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Masterclass

Enhancing skills of critical reflection to evidence learning in professional practice

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ABSTRACT

Professional organisations and regulatory bodies are making critical reflection a mandatory component of professional practice. Reflection is a vital part of learning from experience and is central to developing and maintaining competency across a practitioner's lifetime. This paper will discuss key educational theories to illustrate why reflection is important. Kolb's and Gibbs' reflective cycles are used to structure the process of critical reflection. Elements of the educational tradition of *Bildung* are discussed and integrated to enrich the understanding of self and to facilitate the reader's ability to enhance their professional practice.

1. Introduction

Physiotherapists, amongst other health professionals, are now being asked to provide evidence of continuing professional education and reflective practice as part of professional registration and licensing processes around the world (Mann, Gordon, & MacLeod, 2009, Roberts, 2002). Over the last 10 years there has been a shift from evidencing formal learning in portfolio's, such as merely using official certificates of attendance, to documenting how both formal and experiential learning impact on changes in practice (Jasper & Rolfe, 2011). Reflection is a critical part of learning from experience and is important in developing and maintaining competency across a practitioner's practice lifetime. Despite little direct evidence in the literature associating reflective practice and competency (Mann et al., 2009) professional organisations and regulatory bodies are making reflective practice a mandatory component of professional practice. The International Federation of Sports Physical Therapists (IFSPT) requires physiotherapists applying for their accreditation process to demonstrate a variety of reflective pieces relating to their devised Sports Physiotherapy competencies (Bulley et al., 2005). This need to evidence professional development and its impact on an individual's practice increases pressures for Physiotherapists to become competent reflective practitioners.

Moon (2001) discusses that we cannot actually see learning but only the impact the learning has on practice and behaviours, termed the representation of learning. It is with this in mind that linking this learning back to practice is imperative and being able to evidence this is critical when maintaining portfolios of evidence in relation to maintaining practice accreditation or licensing.

This paper will refresh the reader's knowledge of reflection and its application. It will illustrate why reflection is important and will develop the reader's use of familiar reflective models (Gibbs and Kolb) by integrating components of *Bildung*, an educational tradition of self-cultivation, to encourage deeper levels of understanding. An example scenario will be used to highlight the practical application of the concepts discussed.

2. What is reflection?

It is clear in the literature that reflection is not just thinking or going back over an event in the mind, which occurs commonly in everyday life. The purpose of reflection is to work out what is already known and add new information with the result of drawing out knowledge, new meaning and a higher level of understanding (Moon, 2004). Boud, Keogh, and Walker (1985) describes reflection within the context of consciously looking and thinking about experiences, actions, emotions, feelings and responses then interpreting them in order to learn from them. Similarities can be drawn from both authors' descriptions of reflection. That it is a conscious and systematic approach to thinking about experiences with the aim of learning and changing behaviours. Reflection should challenge a person's understanding of themselves, their attitudes and behaviours so that any biases are unearthed, thus allowing that individual to become more critical about their views of practice and

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Scenario

Physiotherapist A, Anna, meets her more experienced colleague Physiotherapist B, Barbara, in the office and asks for her opinion on a patient she is treating. Anna explains how she found a recent sports massage course really useful and that she learnt lots of different techniques. Particularly, she has been using the techniques that involve active movement of the area by the patient while a stroking technique is applied. She feels that she is confident in applying the correct technique. However, she has been using the technique on an athlete with a mild hamstring strain but he is not functionally improving as she had hoped. Barbara explains she is not that familiar with the techniques but they discuss factors that should be addressed with hamstring strains and Anna realises she had not integrated the new techniques with other aspects of exercise rehabilitation that is needed for optimal recovery. Immediately after the discussion Anna felt a bit embarrassed she had not realised her current management of her athlete was lacking some key components but will integrate this into her plan immediately and remember this for future patients. Four weeks later the colleagues chatted again and the athlete's hamstring strain had improved well and they were back training fully. Anna thanked her colleague for her advice and in return Barbara said she had benefited from the conversation as she had done some reading about the new techniques herself and is now using them in her later stage treatments as she feels this is where they fit most appropriately and is finding them useful.

the world (Jasper & Rolfe, 2011). The consequences of integrating reflective practice into one's own practice can include enhancement of patient care, the bridging of the theory-practice gap, the resolution of practice-related problems and the stimulation of critical thinking to foster changes in practice (Duffy, 2007).

2.1. Reflection and learning

Many early definitions of reflection focused on its education origins and viewed it as a method of learning from practice (Jasper & Rolfe, 2011). Habermas (1987), an influential sociologist, emphasised the importance of 'self-knowledge' and encouraged reflection as a way of emancipation from externally imposed views and beliefs. Mezirow (1997) developed this concept and placed importance on the individual learning to make their own interpretations of events and situations rather than acting on beliefs and judgements of others. This transformative learning develops autonomous thinking. Everyone has 'habits of mind' and 'a point of view' and these two dimensions form a frame of reference that define individuals. The frame of reference can be transformed through critical reflection on these assumptions, habits and beliefs leading to significant personal transformation. Being reflective of one's own assumptions is critical for transforming one's 'taken-for-granted' frame of reference (Mezirow, 1997). Therefore, using the above concepts of learning, reflection is an integral part of developing deep learning. Mann et al. (2009) concluded, in their systematic review, that current literature suggests that reflection and a deep approach to learning seems integrally related and mutually enhancing.

2.2. Bildung

Bildung is a transformative, self-educative process whereby an individual takes responsibility for personal and cultural maturation (Biesta, 2007). It is comprised of several interrelated concepts that are illustrated in Fig. 1.

By writing and talking about experiences (narrative), considering the historical, social and cultural contexts, learning occurs. The nature of this learning is self-reflective and is a dialogue of thinking and doing that includes moral questions about ethical practice and the worthwhile nature of activities (Schön, 1987). An individual takes responsibility for their intellectual, emotional and moral learning and is willing to take a risk to change for personal and professional growth. *Bildung* recognises the on-going nature of learning and that it takes time for change to occur or for learning to be apparent. The increased understanding and development of moral growth, improves the society in which the individual works (Biesta, 2002; Gadamer, 2004).

The scenario demonstrates Anna initially demonstrating a more superficial approach to her learning, but her reflection on the patient and discussion with her colleague allowed her to start to integrate this learning and shows the beginning of her changing her practice; becoming transformative learning.

2.3. Knowledge, skill and expertise

The delivery of physiotherapy services is concerned with accountability, the concept of evidence-based practice and clinical effectiveness. Consequently Physiotherapists need to continually review their practice in a critical and analytical manner to ensure they are adhering to these concepts (Donaghy & Morss, 2000). There are many occasions where current evidence does not advocate a particular practice and it is in these situations of clinical uncertainties that Schön (1983) suggests reflection has great importance enabling personal experience and the knowledge gained from the experience to inform decision making processes.

There are many components to reflection and two separate discourses are described by Rolfe and Gardner (2006); learning about our practice (epistemological) associated with generating knowledge from and about practice and learning about our self (ontological) associated with exploring who we are as practitioners rather than what we know (Rolfe, 2011). These components are both associated with ways in generating knowledge. Knowledge itself, when explored as a term, has many uses and meanings.

Higgs and Titchen (2000) name three types of knowledge that are critical for clinical decision making: propositional, professional craft and personal knowledge. Propositional knowledge, which can be expressed in language, incorporates scholarly learning such as books, journals and empirical scientific methods. Professional craft is derived from professional experience, is often tacit in nature, and associated

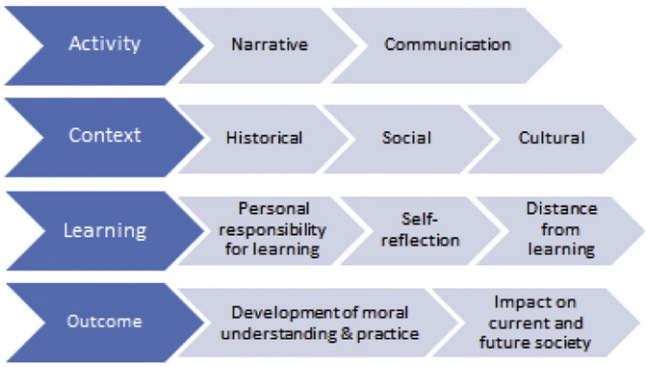

Fig. 1Elements associated with Bildung.

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with procedural skills such as mobilising a joint or releasing soft tissue hypertonicity. Personal knowledge is the aspect which gives a unique frame of reference for that individual i.e. a knowledge of self. Personal knowledge is derived from the individual's ability to reflect on their experiences. King and Best (1998) discuss that learning from clinical experience and gaining advanced knowledge will be compromised if one aspect of knowledge is neglected.

A novice practitioner has propositional knowledge acquired from books or courses but lacks experiences on which to base their practice decisions. They therefore have to rely on formal 'scientific theoretic knowledge' and therefore their practice is limited and inflexible. As the novice increases their experiences they develop their experiential practical knowledge (professional craft knowledge), which Benner (1984) describes as being able to make fluid and effortless decisions based on intuition. Benner (1984) argued that tacit experiential knowledge is the hallmark of expert practice, although she acknowledged that capturing the description of expert performance is difficult as the expert operates on a deeper level (Benner, 1984). Benner's expert practitioner functions by not only using analytic principles e.g. guidelines or rules, but via a mechanism that is both difficult to verbalise and that has no rational process; simply an intuitive one.

Anna demonstrates how a more novice practitioner used the new knowledge gained on the course in her practice. She applied the techniques as taught correctly, but struggled to integrate the new knowledge with other treatment aspects. After reflecting on the new knowledge in relation to the problem patient and gaining experiential experiences of using the skills she was able to start to integrate this knowledge more effectively.

Dreyfus and Dreyfus (1986) have the view that the expert arrives at their decisions through 'pattern matching' or 'pattern recognition'. This method is optimally used when the practitioner has time to match their current experience with their past practice experiences. They point out that this is less optimal when needing to make a quick decision and they believe in these circumstances the expert practitioner develops an 'intuitive grasp' of the situation.

Both Benner (1984) and Dreyfus and Dreyfus (1986) have this component of intuitiveness regarding the expert practitioner and decisions they make. However, in the current environment of evidence based practice expert clinicians are expected to be able to justify their decisions and where appropriate use research to support their actions. This concept of how practitioners articulate their knowledge and thus are able to pass it on to others became the focus of Schön's (1983) reflection-on-action and reflection-in-action theory.

Reflection-on-action is predominantly performed by more novice practitioners. It occurs after the event when thinking about what happened, what was done and whether there was anything that would change next time that could have changed the outcome. Reflection-on-action transforms experience into knowledge (Schön, 1987). This type of reflection can highlight beliefs, expectations and biases and by recognising them, their influence can be acknowledged (Moon, 2010).

Reflection-in-action is concerned with reflecting on practice while it is happening. According to Schön, reflection-in action, thinking about practice whilst actually doing it, is considered the distinguishing feature of expert practitioners. Schön (1983) considered reflection-in-action as a way of doing 'on the spot' research, action research; being able to both generate a new understanding of the situation and change the situation. Therefore, the first key concept of reflection-in-action is the conscious attention to the task in hand. The second key concept is meta-reflection on the reflection. This is a form of internal supervision whereby the practitioner is acting as their own supervisor and questioning whether they are dealing with the situation effectively (Rolfe, 2011). For example when applying massage with movement techniques to an athlete with a hamstring strain the practitioner reflects and judges if they are appropriate and being applied correctly. Also they consider if the desired outcome wanted from their use is occurring and if not doing something about it immediately.

Practitioners need to use both of these reflective components. Novice practitioners use reflection-in-action less than more experienced colleagues and it is this aspect of learning to look inside themselves to reflect-on-action that allows practitioners to become more 'expert'.

Anna used reflection-on-action; retrospective reflection on the patient. As a result she identified why her treatment was not effective. She developed new knowledge about the techniques and integrated this and changed her practice. As her practice becomes more 'expert' she will develop her clinical reasoning and reflect-in-action and be able to change her practice there and then rather than after the event.

2.4. Reflection and clinical reasoning

Clinical reasoning is the thinking and decision making associated with clinical practice so that the best-judged action is undertaken (Jones & Rivett, 2004). Clinical reasoning becomes increasingly sophisticated with advancing experience, leading to easily accessed patterns of in-depth knowledge. King and Best (1998) discuss the importance of critical self-appraisal and reflection in developing advanced knowledge structures, and why experience alone is not sufficient to develop diagnostic reasoning. Physiotherapists can add to these patterns from new information gained from each new case they experience and reflect upon. Clinical expertise therefore pertains to the ability to clinically reason, reflect on practice and embrace life-long learning in relation to both propositional and non-propositional knowledge (Jensen, Gwyer, Hack, & Shephard, 2007).

Rivett and Jones (2004) in discussing the characteristics of expert manual therapists place significant importance on having high metacognition in their clinical reasoning, having strong self-monitoring skills, the ability to communicate their clinical reasoning and the ability to use different forms of knowledge critically. There is evidence that 'good' learners have better metacognitive processes than 'poor' learners (Ertmer & Newby, 1996) and that reflective activity supports learning through the encouragement of metacognition (Moon, 2001). All these components have been discussed in this article previously when relating reflective practice theories to advanced practitioners qualities and practice (Table 1). Therefore, reflection plays a critical role in the development of advancing practice in physiotherapists and needs to be combined with scholarly activity and clinical practice.

3. How to develop skills of critical reflection

Professional practice is a complex and unpredictable process. Schön (1987) uses the analogy of it being like a swamp full of alligators. It is difficult to negotiate your way through without harm. Ricoeur (1991) echoes this complexity when he differentiates

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Table 1
Features of novice and expert practitioners.

Novice practitioner	Expert practitioner
Reflect on action	Reflect in action
Superficial level of reflection	Deeper level of reflection
Epistomological (learning about our practice)	Ontological (learning about self)
Taught	Experimental
Use propositional knowledge	Use professional craft knowledge
	Use personal knowledge
	Verbalise clinical reasoning
	Strong self-monitoring skillsr (high metacognition)

between a life lived (in the present as it unfolds, complicated, disorganized and confusing) and a life recounted, where some structure and thought allows a sense of order to be brought to bear on experiences. Benner (1984) classifies this sequence of events in this way.

> Live lived, Life as experienced, Life as told.
>
> A life lived is what actually happens. A life as experienced consists of the images, feelings, sentiments, desires, thoughts, and meanings known to the person whose life it is… A life told, a life history, is a narrative, influenced by the cultural conventions of telling, by the audience, and by the social context.

Accepting the differences between living and telling life stories is crucial to the understanding of the reflective process and echoes Schön's (1987) processes of Reflecting-in-action and Reflecting-on-action. When living a life it is difficult to put events and thoughts into context or sequence. When thinking about it subsequently, a person tries to synthesise everything into a coherent story that will link intentions with actions, previous experiences and learning with consequential performance and future aspirations with present understanding. In telling a story of an event to another, the presentation will vary and the response gained will again alter the subsequent interpretation. Also, listening to other people's stories alters the way a person views and understands their own life.

Recounting a tale of a life or professional situation is a critical part of learning from it. It is not easy, however, to tell a story in a coherent manner. Many authors interested in reflective practice, have therefore attempted to outline a structure that will assist in this process. (Ghaye, 2011; Gibbs, 1988; Johns, 1995; Kolb, 1984).

There are many reflective models available all with their own benefits and limitations (Duffy, 2007) and they are believed to encourage deeper levels of reflection (Mann et al., 2009). For the purpose of this paper, two models (Gibbs' (1988) and Kolb's (1984) models) have been chosen to illustrate different approaches to critical reflection as they are commonly used by health care practitioners; are often available in electronic media and provide a straightforward structure to enhance critical reflection (Rolfe, 2011). Questions prompt alternative ways of thinking about personal and professional issues and help encourage the appropriate application of ideas from the literature to the critical reflections on practice. However, Moon (2001) questions that users of models can just go through the motions when reflecting and not learn from the process. Therefore, additional prompts from work on the educative process for moral development *Bildung* will be introduced to the reader to stimulate a deeper reflective process (Gadamer, 2004).

It is important to add at this juncture that the reflective process is an iterative process. Once the stages advocated in a model have been considered, that is not the end of the inquiry; merely it provides a platform for further analysis at a later point in time.

Kolb (1984) developed a cycle of experiential learning that involves four stages (see Fig. 2).

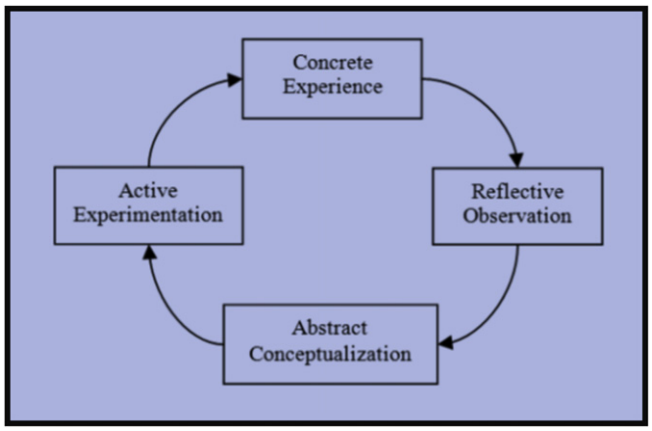

Fig. 2. Kolb's (1984) cycle of experiential learning.

1. Concrete experience: This is a description of the actual event. It is followed by a period of
2. Reflective observation: This includes analysing emotions and linking prior experiences and knowledge.
3. Abstract conceptualisation: During this phase, the literature is consulted and through discussion with colleagues, an individual modifies their thinking and reappraises the situation.
4. Active experimentation: In this final phase an individual tries out new theories, approaches or solutions in similar or new situations. This then becomes the concrete experience on which subsequent reflections can be made.

Gibbs' (1988) reflective cycle consists of six stages of reflection and action following an experience (see Fig. 3). It builds on Kolb's (1984) cycle suggesting a more detailed process for exploring and analysing the situation.

1. Description. The therapist describes what happened.
2. Feelings. Thoughts and feelings that occurred at the time and subsequently are explored.
3. Evaluation. An analysis is carried out in the form of recognising what was positive and challenging about the experience.
4. Analysis. This analysis involves trying to make sense of the situation and recognising the impact that it had on the therapist's professional practice.
5. Conclusion. At this time in particular (though it can happen at any time in the cycle) literature is explored and colleagues consulted to understand the situation better and resolve what else could have been done.
6. Action plan. A plan of action for the future is devised that would map alternative approaches should this or a similar situation arise in the future.

Either of these cycles may be used to analyse and reflect on a situation, a habit, a mode of practice or a service delivery. The models can be used at different times for expedience or deeper reflections. Both feature the need to consult the literature and discuss the situation with others, who can be colleagues, service users, managers or family and friends. Mann et al. (2009) highlight that mentoring and gaining input from supportive peers is one of the most influential elements in enabling the development of reflection.

3.1. Integrating Bildung

Each Physiotherapy professional aspires to provide the best service of care to their clients. In other words, s/he is aiming to

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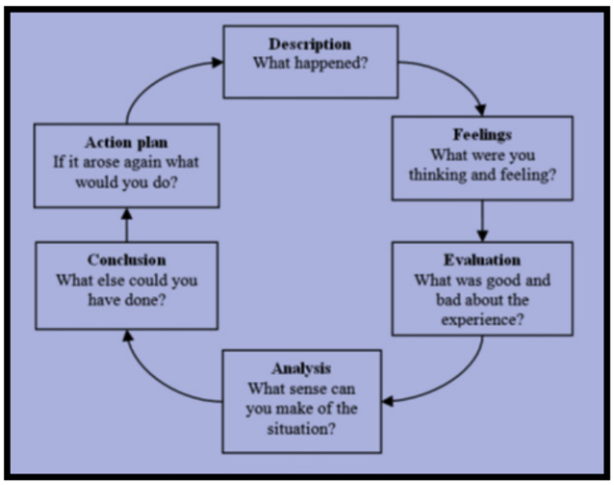

Fig. 3. Gibbs' (1988) reflective cycle.

achieve something that is morally worthwhile. To do this, a therapist needs to have an insightful understanding of historical, social and cultural influences impacting on the client/therapist relationship. This recognition is an important part of the critical reflective process in order to understand the life lived and the critical events that occur in it (Erben, 1991). Each individual is a product of their ancestral background as well as their own personal experiences. Family influences and the sociocultural mores of an upbringing, entrench deep attitudes, beliefs and values. Thus a person's history motivates different health interpretations and actions, which need to be appreciated in any therapeutic interaction.

Taking into consideration components of the *Bildung* process, when critically reflecting on experience, deepens the learning. The authors have therefore enhanced the two models cited previously to include questions that will encourage readers to think more broadly and deeply about their experiences. The worksheets provided (Appendices 1 & 2) guide users through the process described above.

The following excerpt from Appendix 3 highlights Anna's use of narrative to explore her situation in greater depth in relation to historical, social and cultural contexts.

…I also felt frustrated and embarrassed for not being able to improve the function of the patient which I had expected. I felt worried this might impact on the confidence that the team and athletes would have of me. In a similar event last year I lost the confidence of the head coach when I failed to get a player back to competition by an agreed date. He then wanted a second opinion on my key decisions with future injuries. That made me feel devalued and insecure and I felt I lost my integrity within the team. I didn't want to have that happen again in this new job. I've not been long in this role so although more of a novice I still have experiences and skills which I need to be able to apply in a more refined way. Fortunately I felt comfortable going to my colleague because she's approachable despite her seniority. Having talked this through with my colleague, I realised that this scenario wasn't as extreme as before and I felt relieved. I was reassured by my colleague's comments and feel I now have greater clarity over when I should use these techniques and that I should always ensure I address the different components to rehabilitating a muscle strain.

4. Summary

This paper has discussed the rationale for the use of reflection in professional practice. It highlights the nature of knowledge acquisition from experience and the importance of integrating propositional, professional craft and personal knowledge. The transition from a novice to an expert practitioner requires the development of skills of critical reflection to advance their craft and provide higher levels of service. Approaches for enhancing these skills have been discussed and concepts from *Bildung* have been integrated into two reflective models (Appendix 1 & 2) to facilitate readers' development of these skills. The case scenario is explored further using an adaptation of Kolb's cycle of reflection to illustrate the process of documenting critical reflection (Appendix 3).

Appendix A. Supplementary data

Supplementary data related to this article can be found at http://dx.doi.org/10.1016/j.ptsp.2013.03.004.

Conflict of interest

The Authors declare no conflict of interest in submitting this article.

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