena after gaining both work and life experience. I have always tried to use these experiences as a foundation on which to build their research ideas and identities (Participant 1).

The postgraduate students' smooth (re-)introduction to academic enquiry is often challenged by the quality of their thinking and reasoning skills. It is imperative that students' knowledge of questions be nurtured to strengthen their capacity for academic enquiry through critical thoughts and critical engagement with texts (Poulson & Wallace 2004: 6). Dewey (Boydston 1991: 133) argued that learning requires open-mindedness, the ability to consider all points of view, actively controlling one's actions, and awareness of the consequences of one's actions for others. Barnett (2004: 249) contends that students currently have to learn in an era of super-complexity – the Socratic method may help students to move beyond knowledge and skills to a level of proficiency in decision-making within complex circumstances (Dall'Alba & Barnacle 2007: 687). An analysis of my reflective accounts of meetings with students shows the possible value, and pitfalls, of the Socratic method as a tool for this development, based on students' prior and postgraduate experiences.

Various scholars have contributed to our understanding of how experience underpins learning. Models put forth by Kolb (1984: 31), Jarvis (1987: 16), Boud & Walker (1991: 18), Usher *et al* (1997: 106) and Dyke (2009: 303) are the most notable contributions. Although these models are based on different theories, all point to the centrality of experience in learning. Kolb (1984: 27) describes learning as "a continuous process grounded in experience", while Lindeman (1961: 6) adds that students' experiences serve as "living textbook[s]". Jarvis (2004: 111) refers to experiential learning as:

> a combination of processes whereby whole persons construct experiences of situations and transform them into knowledge, skills, attitudes, beliefs, values, emotions and the senses, and integrate the outcomes into their own biographies.

Students' experiences may form the platform from which knowledge may continuously be derived and tested (Kolb 1984: 31, Dyke 2009: 304). As such, the Socratic method may provide the vehicle whereby supervisors can help students to reflect on their experiences – both in and on action (Schön 1987: 100). Reflection in action refers to situations where students are confronted with problems that cannot be immediately explained or solved within their zone of mastery – they must seek additional information (Borduas *et al* 2001: 104, Confessore & Confessore 1994: 31). Reflection on action is primarily an analytical exercise whereby students return to and re-evaluate past experiences that may result in new perspectives (Merriam *et al* 2007: 174). Participant 1 noted varying experiences in facilitating reflection by means of the Socratic method:

> X often got stuck, and could sense her unease and frustration at not being able to provide us with answers to our questions (even though we assured her that this was fine). She quoted some interesting examples from her practice working with [...], but I could see she had either not read, or made sense of the materials on research methodology I had given her at the previous meeting. X seemed frustrated at the end of the meeting, but I think we have given her much food for thought.
>
> Today I feel we have made progress. Y [student] and I sat on the carpet in my office and she drew pictures on a large sheet of paper to make the links between the key concepts clear. I just sat asking questions as she went along, being involved, but not taking charge of what was essentially her own process. I was impressed by how she was able to argue for the use of grounded theory as the analytical framework she wanted to use. I might have chosen something else, but I refrained from prescribing. I rather pursued the point by asking why and how she intended to use this framework, and she actually convinced me that it was the most suitable approach in her particular context. I could see she had given this much thought and had done a lot of background reading (Participant 1).

My students did bring their own established biographies into the learning realm, which resonates with the supervisory experience of Fataar (2005). Students' prior experiences were often useful in

defining and refining their research questions. In some cases where I could frame my Socratic questions in their experiences, students were often able to construct new meaning by reflectively integrating experience into a newly established research domain by linking theory and practice. This process was much easier if they understood the basic foundations of research and could move their experiences from the world of everyday life to the world of science (Mouton 2001: 137). Students, who were unable to make this conceptual transition, struggled to position their research interests, and their past experiences seemed to hamper rather than help them. This meant that I had to find questions that would help the student cross the conceptual threshold (Trafford & Leshem 2009) into the research domain.

Ferraro (2000: 2) and Steinert (2000: 46) define reflection in general as a critical process in refining artistry in a specific discipline. It involves thoughtfully considering one's own beliefs and experiences in applying knowledge to practice, while being coached by professionals in the field. This process forms a continuous cycle of self-observation and self-reflection. Dyke (2009: 304) describes the elements of the reflective process as doing (consisting of practice, primary experience, experimentation, application, creativity and/or expression), knowing (referring to formal theory, research or practice knowledge, and secondary experience), reflecting (as reflection, thinking and contemplation), and interacting (engagement with others in different social contexts, situated learning and communities of learning). Reflective practice can lead postgraduate students to a deeper understanding of their own style and effectiveness. Boud *et al* (1985: 7 & 1996: 33) stress that reflection must take into account the feelings created by experiences if the reflective process is to be effective. Students need time to experiment and master the general process, as it may be emotionally challenging (Florez 2001: 5). Participant 1 commented on this process as follows:

> Facilitating critical reflection based on experience in and on action has been one of the most daunting challenges for me as a supervisor since reflection is such a personally engaging process for both the student and supervisor. Some meetings end without us having made concrete progress, and I am so tempted to just take over and

> give direction when I sense the student's frustration. But then I see how they have negotiated the maze when we meet again, and the sense of accomplishment it brings them. Z [student] thanked me today for precisely this when we met just before her final oral exam. I am so proud of her and what she has accomplished, even though at one stage I thought she was going to slap me when I kept challenging and pushing her to make her methodological contribution more explicit. I knew it was in there somewhere. It was like seeing something through a veil of mist, but I knew only she had the insight to lift the veil. At the oral it was exactly this aspect on which the examiners complimented her. I was elated, even though I had only been the guide (Participant 1).

Reflection moves beyond methodological and epistemological concerns – it also engages the students' being as they are ontologically moving from scholarship student to becoming a responsible scholar (Lin & Cranton 2005). Wright & Cochrane (2000: 193) refer to this state as "intrinsically challenging". Waghid's (2006) notions of freedom and friendship in postgraduate supervision provide some help in positioning yourself (the supervisor) as a critical friend and using your own experience (or story) as an example from which to elicit student reflection.

Supervisors of postgraduate students are essential in guiding this reflective process. If the supervisor provides all the answers (rather than encourage critical reflection through questioning) students may struggle to develop their independence in taking ownership of the research process. Reflection coupled with consultation serves as a source of validation, counsel and affiliation during periods of risk-taking, conflict and role transition – which are inherent to learning and change. Isolated reflection is devoid of the support and encouragement students need in order to implement their ideas in practice (Kachingwe 2000: 28). Reflective dialogue enhances the opportunities for meaningful interactions and encourages support through observation, sharing of ideas and skills and recommending materials for study. Observation combined with feedback provides students with information regarding their performance (Steinert 2000: 47).

> I have used the Socratic Method in a formative manner and it has helped me to get to know my students. Knowing a student has enabled me to capitalise on his/her existing experiences (prior learning) and align these experiences with current learning through guided reflection (Participant 1).

An environment of trust and a context for reflection are prerequisites for effective reflection. The description of the roles and purposes of educators (Merriam *et al* 2007: 27-8) can contribute to our understanding of what may underlie our practices as supervisors when we encourage our students to reflect on their experiences. Constructivist notions place the supervisor in the role of a catalyst, involving students while challenging their assumptions. In a situative framework the supervisor attempts to get students involved in a community of practice, with students enacting cognitive apprenticeships. Supervisors who use a psychoanalytic lens try to identify psychic conflicts that may impede students' learning. The critical cultural perspective focuses on helping students perceive the influence of power relationships on their learning, while supervisors encourage resistance to these oppressive forces by means of what Freire (1970: 39) calls problem-posing. Complexity theory, on the other hand, encourages experiment with change itself, with the supervisor as an interpreter of changes which students may experience. These theoretical orientations may lead to different nuances in the practice of the Socratic method, but the questioning nature built on experiential learning at the heart of the process has remained the same in my experience.

Democratic forms of supervision will strengthen collaborative inquiry and dialogue. Unfortunately, reflective practice is often used with a reflection-on-demand mentality, or as a checklist. These reflective practices have no links to conceptual frameworks, no encouragement to challenge existing practices, and little sensitivity for the level of reflection the students involved will be capable of accomplishing.[1] Dyke (2009: 291) also warns that there are no guarantees that reflection on experience will produce critique and reflection, but that ambivalence and loss of certainty compels students to reconsider risks and opportunities. There is an inherent danger in the use of the Socratic method if supervisors do not allow students to grow into their arguments and ideas. The Socratic method should therefore not be viewed as a once-off method of inquiry or even assessment, but as a continuous process whereby students are

1 Cf Florez 2001: 5, Ferraro 2000: 2, Finley 2000: 21, Kachingwe 2000: 28.

allowed the time and space to use their past and present experiences reflectively in becoming independent scholars, as is evident in the comment by Participant 1:

> The use of the Socratic Method has enabled me to capitalise on my students' experiences before they enter the world of research, and while they are engaged in their postgraduate work. I consider myself lucky to be working with adult learners, with whom I can develop a critical friendship and a safe space for experimentation over time.

The context within which learning in the postgraduate supervision process occurs plays a vital role in determining the quality of the process as well as the outcome. This context may also influence the relationship between the supervisor and the student and the power dynamics at play. Experiential learning does not provide an exhaustive conceptual framework within which to position and understand the Socratic method, and one may need to understand the complex dynamics of ontological becoming and of power.

3.2 An ontological shift: exploring the process of becoming critical thinkers

Every part of a student's being is involved in learning. As students undergo different personal and cognitive experiences they are exposed to a new way of enriching their understandings of themselves and their perspectives of the world. Each individual's assumptions and intellectual framework are embedded in a fundamental domain, known as the self or the person. According to Peschl (2006), a student's knowledge is embedded in and pre-structured by a particular frame of reference. Knowledge receives its meaning and structures from this frame of reference which includes previous social and cultural experiences. This frame of reference can only be challenged if students reflect and step out of their normal way of thinking via the process of radical questioning. Reflection leads to a reconstruction and shift in their way of being and knowing (Sieler 2003). This process can be challenging to the supervisor as reflected in the comment:

> Only being able to ask questions was challenging as questions need to be thoughtfully phrased to challenge the student and lead them in a certain direction. I must have a rationale and a plan and not just ask haphazard questions (Participant 2).

Perry's (Abraham 2005) perspective indicates that to get students to move from an initial subjective understanding of their research topic to a different and deeper critical understanding, they go through three stages of intellectual development, which will subsequently be described within the context of postgraduate research studies. At first students as novice researchers are dualistic thinkers. They are often unable to craft a balanced, reasoned, well-thought argument. They confuse argument with opinion. They find it difficult to entertain points of view other than the one that they believe in or find interesting or appealing. They are overwhelmed by and do not manage to address the complexities of the issue or the topic under discussion. Participant 1 commented on this issue as follows:

> I spent so much time with them [the students] just working through the articles, asking them questions about things like structure, argument, use of language in the articles they had read. It felt as if I was wasting time on things they should know, but I realised from their initial writing that they did not understand these basic things. Afterwards they told me it was the first time anyone had given them the keys to unlock academic writing.

Participant 3 extended this perspective in reflecting on the students' world view:

> What I realised while coaching the students is that while being a student you undergo different stages of thinking and learning. At an earlier stage of learning the nature of students' being is according to a certain worldview or a model of reality. This worldview is an important aspect of one's being, which also influences our thinking and our learning actions.

As the students grow and progress and their world views expand, the second stage of relativism emerges. They learn to read information and think about it. They begin to contextualise knowledge and to understand the complexities of having an intellectual position or stance. With effective guidance and supervision they ultimately become more critical of the sources they read. In the third stage, they become reflective thinkers, who realise that there are many opinions, and that some opinions are better than others. They then begin to investigate and evaluate why other opinions are better. They also begin to evaluate and claim their own opinion as worthy. They later

reach the stage where they commit to a specific view for their own particular reasons.

Another perspective from the works of Argyris & Schön (1978) and Hargrove (2002) suggests that learning progresses through three phases. The first phase of students' learning is categorised as single-loop learning. Learning at this level does not allow the student to construct new knowledge and radical innovation. This type of learning barely changes the student's values. The current limiting mental models of the student limit the depth and quality of the argument. Young researchers very often work at a very superficial level where they are mostly focused on identifying the key aspects to be discussed. They find relevant resources to find out what others have to say on the topic and then collate all the relevant information to understand the text. They usually state their opinion about the issue in their final summary of their written text.

The second phase of learning is described as double-loop learning. At this level the student moves to a thoughtful level involving critical thinking, and starts to view things from a different angle or perspective. The student realises that any kind of knowledge is based on assumptions, premises or a paradigm, which can be transformed. The student's frame of reference is changed and s/he adopts new and different theories and knowledge and develops different patterns of perception and interpretation. The student's mental model is challenged and expanded to include different models of thinking and perspectives. This level of learning often enfolds single-loop learning, but moves beyond it.

The third phase of learning is described as triple-loop learning. At this level learning goes beyond the levels of behaviour and cognitive patterns to the person's fundamental level of being and the level of wisdom. Hargrove (2002) is of the opinion that at this level the student's identity is affected by the learning and there is a shift in how s/he sees him-/herself and the world. From an ontological perspective, one can attribute this shift in their world view to the growth and expansion of knowledge and thinking that have been part of the student's learning processes. This level of learning leads to a reinvention of identity, transforming who we are, by creating

shifts about who we are being, how we observe, think and do things. Triple-loop learning requires a great deal of self-awareness from the student. The student does not actualise triple-loop learning without concurrent learning in single and double-loop learning, on which Participant 3 commented as follows:

> As a supervisor I now realise the importance of my role in mediating and assisting the student to move through the different phases of learning and to develop effective analytical skills to build a sophisticated, reasoned and well-thought argument. With this realisation and goal in mind I applied the Socratic Method as the method to guide the students through the process of effective interaction towards reaching their research goals.

Socratic questioning is inquiry-oriented and is defined as the type of questioning that has proven to investigate assumptions, rationale, viewpoints, perspectives, implications, consequences and evidence, and has effectively assisted students to successfully reach clarification about their research. During interaction with the students the supervisor can provide clarity to students' thinking by using the Socratic method. The discussions for clarity between the supervisor and the students will ultimately assist them in changing their attitudes towards knowledge. The supervisor draws attention to relevant features and information which the students might not have considered in their deliberations.

During the inquiry-based conversations the supervisor will guide the students' thinking with specific types of questions that will intentionally highlight inconsistencies in the students' way of thinking. Probing questions should assist the students in reaching a new way of thinking and cause a shift in their understanding of themselves and of the texts they read within the context of their research topic. The nature of the questions which the supervisor can include to stimulate thought and to bring important information into the scope of the students' awareness may be included for various purposes (cf Table 1).

Table 1: The nature of questions used in the Socratic method

Purpose	Example
To clarify and prove concepts behind the argument	What exactly do you mean? Give me an example.
To probe assumptions	Do you agree or disagree? Explain why you do not agree.
To evaluate arguments based on certain principles of reason	How do you know this? What evidence do you have to support this?
To question viewpoints	What alternative ways are there of looking at this?
To rethink, review and revise their thinking in order to create shifts in their knowledge and knowing	What has led you to this understanding? Why do you think differently now?
To expose flaws or deficiencies in their thinking and reasoning	Would you be able to back this up with a good argument?

The supervisor's essential role is to ensure that the students' research journey unfolds as an enriching and insightful experience that will shape their identities, values and approaches to personal and professional development. Effective use of the Socratic method has the potential to change the students' frame of reference and to transform their world view in order to ultimately facilitate their development towards critical thinking and empowerment.

3.3 Empowerment: the basis for critical dialogue

If the aim of education is empowerment and transformation, there needs to be critical reflection on the power relationship inherent in the supervisor-student relationship.[2] If not managed well, power discrepancies may negatively affect the student's progress. The power dimension of the supervision relationship may manifest at various levels. If the supervisor is regarded as the gatekeeper to the qualification, it may have an impact on the power dynamic (Lee 2007: 683) in favour of the supervisor and so serve to disempower the student and

2 Cf Manathunga 2007: 207, Si & Searle 2007: 512, Malfroy 2005: 176, Mackinnon 2004: 396.

make him/her more dependent on the supervisor. Supervisors may experience pressure from the institution regarding throughput and consequently be more directive in the research process. Power imbalances could arise through conflicting expectations between the supervisor and the student which could influence the style of and approach to the supervision process. This could be due to the changing mode of learning where the supervisor may come with Mode I expectations of knowledge production and the student with Mode II expectations (Gibbons *et al* 1994: 3). The student may blame the supervisor for a lack of success in research (Lessing & Lessing 2004: 79). In addition, the student may come from a background where the notion of teaching and learning is characterised by paternalism where s/he is passive in decision-making (cf Ryan & Zuber-Skerritt 1999: 7, Mackinnon 2004: 398, Malfroy 2005: 166). The student may want the easy way out and seek to conform and adhere to safe discourses. The initial stage of research is characteristically an insecure phase (Bartlett & Mercer 2000: 196), and students may initially be in favour of supervisors taking the lead without having critically engaged in the process. This passivity may lead to the unsustainability of the postgraduate research process.

The experience of Participant 2 in the Socratic method was noted:

> I realise that the ultimate learning process is one of self-discovery and that I cannot do anything for the student. My philosophy of adult education is essentially one of walking a journey with a fellow adult. I sometimes feel a tension between this co-leaner approach and also the process of allowing the students to discover for themselves – independent of me. Applying the Socratic Method seems to me to be breaking down this collegial manner of engaging with an adult student on the one hand but also helping them to discover their own truth on the other.

Participant 1 used a team approach in order to help both the supervisor and student avoid passivity and dependence:

> X [student] and I had a meeting today. I decided to ask R [colleague] to join us, since we had used the Socratic Method as a team approach before with great effect. During our previous meeting, X had assumed the role of dependent student, leaving me frustrated. I did not want to go there again. She [X] has such a wealth of experience in her job, but seems to struggle translating this into a research project. We took time to explain the process to her and

> putting her at ease. It helped so much to have R there – she kept me from reverting to giving answers to questions X could not answer, and took turns at being the inquirer and supportive friend (Participant 1).

A supervisory relationship should allow empowerment or emancipation of the student. Too often students remain powerless in the supervisory relationship. Powerless individuals lose their ability to make choices and are, to a greater extent, subjected to the prescriptions of others. Empowerment is a process that takes place over time and it refers to the amount of control that individuals have over the circumstances of their lives and their ability to make choices (Kabeer 2005: 14, Laverack 2005: 5). This represents a move away from traditional notions of power to the postmodern conceptualisation of the creative aspect of power situated within the daily reality of individuals (Bloland 2007: 133). Within the context of postgraduate research, empowerment could refer to various aspects of control including the development of the students' research identity, the development of their own scholarly voice, the successful completion of the research and the formation of their academic and professional identity. Empowerment of the student thus implies the ability to accomplish these tasks, and this process would imply change or transformation. Lee (2007: 681) found that the intent of the supervisor has an effect on the outcome of the postgraduate process. If the supervisor has an emancipatory intent, the holistic approach involved will facilitate transformative learning.

Since mastery of the new identity as researcher does not reside in the supervisor, strategies need to be put in place to facilitate this process (Dysthe *et al* 2006: 303). The Socratic method is one strategy that could help in the process. An examination of the process of learning to acquire knowledge effectively makes sense in developing a philosophy for postgraduate supervision practice. The supervisor needs to focus on understanding rather than on learning which is to "render invisible or irrelevant the necessary commitment, openness, wonder or passion that are integral to learning or taking action more broadly" (Dall'Alba & Barnacle 2007: 681). According to Fyrenius *et al* (2007: 151), understanding is something that is continuously

refined and reshaped. Delamont *et al* (2004: 35) contend that supervision is based on the perceived tension between the need to guide and structure, on the one hand, and the desire to preserve the student's autonomy, on the other. Bartlett & Mercer (2000: 195) propose a supervisory relationship based on a co-operative model of interaction. This dynamic interpersonal interaction between the student and the supervisor results in the creation of intangible knowledge products, skills acquisition and student learning. The supervisor thus acts as a facilitator and provides the context for the learning to take place, the enculturation process and the student's professional identity formation. In this dynamic process the Socratic method can be selectively used as a stimulus for deep learning. Postgraduate students should be active participants in the creation of their learning experience and be required to assume a measure of responsibility for the mental input into the process. Active participation is vital for the empowerment of students but the emphasis is on co-creation (Dann 2008: 334). Active participation clearly needs to be facilitated and monitored in the postgraduate supervision relationship.

The process of empowering the student has implications for the strategies used by the supervisor in the supervision relationship. In terms of the student and his/her initial insecurity, lack of confidence and hesitance, the adult learning theory of transformation (Mezirow 2000: 19) and the threshold theory (Meyer & Land 2005: 373) apply. Participant 2 illustrates this as follows:

> I am not comfortable with the way that I can see the student squirm as they are put on the spot using the Socratic Method. I can see them feeling 'stupid' that they have not thought of the specific aspect of the research problem (Participant 2).

The threshold theory relates to thresholds with which students have to deal during the course of learning and which are hard to cross. Transformation describes the deep learning approaches as being initiated by a triggering event. Such an event is an unsettling experience that forces students to engage in critical reflection on their meaning perspectives – the way they see the world. If the individual engages at a deep level of learning, the change or transformation is considered to be more sustainable and would result in emancipation

or empowerment. Mezirow (2000: 131) regards this as the development of critical consciousness whereby participants not only learn as a result of information that is imposed on them, but also enter into deep enquiry and questioning about their own knowledge and assumptions. In this instance, learning not only takes place at a cognitive level but also at a conative and affective level. Emancipatory learning methods allow the learner not to take assumptions and perspectives for granted but to question them and to make alterations (Mezirow 2000: 125). This clearly could be forged and facilitated by using the Socratic method which creates opportunities for students where they may feel unsettled through engaging in questioning. Thomson (Dall'Alba & Barnacle 2007: 684) states that education brings students back to themselves by first turning them away from the world in which they are immersed and then turning them back to the world in a more reflective manner. Guile & Griffiths (2001: 115) argue that "development" (the empowering process) as distinct from "learning" is characterised by greater levels of abstraction and de-conceptualisation rather than the specifics of human practice, and this process would lead to change or transformation (Engerström *et al* 1995: 12, Mezirow 2000: 20) or what Meyer & Land (2005: 374) term "transfiguration of identity". The Socratic method can provide a platform to accomplish this.

The Socratic method is a challenging process which forces students to engage at deeper levels of conceptualisation.

> I find myself sometimes wanting to give the answer and teach in the process. I need to sometimes bite my tongue and be comfortable with the silence as the students grapples with their own learning during the Socratic process (Participant 2).

Warhurst's (2006: 118) study found academics' learning to be a "painful process of becoming a different kind of person, of reconstructing identity". Clegg *et al* (2006: 92) claim that the confusion and incoherence associated with this level of learning are creative and hold the potential for new meaning-making that should be valued. In addition, Meyer & Land (2005: 375) state that threshold concepts lead not only to transformed thought but also to a transfiguration of identity and the adoption of an extended discourse. This process may

be protracted and may involve oscillation between the states. Supervisors need to be aware of these processes and respond appropriately in their supervisory practice. This is reflected by the comment:

> In today's session I felt that we were pushing the student too far in our questioning and that he needed to have time to process what had emerged (Participant 2).

Prins *et al* (2006: 376) suggest that support may be necessary to adapt task complexity to the threshold of the learner. Supervisors should identify the source of the epistemological obstacles, and use techniques to free the blocked spaces by redesigning activities and sequencing, scaffolding, providing support materials and conceptual tools by means of mentoring and peer collaboration or by providing a nurturing environment to enable the shift in perspective to allow for further personal development (cf Prins *et al* 2006: 376, Meyer & Land 2005: 377). The reflection of participant 1 illustrates this process:

> I needed to find questions that would help the student cross the conceptual threshold into the research domain. It helped that I knew the field quite well, but even though I can point to different avenues into this field, he still needs to cross the thresholds along the way himself. He needs to make sense of this in his own time and his own context.

The application of the Socratic method at crucial junctures in the course of the postgraduate research process could serve as a stimulus in this process.

Novice researchers who are embarking on the postgraduate research process often have a sense of urgency and receptivity to the learning experience. Students need to establish stable and defensible identities to differentiate between the self and the outer world, but with the affirmation of social approval. In referring to identity formation Procee (2006: 246) states that in the process of development professionals need to develop the ability of reflection, not only to be critical of their practices, but also to act in a self-confident professional manner. Mezirow (2000: 125) identifies three levels of reflection for transformation, namely content, process and premise reflection, which is the highest level, where professionals question or reflect on their own presuppositions underlying their knowledge.

Fernandez-Duque *et al* (2000: 289) refer to the process of questioning own knowledge as metacognitive knowledge. Metacognition refers to the awareness of one's own knowledge and the ability to understand, control, manipulate and regulate individual cognitive processes. This awareness of own knowledge involves the ability to monitor and control the information processing necessary to produce voluntary action (cf Case & Gunstone 2002: 461, Fernandez-Duque *et al* 2000: 289). Procee (2006: 241) and Zemblyas (2006: 297) have noted limitations of the reflection process if conducted uncritically. Critical thinking involves thinking actively, carefully exploring situations with questions, and thinking for oneself, viewing situations from multiple perspectives and discussing ideas in an organised manner (Topp 1999: 157). The Socratic method stimulates reflection and critical thinking processes and could be an effective tool for empowerment. This is illustrated by the following comment:

> I suppose being forced to verbalise in their own words (albeit hesitantly) the crux of their research problem helps them internalise the process and also hear what they are saying. So much of research is written. This is a chance to defend their thesis right from the beginning and learn this style of interaction (Participant 2).

In the postgraduate supervision process the student constructs an identity by entering a community of practice as a novice and becoming encultured into a community where s/he needs to become confident in its specific culture and norms (Dysthe *et al* 2006: 302, Wenger 1998: 99). Social engagements often engender contexts appropriate for valuable change and learning (Bartlett & Elliott 2008: 66) as these contexts afford the opportunity to engage with others who think differently, thus providing the opportunity for actively and developmentally transforming practice. It provides a forum for the application of skills learned and the possibility of problem-solving in their own world situations where accountability and relevance are required for students to dig more deeply than just their knowledge acquired in formal study. Becoming a researcher involves acquiring ways of thinking, acting and being. Learning to talk then becomes an important part of enculturation into a community of practice (cf Dall'Alba & Barnacle 2007: 686, Daniels 2007: 25, Dysthe *et al* 2006:

301). In the research process, defence of a thesis and conviction and ownership are the end goal but the process needs to be facilitated. This can be done ideally by means of the Socratic method, either with the supervisor or in a peer-group setting with fellow students. Dialogism, which views knowledge as a process and product of the interaction of voices, is concerned with the construction and transformation of understanding through the tension between multiple perspectives and opinions (Dysthe *et al* 2006: 303). Meaning is thus created in the interaction between dialogue partners. Feedback must involve active participation from the student to foster growth and transformation of understandings. Participation in a community of practice is therefore empowering for a student. Bakhtin (Dysthe *et al* 2006: 303) refers to internal persuasive discourse which is affirmed by the power of its argument. The Socratic method provides a channel for fostering the internal discourse as opposed to the authoritative discourse when the student accepts the word of the supervisor unconditionally. The Socratic method will therefore contribute to the empowerment of the student and foster his/her ownership of the research project and process.

The empowerment perspective entails acknowledging the power dynamic inherent in the supervisory relationship, thus challenging supervisors to build in sequential empowering strategies to enhance students' ownership and control of their postgraduate research process. The Socratic method is a useful strategy to facilitate this process of empowerment. Students also need to gain knowledge of various aspects of themselves in the process of research and thus the ontological perspective is relevant. Strategies are proposed for enhancing this process in the supervisor-student relationship.

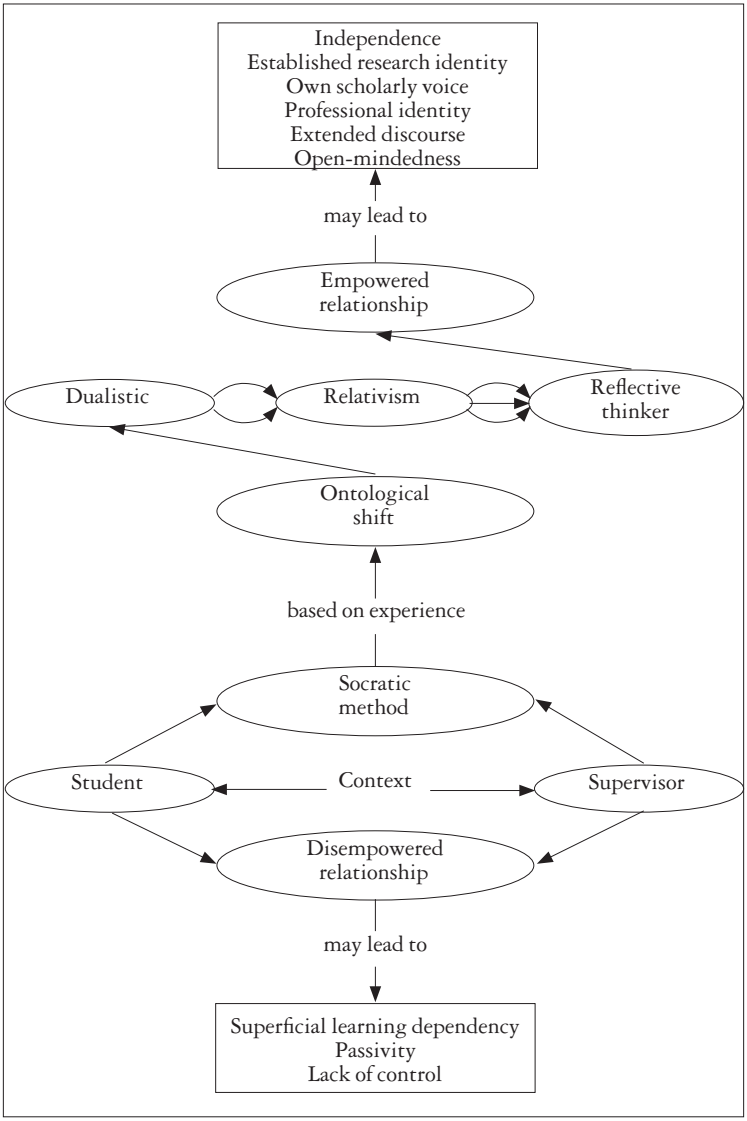
7. Conclusion

The Socratic method is a beneficial way of helping students during the course of their research process. It can be used at various stages when a student feels stuck and can contribute towards the student's research identity formation and the development of his/her own scholarly voice.

This article reflected on practice in the supervisory relationship and sought to provide a rationale for using the Socratic method especially from the theoretical perspective of adult education applicable to the supervisory relationship. This was done from various perspectives. The following conceptual framework provides a point of departure on how these different perspectives can be integrated into supervisors' practice (cf Figure 1).

From an experiential perspective the Socratic method has implications for knowing the student. This will help the supervisor to consciously guide the student in a manner appropriate to his/her particular context. From an ontological perspective the focus is on the students' self-knowledge, which is developed by means of various questioning techniques. The power aspect refers to understanding the dynamics involved in the supervisor-student relationship. Once this has been acknowledged, the supervisor can frame learning in an empowering manner which encourages students to take ownership of their learning process. This article argued that the learning theories of experience, ontological coaching and empowerment have application in developing postgraduate students' experience. The way in which these theories complement each other and may inform supervisory practices have strengthened the rationale for employing the Socratic method as a tool to facilitate learning in the supervisor-student relationship.

Figure 1: A conceptual framework on the integration of adult learning theories in the use of the Socratic method



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