



# EDUCATION FOR HEALTH

## PRACTICAL ADVICE

# The Float Model: Visualizing Personal Reflection in Healthcare

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## ABSTRACT

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**Challenge:** Healthcare students and practitioners need to be able to critically assess themselves and their actions in order to learn from their experiences and improve their care of patients. Students' behaviours can be directly observed and faculty can provide direct feedback on it, when necessary. But 'reflection', a mechanism for assessing one's self, is less visible and often remains an abstract notion that is difficult to understand, use, and assess.

**Educational model:** We designed an educational model to help healthcare educators and learners visualize reflection. We posit that it can provide a greater understanding of what reflection is, how it works and how to facilitate its development and use by individuals. As a metaphor we used the angler's (fisherman's) float, which to function properly must stand balanced and steady in the water. Likewise, healthcare practitioners try to maintain an upright balance to be able to learn and work effectively. The visible component of the float, the portion above the water, is the 'behaviour'. The hidden, "mental" components of the float are under water: expert thinking (a combination of 'clinical reasoning' and 'scientific thinking'), 'personal reflection', and 'unconscious thoughts'. Each of these mental components plays a role in maintaining balance in learning and working, varying with the circumstances and context. And of course, without water a float has no meaning. In the float model, the water symbolizes the organisational and cultural context in which each practitioner must learn to function.

**Applications:** We propose that the float model can be used to reveal the interplay among clinicians' mental processes, which occur unseen "underneath the water" but subtly influence the appropriateness of the behaviour witnessed at the surface. We believe the model can help prevent errors in understanding practitioners' behaviours and their causes, such as



when they blur scientific thinking and personal reflection, take reflection as a goal in and of itself, and deny the value of the intuitive and unconscious aspects influencing their behaviours.

**Keywords:** Reflection, education, model, professionalism

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## Introduction

Educators' encouragement of reflection in healthcare students is acknowledged as key in teaching them how to use their personal experience as a source of learning, along with other sources such as books, classroom instruction and the internet (ABIM, ACP-ASIM & EFIM, 2002). Personal reflection is the examination of one's experience to help clarify and create meaning from what has been experienced to promote balanced functioning and learning (Aukes *et al.*, 2007). Healthcare educators and supervisors can play a key role in encouraging reflection within education programmes and internships.

It is difficult, however, to observe healthcare students' reflection. The concept of reflection is multifaceted and often not well understood, and its definition is abstract to many. Nevertheless, educators need to get the concept of reflection across to their students. The lack or even abundance of information may result in ignorance or unrealistic expectations and even cynicism, instead of bridging (reflective) theory and (reflective) practice (Inui, 2003). The challenge is to find a way to structure information so that educators and students recognize the concept and the value of reflection and develop competences to use it purposely during education and in future professional life.

This article does not offer new ideas on reflection. It does, however, describe a practise-derived educational tool to help learners visualize reflection and thereby more readily grasp its concepts. Examples are provided to illustrate its use. As any metaphor, the float model has strengths and limitations, which will be discussed.

### *Personal reflection*

For the sake of simplicity for educators and students we will distinguish personal reflection from clinical reasoning and scientific thinking. Clinical reasoning has become almost synonymous with problem solving, and scientific thinking is when problems are solved using research-derived evidence. These two well-known modes of thinking are commonly associated with the sophisticated cognitive competence of medical expertise. Expert thinking is - at least in highly professionalised healthcare disciplines - a combination of clinical reasoning and scientific thinking. It is knowledge-based, outwardly problem-oriented, and operates within the logical-cognitive dimension. In contrast, personal reflection is mainly experience-based, oriented to the personal side of the expert, and operates within the affective-attitudinal dimension. Personal reflection can be defined as inquiring into one's experience, thus clarifying and creating meaning for the benefit of balanced functioning and learning (Aukes *et al.*, 2007). Balance is when there is stability between the expert and the person in the functioning of the healthcare professional.

### *Empirical support*

These two modes of mental activity for healthcare professionals—expert thinking and personal reflection—have an empirical basis. In one of the rare empirical studies on reflective practice in medicine, Mamede and Schmidt used factor



analysis to reveal five dimensions to how physicians think and reflect: (1) deliberate induction (thinking from bottom up: collecting data about the patient to gain a more accurate and complete understanding), (2) deliberate deduction (thinking from top down: using a theoretical concept or schema to help one focus on selected data), (3) testing and synthesizing (combining elements from the patient's context or from other healthcare disciplines to better understand the patient), (4) open reflection (looking at the clinical situation from another angle, postponing judgement about another or oneself, when one is open to feedback from the patient or colleague), and (5) meta-reasoning (when one considers one's own thinking patterns and might then, for example, talk with a colleague about problems in the communication) (Mamede & Schmidt, 2004).

The first three components generally resemble expert thinking: the daily process of combined clinical reasoning and scientific thinking. Mamede and Schmidt (2004) consider the last two components as the affective, attitudinal and meta-level dimensions of reflection, which resemble the mode of 'personal reflection'.

### **An educational model: the Float**

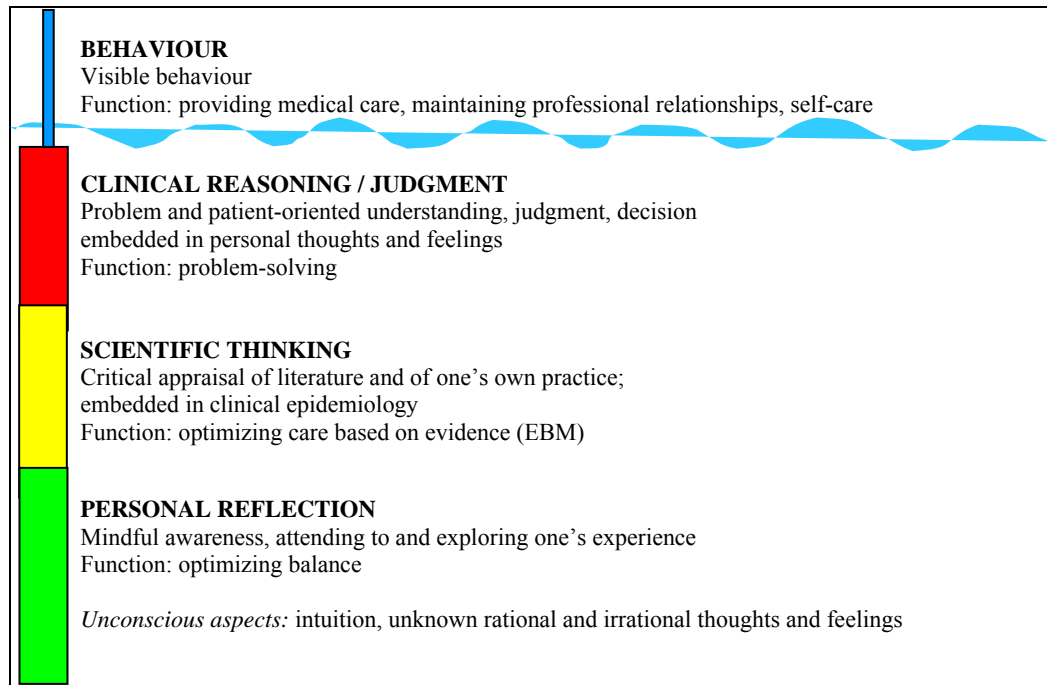
To better visualize the notion of reflection, we use the metaphor of the float in angling (fishing). The angler's float must stand steady in the water in order to function properly. Likewise, healthcare professionals must try to balance their knowledge and skills, thoughts and feelings, and their own and others' values and expectations, in order to be effective in their work.

When observing, for example, residents during a clerkship, we first form an overall impression that assesses their functioning as either 'balanced' or 'unbalanced'. This first general impression can then be nuanced by further observing the functioning of the various components of the float, and we can give feedback on each of these components. Specifically, above the water we observe the residents' 'behaviour'. Just beneath the surface lies their 'expert thinking', a combination of 'clinical reasoning' and 'scientific thinking'. Next is the level of 'personal reflection', and lastly, at the bottom of the float, the unconscious components are located. And of course, without water a float cannot function; the water in the model symbolizing the organisational and cultural context in which each healthcare professional functions. Learning how to appropriately practise as a physician within one's context can be challenging (see Figure 1).

For practical reasons, when teaching the thought modes of clinical reasoning, scientific thinking and personal reflection, they are best described separately. In practise, however, they are inseparable and experienced as a 'whole'. The float model enables more in-depth characterization, visualization, understanding and communication about the range of clinical, scientific and personal thoughts, feelings and reflections that underlie professional behaviour.

### ***Behaviour***

The conduct of healthcare professionals is visible as 'behaviour', which is above the water's surface within the model. The critical outcome of healthcare and education is not what one thinks or intends to do but what one actually does, i.e., giving an injection correctly, providing good quality care, giving appropriate advice to a patient or feedback to a resident, and sustaining effective relationships. Another often overlooked but important function of balanced behaviour for healthcare professionals is maintaining one's self and preventing burnout.



**Figure 1: The Float Model of reflective practice**

Both the expert and personal parts of healthcare professionals become visible to others through the professionals' behaviour. In this regard patients, students and colleagues experience the performance of a healthcare professional as an integrated 'whole'. Healthcare professionals also experience their own behaviour or performance as a 'whole'. This whole is composed out of several components, described below.

### ***Clinical reasoning***

Healthcare professionals are experts in a specific clinical discipline or in a sub-discipline. Their discipline-specific competence principally embodies their expert knowledge and expert thinking. Consequently, educational programmes address, in the first place, discipline-specific expert knowledge and skills. Clinical reasoning is directly linked to expert behaviour, which centers on diagnosing and treating, and it is therefore situated within the float model just underneath the surface.

Clinical reasoning and judgment comprise the ongoing processes of problem and patient-oriented understanding, judgment and decision. These processes become evident and are observed during history taking, the physical examination, decision-making, in communications with patients, and in patient-oriented discussions and interactions with colleagues.

Although clinical reasoning is discipline-specific expert thinking, it is not fully removed from the person of the healthcare professional. Clinical reasoning is always permeated by one's personal thoughts and feelings, which continually bubble up from below. These thoughts, feelings and bodily sensations influence the professional's perceptions, clinical reasoning and behaviour. The process of diagnosing is heavily influenced by the personality of the professional, the quality of



communications with the patient, the professional's impressions and perceptions of the patient, and the work setting (Silverman *et al.*, 1998).

The embedding of expert thinking (clinical reasoning) in the practitioner's personal thoughts and feelings is not only inescapable but also significant as the basis of the ability of the healthcare professional to elicit, make sense of and synthesize the perspectives of patients and their families. The function of embedding clinical reasoning within personal thinking helps preserve the problem- and patient- and relationship-orientation in daily healthcare (Epstein, 1999). Therefore, the goal is not to deny but to be aware and make use of this embedding.

### ***Scientific thinking***

Closely connected with clinical reasoning is scientific thinking; together they form the components of expert thinking. Scientific thinking is to critically appraise the literature and one's own practice (Sackett *et al.*, 1991). Scientific thinking is needed to optimize scientifically-based clinical judgments. It is the scientific strengthening of clinical reasoning. The tight connection between clinical reasoning and scientific thinking has been widely accepted within evidence-based medicine, evidence-based nursing, and evidence-based practice generally. They are the processes by which the individual practitioners incorporate scientific evidence into their care of patients.

Scientific thinking becomes apparent behaviourally in the maintenance of a critical attitude towards one's own processes of reasoning and judgments, through critically appraising the literature (CAL) and by linking one's own practice to best practices based on empirical evidence from formal studies. Taking the step of linking one's practice to scientific evidence does not happen automatically or easily. It requires a self-critical attitude, accepting uncertainty as routine part of healthcare, and training in the application of basic clinical epidemiology principles (Clark & Croft, 1998).

When practitioners are thinking about the scientific aspects of the diagnostic and therapeutic processes, they are principally working within the logical-cognitive dimension of their expertise. We will next broaden the discussion into the emotional-attitudinal dimensions of professional and personal learning and functioning.

### ***Personal reflection***

To become an effective practitioner one must integrate technique, knowledge, skills and attitudes in an individualized, personal way. It is important to be able to use experience as a source of learning. Personal reflection, defined as inquiry into one's experience, clarifies and creates meaning for the benefit of balanced functioning and learning (Aukes *et al.*, 2007). Personal reflection can be oriented towards the meaning of one's own experience as well as the meaning of the experiences of others, including patients, students and colleagues.

Personal reflection also includes the self-care of the healthcare professional, to maintain his or her health and prevent burnout. Insufficient self-care is a type of imbalance between the expert and the person within the healthcare professional, which does not serve the interests of good patient care.

Learning from experience does not happen only within the technical and cognitive dimensions of the practitioners' know-how, but also pertains to their emotional and attitudinal dimensions, such as their thoughts, feelings, reactions, fears, and



disappointments. Consequently, personal reflection on one's experience involves attending to thoughts, feelings and bodily experiences rather than solely intellectualizing about them (Epstein, 1999; Coulehan, 2005). We use the term personal reflection to emphasize the subjective and complementary character of this process, in contrast to 'objective' scientific thinking.

### *Unconscious aspects*

We include the unconscious aspects of professional functioning because, although often neglected, they can be influential (see table 1 for examples). Unconscious components are positioned at the bottom of the float model because they lie deeply hidden, nevertheless they affect every other level of the float model, from clinical reasoning, to scientific thinking, personal reflection and behaviour.

**Table 1: Examples of the unconscious aspects in professional functioning**

1. *Unconscious aspects of expert thinking.* The clinical 'intuition' of healthcare professionals, or 'encapsulated' knowledge (Schmidt *et al.*, 1990), means that a medical expert automatically focuses on patterns and critical cues in the signs and symptoms of the patient, without reasoning explicitly through each step, as students do. However, when asked, the expert can make this encapsulated knowledge explicit.

2. *Unconscious aspects of personal thinking.* Expert thinking is embedded in personal thinking: when healthcare professionals observe, judge others and give them feedback to others, including patients, colleagues and students, there is inevitably a subtle influence of their own personal background that colours their thoughts, feelings and reactions. Professional judgments are subject to an unconscious and unintentional self-serving bias, even when efforts are made to avoid this (Dana & Loewenstein, 2003).

3. *Unconscious aspects in the interaction between practitioner and patient.* A widely-appreciated example is the phenomenon of 'transference' and 'counter transference' that occurs in any relationship that is characterized by affection, hierarchy and/or dependency (Patterson, 1959). Transference is the unconscious displacement of thoughts, feelings and behaviours from a previous significant relationship onto a current relationship. One example would be the patient who cannot handle the dominant behaviour of a physician because he/she connects it with a previous negative experience with a dominant individual, leading the patient to refuse to answer the physician's questions honestly. 'Counter transference' is the complement to transference, as in the preceding case should the physician have an unconscious reaction to the patient's transference, leading to irritation with the patient, an incomplete diagnosis, feelings of insufficiency or that 'I never can do any good with this patient'. Transference and counter transference can differ in intensity, stability and differentiation (Körner, 1999).

4. *Unconscious aspects of educational interaction.* The development of a professional identity of healthcare students and young professionals is embedded in their personal identity development. This means that how they react to their teachers and how they make sense out of their first experiences in practice is not just goal and action-driven, but also occurs in the service of maintaining a consistent, positive and 'true' professional and personal self (Winnicott, 1989). A reflective healthcare educator is aware of this phenomenon.

From a restricted, solely evidence-based perspective, these subjective and unconscious aspects of the practitioner's thought processes may be regarded as irrational and as threats to rational behaviour. Accordingly, within this view they should be minimised, ignored, or seen as relevant only to the physician's private domain. However, in modern integrative healthcare practice these subjective and unconscious aspects of practitioners' thinking are recognized as important parts of professional expertise and conduct, and they are necessary for practitioners to deal appropriately with complex patient problems. We therefore need to pay deliberate attention to them within education as structural aspects of the clinician's thought processes (Khushf, 1999; Kabat-Zinn, 1990; Epstein, 1999).



## *The water*

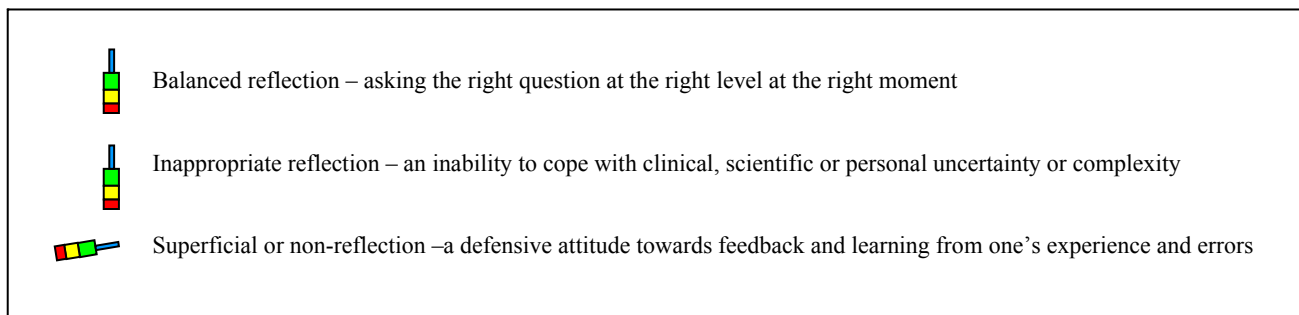
The water symbolizes the context of the patient, the culture, the organisation and the other aspects of the setting in which healthcare professionals work. This includes influences on care from other situational circles, such as the hospital's management systems, bureaucratic procedures, and the structure of the greater healthcare system, professional obligations, and society.

These contextual factors do not operate solely as one-way influences from the outside. How one reacts to one's context in a given situation depends on the perceptions of others and the situation (see table 1). Therefore, a practitioner who has adequate reflection capabilities is aware of and inquires about the processes shaping his or her perceptions and judgements and the perceptions and judgement of others in the environment.

The experiences, expectations and circumstances of the patients, that is, their context, are important contextual factors that should be taken into account. Complementary to 'evidence-based care', 'contextual-based care' is also needed for quality, integrated healthcare (De Maeseneer *et al.*, 2003). While scientific thinking reinforces the evidence-based quality to clinical reasoning, personal reflection reinforces the contextual-based quality of care.

### **Examples of reflective behaviour**

Using the float model, three fundamental configurations of reflective behaviour can be distinguished: balanced reflection (the standing float), inappropriate reflection (the submerging float) and superficial reflection (the tilted float) (see figure 2). These configurations are described below. When considering these examples, it is useful to keep in mind that there are three frequently suggested stages in the purposeful use of personal reflection: (1) awareness of experience, (2) the inquiry into selected experiences, and (3) the new perspectives and actions that may result from these (Atkins & Murphy, 1993).



**Figure 2: Profiles of reflective conduct**

### ***Balanced reflection – the standing float***

When asked, everyone can recall examples of healthcare professionals and educator role models who projected an overall image of balanced excellence in their daily functioning. These are people 'acting with compassion, technical competence and insight; in addition to their sophisticated technical-logical expertise, they categorically demonstrate a kind of 'presence'



and an open and responsive attitude' (Epstein, 1999). They demonstrate a balanced open mind, not only towards their patients, but also towards their own processes of expert thinking and their personal thoughts, feelings and bodily sensations. It is specifically their abilities in personal reflection that enable them to maintain this subtle balance.

Characteristics of balanced reflection and learning from experience are:

- accepting the existence of one's own subjective thoughts, feelings and irrational reactions rather than denigrating or neglecting them.
- taking the time to explore and analyse one's thoughts and feelings and their influence on one's behaviour and communication.
- asking the right person the right question at the right level and at the right moment. Timing is a subtle aspect of the art of professional performance, both when working with patients and with students.

### ***Inappropriate reflection – the submerging float***

Many practitioners feel as if they are drowning in a sea of their practice. Some are overwhelmed and burdened, unable to cope with the various clinical demands of the work. Personal thoughts and feelings about patients, colleagues and working situations can create uncertainty and stress. Examples include the practitioner who endlessly questions things and who applies too much clinical reasoning without taking appropriate action; or the overly empathetic practitioner with too much personal commitment to his patients and work who fails to maintain the appropriate distance to function therapeutically. These practitioners worry, fuss and brood, unable to take appropriate actions.

### ***Superficial or non-reflection – the tilted float***

The non-reflective practitioner has a tendency towards over-treatment, hectic communicative behaviour towards patients and colleagues, and 'tilted' emotional reactions to criticism or feedback. Often the main problem is not insufficient clinical reasoning or scientific thinking, but insufficient personal reflection. An example of superficial scientific thinking and personal reflection is the protocol-driven physician demonstrating misplaced certainty or presumed evidence to overrule patients and their preferences. Protocols, as guidelines to therapeutic procedures concerning standard medical problems, are intended to keep medical care and clinical reasoning evidence-based and patient-oriented. This is a real challenge in a technical, market- or commerce-driven context (Rotter & Hall, 1992). However, the use of protocols can also serve as a survival strategy or buttress that is embraced when healthcare practitioners find themselves overwhelmed by the demands of practice, the threats of litigation and professional and personal burnout.

### **Applications**

We have applied the float model in educational settings to distinguish and understand the modes of clinical reasoning, scientific thinking and personal reflection, and to underscore the need for each in creating a balanced practitioner (see table 2). It stimulated medical teachers to explicitly articulate their own opinions on reflection and to nuance their observations of and feedback to students and colleagues. Take the example of the student with a defensive attitude towards



feedback who blames others for his or her own dysfunction. In a case like this, the supervisor can use the float model to illustrate the level at which the feedback should be focused. We have also used the float model with students to identify their skills and deficiencies at each level, as factors in their success and failure in achieving balance in professional functioning and learning.

**Table 2: Application of the Float Model**

Student: 'I felt so upset because Mrs. X (a cancer patient) asked me precisely how the radiotherapy she had to undergo would proceed. I do not know anything about that procedure yet. I felt stupid, because I should have known!'  
Clinician: 'How did you react to the patient?'  
Student: 'I promised to notify the appropriate personnel so that she would be well-informed in time.'  
Clinician: 'How did the patient react?'  
Student: 'She was satisfied, despite the fact that I did not give her a straight answer'.  
The clinician stimulates the student to observe and describe empirically the behavioural fact (above the water) that, although she felt upset, she communicated well with the patient; the fact of her lack of medical knowledge; the fact of her personal feelings, thoughts and judgments about it. He invites the student to explore her personal and professional habits, values and opinions that colour her reaction. The clinician could use the float model to visualize the interconnection between these aspects.

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## Discussion

The float model was designed as an educational tool for medical educators to stimulate a better understanding and use of reflection. The descriptions were developed from our experiences as medical educators. We have not yet formally evaluated the effect of its application.

Obviously, an educational model such as the angler's float has its limitations. As constituted, the model is a general one, meant to apply to practitioners of all specialties, work and educational settings, backgrounds and career stages. How the float and its levels apply to the circumstances of specific practitioners will vary. The essence of the float is to visualize balanced conduct and the need for a reflective equilibrium. Each healthcare practitioner and educator can recognize its articulated components and add to it his or her own priorities.

The use of metaphors, like those of this model, has advantages. Metaphoric thinking is a strong mechanism through which people can comprehend abstract concepts, perform abstract reasoning, understand experiences and shape the way they act on that understanding (Lakoff, 1993). Healthcare students often use memory aids, like their use of acronyms which are another example of a metaphorical tool to aid in learning and later recalling one's expert knowledge. Physicians and nurses are familiar with the use of metaphors as tools in patient education. Metaphorical language can bridge the gap between the professional language of the physician and the patient's layman's language, between the expert clinical instructor and the novice medical resident, and between physicians of different subspecialties who sometimes struggle to speak each other's language.

There is an inherent conflict between aspects of the cognitive-logical and the personal-subjective modes of reflection, which is due to differences in their natures, foci, aims and criteria for success (Grabov, 1997; Taylor, 2007). In a principally evidence-based, professional culture it is important to realize that despite the evidence supporting a reflective



and mindful practice, its value is fundamentally personal and subjective (Epstein, 1999). Encouraging awareness, acceptance and understanding of this inherent tension is a challenge in healthcare education. The float model can be used to compartmentalize, identify and manage the different modes of thinking and reflection, and it can be used to organise and focus further educational research.

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