PrePublication Manuscript: Companion Animal

Reflection and our Professional Lives

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What is reflection?

"Reflection" is a word which, in the past, was used relatively rarely in veterinary education. Unfortunately, for some people, as it has started to be used, it has acquired negative connotations, being perceived as associated with "woolly thinking", not the objectivity normally associated with a scientific discipline. In medical education, reflection has recently been defined as "a metacognitive process that occurs before, during and after situations with the purpose of developing greater understanding of both the self and the situation so that future encounters with the situation are informed from previous encounters" (Sandars 2009), and if we trace scholarly thinking on reflection back to its roots, in the writings of John Dewey, at the turn of the twentieth century, it is clear that it is: a systematic process; aimed at meaning-making, with deeper understanding supporting continuity of learning; associated with "attitudes that value the personal and intellectual growth of oneself and others"; and brought about in part through our interactions as part of a community (Rodgers 2002). Based on these foundations, even brief thought (or reflection!) reveals that "reflection" is a quality which permeates all our professional activity. We may "reflect-in-action", during the course of a difficult case (Mamede et al 2007), and "reflect-on-action" when we are reviewing cases which have not gone as well as expected or those where we feel there could have been improvements in our approach or management (Schön 1983). So the ability to recognise unusual features of what was formerly perceived as a relatively routine case, and modify an investigation or therapy accordingly, the hallmark of a good practitioner, be they specialist or generalist, depends on our ability to reflect, although it is not always clear what, in the expert, triggers the change from non-reflective action to deliberative thinking (Moulton et al 2007). Reflection both in and on action will minimise mistakes and also stimulate learning, so that new patterns recognised or old patterns better described can be activated when similar situations are encountered in the future (Crosskerry 2003).

What is the difference between reflection and critical analysis/evaluation?

Like medicine, our profession is science based, and it is our evidence-based approach to diagnosis and treatment of animal problems that is the basis of the social contract that underpins the monopoly on "acts of veterinary surgery" that is our professional privilege (May 2013). The scientific method is one of the most powerful methods that we have for exploring the "truth" about our material world, but its strength also gives rise to its limitations. As far as possible, when we engage in the critical analysis essential to science, we place ourselves on the outside of phenomena under investigation to establish our objectivity as observers. In order not to compromise our methods, we also maintain our protocols throughout to avoid the introduction of any researcher bias. However, if we start to apply scientific method broadly to all the challenges that we face, the danger is that we miss the crucial role we play in our actions and fail to recognise the way our limitations and biases affect the outcomes of these.

In contrast, reflection is the process that allows us to modify our practice as our understanding develops, and our experience starts to provide us with local evidence that is essential to the synthesis that supports true evidence-based medicine as we apply it in the interests of our patients and clients (Sackett et al 1996). We "reflect in action" and modify our techniques as this is appropriate to individual circumstances, and through follow-up, and our "reflection on action", determine how we will approach similar cases in the future. In this reflection on action, in line with Dewey and Sandars, it is important to recognise two components: the first relates to one's practice and professional activity and the second to one's self (Valo 2000). These two are complementary and intertwined, the former looking outwards at the clinical context, the patient and the client, and the latter looking inwards at the part we play in the actions that we take. The professional activity, including clinical reasoning, and our evaluation of ourselves, both appreciating our strengths and acknowledging areas in need of improvement, together form the context for the ongoing learning which takes place, and this process is captured in Gibb's (1988) reflective learning cycle (Figure 1). Thus our observations, feelings and reflections, based on concrete experience, lead, with the aid of the scientific evidence base, to new concepts and their application in future practice (Pitts 2007).

The strengths and limitations of automaticity

As we gain experience, and become familiar with our caseload and clientele, more and more of our actions become automatic. Pattern recognition becomes an important part of our clinical reasoning and, in a similar way to driving a car, our hands are able to undertake routine surgeries without much conscious involvement of our brains! This "automaticity" contributes to our efficiency as professionals, but the danger is that we plateau and our practice neither progresses with our experience nor remains adaptable to the unique demands of different contexts. Deliberate reflection, embracing our tasks and ourselves, is one way of breaking through this pattern. The constant and deliberate revisiting of practice, despite the natural tendency for repeated processes to become routine, is associated with the development of elite performance and expertise, as opposed to lower levels of competence (Ericsson 2006).

Of course, lack of time will be a problem. Rapid, non-reflective action is the way that we all cope with increasingly busy schedules. It is particularly important for the expert generalist, who deploys a full range of reasoning skills from the rapid to the more deliberative on a daily basis (Figure 2), in a way often not seen in specialist practice (Eraut 2000). Individuals conscious of time pressure will go from one task to the next, with little opportunity to take stock of the outcomes of each piece of work (Lockyer et al 2004). So in the same way as professionals triage waiting rooms, and the actions they may take with individual patients, they need to triage experiences for those that are worthy of further attention and those which are not, or at least not at that time.

Self-directed learning and reflection

It follows, from all that has been discussed so far, that reflection is an essential aspect of self-directed, lifelong learning, with the professional person continually identifying gaps between a target standard, in terms of knowledge or practical ability, and their own competence, and taking action to close the gap

(Sadler 1989). The process is challenging for individuals working in isolation so, capturing another of Dewey's themes, formative feedback and stimulating questions, which are a feature of the working environment in larger teams, will encourage continued learning and development (Nicol and Macfarlane-Dick 2004). An important part of university (and arguably also the senior years of high school) education is support by the teachers of the transition from dependency on them, revealing learning targets, identifying learning needs, gauging student abilities and sourcing learning materials in a timely manner for learner development, to the learner taking responsibility for their own learning (Figure 3). Failure of this transition will leave many struggling to cope with the challenges of professional life and the changes that will inevitably occur during the course of their career. Unfortunately, it is easy for those of us who act as teachers, coaches and mentors to mistake supported activity of dependent learners for independence. I have previously used an analogy in which from a distance we can view our protégés as "swimming across a lake. All look similar, equal in their achievement, and, happily, very few of them are sinking. As they get closer, however, it becomes clear that although some are swimming unaided, a large number are wearing buoyancy aids—inflatable armbands or rubber rings" (May 2008). A few are independent, but many more are unduly dependent on those who surround them for help with decision-making and validation of decisions. Once we remove ourselves as "props and supports" their insecurity and reliance on us, in some cases, becomes all too tragically clear.

Learner maturity and reflection

A key factor, which is relevant to successful engagement in reflective learning is the maturity of the learner (Grow 1991). Perry (1970) identified various levels of cognitive and ethical development in college students. At the lowest level, he identified the "basic dualism" of the dependent learner, who sees knowledge as something delivered by an authority, who has "the right answers". For such individuals, learning has little to do with reflection and much more to do with reading every word and memorising "the right answers". Novice learners at this level are often dismayed when they discover that more than one opinion on any issue exists, and, for a while, their inability to handle this discovery may lead to them believing that one opinion is as good as another. Eventually, though, they will realise that although

knowledge is uncertain, relative judgements can be made in relation to its utility in different contexts, and that such judgements require a personal commitment to evaluating the authority and reliability of different sources. It is this concept of knowledge, together with the desire to develop ("need for cognition"), which ensures engagement with lifelong, reflective learning (Dale et al 2009). The capability of making evidence-based judgements, as opposed to the abilities to retain and impart knowledge, is arguably the most important skill possessed by a professional person, and in our modern, knowledge economy the key skill that our clients seek (Tulgan 2001).

Reflection, and knowing what to learn and when to stop

It is surprising that in all the attention that is paid to reflective and self-directed learning, there has been little attention to knowing when to stop. In traditional educational systems and veterinary curricula, that are largely teacher defined, there are usually clear signals related to the nature and amount of material to be learned, and very assessment focused students will constantly ask about what they need to know for their examinations, to the frustration of their teachers (McKenna 2005). However, knowing when to stop learning is a crucial skill that generalists in particular must acquire if they are going to bring order to and make sense of their professional development. In medicine, it is recognised that challenges which lead to physician learning are of two types: specific, often focused on a single patient, and general, associated with a body of knowledge and skills (Slotnick 2003). At both levels, the practitioner makes a judgement on whether or not the learning is going to be important to them. In the case of the individual patient, this may lead to referral; in relation to the body of knowledge this may mean that a branch of activity is ruled out in terms of the context of their practice or their individual skill set. Knowing when to stop is a sophisticated skill as although initial searches may reveal sources exist for learning, the time required may not justify the benefits achieved, or in the case of a practice team it may be recognised that the collective development needed to deliver on a task is not achievable given the culture of the practice or the level of training of the para-professional groups involved. Even if learning is undertaken, two interesting behaviours can be recognised around the way the quality of the knowledge being gained is judged and the decision on when enough has been learned. The judgement of quality is not based on a detailed analysis of the scientific basis

of the source, but rather "hallmarks of good science", such as the journal involved or the recommendation of a colleague, that in the learners mind make it probable that the source is reliable. During their learning, the practitioner will judge that they have learned enough when they feel confident that they can resolve the challenge that has stimulated the learning. With the exception of certain groups such as teachers, researchers and pathologists, it has been recognised that, for the successful clinician, such learning is rarely exhaustive; provided a "patient's pain and anxiety were alleviated, it mattered little whether the doctor understood why" (Slotnick 2000), and a similar contrast between the more academic and primary care perspectives has been reported for veterinary general practice (May 2015).

Reflection and mental health

Stress and mental health issues arise when there is a loss of meaning in our professional lives and when we lack a sense of control (Dunn et al 2007). Particularly in recent graduates, it is likely that some of this relates to the dissonance that they experience when the nature and demands of primary health care, the initial destination for most, do not match their hospital-based perspectives on what it means to be "a good vet" (May 2015). Reflection, with its focus on both the task and the person, is central to the way we make meaning of our lives and learn, and this has led to reflective practice being one strand of the action plan arising from the joint Royal College of Veterinary Surgeons (RCVS) and British Veterinary Association Vet Futures project (Vet Futures Action Plan 2016-2020). In whatever branch of our profession we engage, it is important that we have reasonable expectations of ourselves and also recognise the reasonable expectations that our clients, and our colleagues, can have of us. Many medical (Peters and King 2012) and veterinary (Armitage-Chan et al 2016) clinicians are perfectionists to their cost, and this can be a particular challenge for those struggling with the busyness and messiness of general practice. As well as aiding our decisions on whether we have learned enough, reflection allows us to take stock of our clinical decisions and the way we should be judging our success. Although outcomes will always be important, when faced with the complexity of and uncertainty that surrounds many of the cases seen in primary care, in contrast to specialist practice, an important consideration will be the quality of the decision and whether we would make the same decision, and take the same action, on a future case, despite a poor outcome. If for instance,

you are offered a bet on a toss of a coin, where if you win you receive £100 and if you lose you have to pay £1, and subsequently lose, that outcome does not mean that accepting the bet was a poor decision. It was a good decision because the upside outweighed the potential downside (Lewis 2014). Yet for all of us, inappropriate conclusions drawn from adverse individual outcomes can lead us to believe that we have performed badly when the opposite may be true.

Reflection is thus the starting point for "cognitive reappraisal", the adaptive coping strategy through which we change our measures of success and judgements about ourselves, and alter the emotions that follow the consequences of our actions (McRae et al 2012). Engagement in reflective activities, such as mindfulness, narrative medicine and appreciative inquiry, has been shown to improve wellbeing and empathy in primary care physicians (Krasner et al 2009), and veterinarians who have completed Module A of the RCVS Certificate in Advanced Veterinary Practice report a better understanding of their professional roles and their reasonable expectations of themselves, and reduced stress (May and Kinnison 2015; Kinnison and May 2017).

The place of reflective writing

In the course of our professional lives, the vast majority of our reflection is undocumented. However, reflective writing serves both as a tool to support the process of "reflection-on-action", and also a means by which a third person can recognise that the reflection has taken place and judge its worth. In relation to the latter function, this record of our reflection can be at various levels. It may represent a brief note on the completion of the gap analysis and cycle related to our overall knowledge and skills (Figure 3) through engagement in continuing professional development, as envisaged in the recent RCVS consultation on a new self-assessed, outcomes-based approach to CPD recording, or it may be more extensive in the form of a clinical or practice experience explored through Gibbs' reflective learning cycle (Figure 1) and captured as a reflective case report, as is required in some versions of the RCVS CertAVP. Strikingly different from a scientific paper, a reflective piece is likely to be written in the first person. The third person plays down the personal and emphasises objectivity in relation to the individual as an external observer, in line with

scientific method (Tait 2009). As is being discussed at length here, the large part played by the individual in all the processes of clinical practice means that a consideration of "the self" cannot be excluded. Writing in the first person facilitates the combination of externally and internally-directed reflection.

Conclusion

The intention of this article has been to demonstrate the importance of reflection in our daily lives and its pervasive nature and relevance to everything that we achieve. In contrast to the way we generally view evaluation and critical analysis, reflection embraces both our actions and ourselves as actors, it utilises appreciative inquiry as well as critical discussion, and engages both the cognitive and affective domains of our mental processing. In doing so it both informs our ongoing actions, and justifies and in many cases enhances our future actions. Given its importance to both the quality of our work and wellbeing, its distinctiveness merits the use of a term that to many is unfamiliar in a professional context. Those who are unaccustomed to comprehensive, critical reflection (Hatton and Smith 1995), as developed in this article, often feel awkward about discussing their own strengths and weaknesses, and feelings about these, but effective reflection is an important skill of the adult learner which allows them to develop as a professional throughout their career. Reflection empowers the practitioner to challenge assumptions and received wisdom where evidence might follow the dictates of fashion in the profession or in scientific research, or represent unrealistic extrapolation from the laboratory or clinical trial to our patient (Klein et al 2016). Reflection is a way of being that allows the achievement of evidence-based veterinary medicine at a level above a rather superficial discourse, almost exclusively focused on scientific evidence, that at times downplays the importance of client values and needs, and local knowledge and expertise (Mylopoulos and Scardamalia 2008). It is also an important contributor to the delivery of high quality health services, and error reduction, through the elimination of the so-called blame culture (Kinnison et al 2015). In its most involved form, reflective writing is a way of exposing this learning and quality enhancement process to a third party, and aids the recognition of meaningful CPD that goes beyond acquisition of knowledge to a more profound beneficial effect on the individual (behavioural change) and their clients and colleagues (outcomes)(May and Kinnison 2015, Kinnison and May 2017).

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