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10 Making Sense of Critical Reflection

OVERVIEW

Critical reflection is seen as the cornerstone of teachers' professional practice, however, there is much debate as to what critical reflection is, how it is enacted, and what it achieves. In this chapter we will define what critical reflection is, and explore the use of models and tools in the teaching of critical reflection. Key principles and issues involved in supporting the critical reflection of teachers and learners using the Personal Learning Styles Pedagogy framework will be highlighted as part of this.

INTRODUCING CRITICAL REFLECTION

There is a vast body of literature on critical reflection and from many different disciplinary and theoretical perspectives (Brookfield, 1987, 1995; Ghaye & Lillyman, 2000; Johns, 2002).

Critical reflection is an important element in how we learn from experience and has the potential to be emancipatory. It can free learners from the implicit assumptions constraining thought and action in the everyday world and enable them to act on the forces creating inequality in professional practice and in the world (Stein, 2000, p. 2). It can help us "make sense of the uncertainty in our workplaces" and offer us the "courage to work competently and ethically at the edge of order and chaos" (Ghaye, 2000, p.7). Winch, Oancea, and Orchard (2013) have argued that it is the capacity for critical reflection which distinguishes the best teachers from others. It is often seen as the bedrock of professional identity (Finlay, 2008). Supporting the importance of critical reflection in teaching, Larrivee (2000, p.

293) has argued that “Unless teachers develop the practice of critical reflection, they stay trapped in unexamined judgments, interpretations, assumptions, and expectations.”

However, whether critical reflection leads to enhanced understanding or functions to reinforce or collude with existing teacher beliefs or practices is questionable (Brockbank & McGill, 1998; Stein, 2000). There is a lack of empirical research demonstrating the evidence base supporting reflective practice (Hargreaves, 2004). Given differences in interpretation as to what critical reflection involves, the variety of approaches and tools, and a lack of longitudinal studies examining ongoing applications of critical reflection to practice, it is very difficult to establish the effectiveness of critical reflection and critically reflective teaching. Little is known about the difficulties, practicalities and methods of critical reflection (Smith, 2011, p. 212). The potential uncomfortable and risky nature of critical reflection and the power dynamics associated with it have been highlighted by Brookfield (1995). Yet at the same time the potential of being able to think critically can be emancipatory for the learner. From an educational perspective, while critical reflection can be taught, a key issue remains the ability of individuals to apply what they have learnt within and across contexts (Stein 2000).

WHAT IS CRITICAL REFLECTION?

The term critical reflection is used widely, often thoughtlessly, and to mean different things (Lucas, 2012). Critical reflection is often conflated and used interchangeably with terms such as reflection, reflective practice, reflexivity and critical thinking (Black & Plowright, 2010; McManus, 2011). It is seen as a fairly ubiquitous activity within professional contexts and often described indiscriminately as a good thing.

[reflection] is used as a kind of umbrella or canopy term to signify something that is good or desirable...everybody has his or her own (usually undisclosed) interpretation of what reflection means, and this interpretation is used as the basis for trumpeting the virtues of reflection in a way that makes it sound as virtuous as motherhood. (Smyth, 1992, p.285)

Critical reflection may be intuitive; embedded in a teacher’s ongoing practice enacted in tacit ways and/or can be approached more formally in explicit ways. The timing of reflection and associated quality

of it has been differentiated in those discussions around *reflection before action*, *reflection in action* and *reflection on action*, with far less emphasis being placed on reflection before action within the literature. Critical reflection can be a lone and/or a collaborative venture. However, the emphasis within the literature is on the solitary nature of critical reflection rather than the collaborative aspects of it. There are many different theoretical positions underpinning critical reflection, however Issitt (2000) noted that very few who claimed to be engaged in reflection had actually read anything recently about it.

Permeating Themes In Critical Reflection

While many different definitions of critical reflection exist, a number of themes permeating such definitions can be discerned. Fundamentally, critical reflection is concerned with the *why*, *the reasons for*, and *the consequences of what we do* rather than the *how* or the *how to* of action (Mezirow, 1990). Habermas argues that “Critical reflective knowing is neither behavioural nor technical, not truth establishing nor captured by a discipline. It critiques all other forms of knowledge, and in so doing, it moves beyond merely reproducing what is.” (1978, p. 42). For Brookfield (1995) it is about *stance* (inquiry) and *dance* (experimentation and risk). Fook (2006, p. 10) in her definition highlights the application dimension of critical reflection alongside an understanding of context: “*the ability to understand the social dimensions and political functions of experience and meaning making, and the ability to apply this understanding in working in social contexts.*” In considering application and the risky nature of critical reflection, Brookfield highlights the importance of collective endeavour:

Since our experiences as teachers are politically and organizationally sculptured, changing aspects of our individual practice often needs a collective effort...teachers who try to swim against the cultural and pedagogic tide that flows through institutions hostile to any questioning of the status quo had better be equipped with life preservers. (Brookfield, 1995, p. 42)

Challenge

Critical thinking is about challenging the validity of *presuppositions* in prior learning, as Mezirow (1990) argues, *premise reflection* more accurately captures what critical reflection is. Critical reflection addresses the question of the justification for the very premises on which problems are posed or defined in the first place. We very commonly check our prior learning to confirm that we have correctly proceeded to solve problems, but becoming critically aware of our own presuppositions involves challenging our established and habitual patterns of expectation, the meaning perspectives with which we have made sense out of our encounters with the world, others, and ourselves. To question the validity of a long-taken-for-granted meaning perspective predicated on a presupposition about oneself can involve the negation of values that have been very close to the centre of one's self-concept (Mezirow, 1990, p. 8).

Emotion

The emotional dimension of critical reflection is acknowledged in initiating the critical reflective process resulting in possible changes in the “emotional schemas through which we perceive ourselves and relate to the world” (McManus, 2011, p. 12). In addition to emotions triggering critical reflection processes, they can also sustain motivation for finding meaning and continuing reflection (Fook, 2006). Emotional flexibility is linked to the capacity to critically reflect (Mackenzie, 2002). Mezirow (1990) also argues the importance of disorienting dilemmas and the role of emotions in leading to individual perspective transformations.

Transformation

Critical reflection, therefore, implies undergoing a *perspective transformation* (Mezirow, 2000). Transformational learning is about how we make meaning and make decisions to act from experiences and critical reflection is an essential part of this process.

the use of critical theory, and its development for use in critical reflection, is probably one of the major defining features of critical reflection, and therefore one of the major factors which may differentiate it from reflective practice. In this sense, critical reflection involves social and political analyses which enable transformative changes, whereas reflection may remain at the level of relatively undistruptive changes in techniques or superficial thinking (Fook et al., 2006, p. 9).

Fook, White, and Gardner (2006, p. 12) have argued that critical reflection involves four key dimensions and that an understanding of the technologies of power, language and practice that produce and legitimate forms of regulation is essential. The four dimensions include: (i) a process(cognitive, emotional, experiential) of *examining assumptions*(of many different types and levels) embedded in actions or experience;(ii) a *linking of these assumptions* with many different origins (personal, emotional, social, cultural, historical, political; (iii) a *review and re-evaluation* of these according to relevant criteria (depending on context, purpose, etc.);(iv) a *reworking of concepts and practice* based on this re-evaluation.

Being critical

Critical reflection requires a critical review of presuppositions from conscious and unconscious prior learning, and of their consequences (Leung & Kember, 2003, p.69). Fundamental to critical reflection is an emphasis on examining how assumptions about power construct and restrict practice at the individual, group, and/or organisational levels.

Critical reflection is the process by which adults identify the assumptions governing their actions, locate the historical and cultural origins of the assumptions, question the meaning of the assumptions, and develop alternative

ways of acting...Brookfield (1995) adds that part of the critical reflective process is to challenge the prevailing social, political, cultural, or professional ways of acting. Through the process of critical reflection, adults come to interpret and create new knowledge and actions from their ordinary and sometimes extraordinary experiences. Critical reflection blends learning through experience with theoretical and technical learning to form new knowledge constructions and new behaviors or insights. (Stein, 2000, p. 1)

Therefore, it is not the depth of reflective effort itself that makes it critical (Shandomo, 2010); two things make reflection critical:

Reflection becomes critical when it has two distinctive purposes. The first is to understand *how considerations of power undergird, frame and distort so many educational processes and interactions*. The second is to *question assumptions and practices that seem to make our teaching lives easier, but that actually end up working against our best long term interests*—in other words, those that are hegemonic. (Brookfield, 1995, p.8)

Reflexivity

While some see *reflexivity* as part of critical reflection (Bolton, 2010), others differentiate between the two concepts. Finlay (2008) in distinguishing between critical reflection and reflexivity highlights the importance of self-awareness in the use of the latter term whereby emphasis is placed on questioning one's own position as well as considering contextual elements. For Bolton (2010, p. 13) "Reflexivity is finding strategies to question our own attitudes, thought processes, values, assumptions, prejudices and habitual actions, to strive to

understand our complex roles in relation to others. Bolton in summarising the nature of reflexivity argues it is about paying close attention to one's own actions, thoughts, feelings, values, identity, and their impact on others, situations, and professional and social structures (Bolton, 2010). Fook (2006) argues that reflexive ability is central to critical reflection in that individuals require this self-awareness in order to better understand their own role in constructing and participating in specific contexts and their knowledge of such contexts.

Theoretical Frameworks Used To Explore Critical Reflection

There are many theoretical frameworks used to explore critical reflection and these are not mutually exclusive, however the particular frame(s) adopted do impact on the nature of learning achieved (Fook, 2006). From a *critical social theory* perspective critical reflection enables social change (Brookfield, 1995, 2005). From this perspective it is essential to examine how knowledge creation is directed towards political or ethical goals. Critical reflection enables an understanding of the way socially dominant assumptions may be restrictive and, in theory, frees individuals to make choices at the individual level assuming their autonomy to make such changes within specific contexts (Fook, 2006). From a *constructivist* perspective, emphasizing the socially constructed nature of learning it is important to consider how social structures, relations, and discourses impact on how individuals construct their knowledge and identities within a workplace context (Fook, 2006; Smith, 2011). A *positivist* stance would place emphasis on how becoming aware of our personal biases we can aspire to be objective. *Feminist and emancipatory* perspectives emphasize the role of critical reflection in learning about one's own life and gaining insight into how to improve one's own situation. Critical reflection from a *reflexive modernity* perspective emphasizes how critical reflection can be used to enable individuals to examine how they engage with different contexts and construct a sense of self. Mezirow also emphasized the role of critical reflection in enabling individuals to consider how people make

meaning from experience in order to inform their actions. Finlay (2008) in examining skills underpinning reflective practice advocated the use of an integrated theoretical framework to examine three interrelated areas impacting reflective practice: *self-awareness*, *reflection* and *critical thinking*. Using this approach self-awareness draws on phenomenology and focuses on individuals' cognitive and affective abilities to make sense of knowledge and to inform understandings. Reflection draws on existential phenomenology and critical theory to inform self-and social awareness, and critical thinking draws on scepticism and critical theory focusing on identifying and challenging assumptions about self and the context in order to imagine and explore alternatives.

TEACHING CRITICAL REFLECTION

The work required to deconstruct one's own cultural identity through reflection should...be included in teacher education programs of study...Reflection must be explicitly taught as a process and then required and assessed throughout diverse experiences in order to be meaningful.

(Rychly & Graves, 2012, p. 48)

Key Concepts

In teaching critical reflection many different approaches have been used, the majority of which draw on a number of core concepts from the works of Dewey (1897, 1910, 1916, 1933), Habermas (1971, 1972, 1974), and Schön (1983, 1987, 1991).Dewey's (1933)

pragmatic approach focused on the processes of reflection and the interaction of thought and action in the development of practice. In this approach reflection on action is emphasized, initially stimulated by some level of conflict following an experience. For Dewey reflection was a means whereby individuals could move from routine thinking and actions towards critical reflection involving consideration of assumptions and taken-for-granted knowledge (Finlay, 2008). The Dewey (1938) five stage model typically involves (i) identifying a problem that is perplexing and ‘felt’; (ii) observing and refining the identified problem to create a fuller understanding; (iii) hypothesis development or an understanding about the problem, its origins and possible solutions; (iv) subjecting the hypothesis to scrutiny and reasoning; (v) testing the hypothesis or understanding in practice. The influence of Dewey can be seen in Kolb’s *experiential learning cycle* (Kolb,1971; Kolb & Fry, 1975; Kolb, 1984; Kolb & Kolb, 2005)suggesting that reflection is generated by experience and feeds back into the development of practice and also in Gibbs (1988) reflective cycle involving a description of the situation, analysis of feelings, evaluation of the experience, analysis to make sense of the experience, conclusion where other options are considered and reflection upon experience to examine what you would do if the situation arose again.

Models such as Kolb’s (see Appendix: Tool A) and Gibbs (see Appendix: Tool B) provide frameworks and questions to help structure reflection at a relatively basic level. However, Dewey suggested that in reflection many processes occur all at once involving sequences of interconnected ideas influenced by underlying beliefs and knowledge. The Kolb model in seeing action and reflection as separate components is overly simplistic. However the model’s simplicity is one of the key factors impacting its use in practice and fundamentally the key premises underpinning it make pedagogical sense.

Boud and colleagues have been influential in contributing to ideas on experiential learning focusing attention on reflection following experience and offering strategies focused on

return to experience, attending to feelings, and reevaluation(Boud, Keogh, & Walker, 1985).

Their focus is on empowerment in relation to how individuals can both influence and learn from experience and how through *deliberate learning* (intention to learn from experience) and *meaningful learning* (intending to apply learning) learners can inform their own and others' practice (Boud & Walker, 1990). The approach is socio-constructivist in its focus on the learner's personal foundation of experience (experiences that have shaped the person), their intent that gives a particular focus to learning within a context, and the interaction of the learner with his/her resources and the external environment (*the learning milieu*). Learning is facilitated through learners noticing (what is happening both within themselves and in the external environment), *intervening* and *reflecting-in-action* to continually modify their practice. The key issue is the adoption of the most appropriate strategies to support the needs of the learner, their intent, and the nature of the milieu (Segers & Van de Haar, 2011).

The influence of *Habermas' critical theory approach* (1971, 1972, 1974) is evidenced in models focused on empowerment and emancipation (Grushka, Hinde-McLeod, & Reynolds, 2005; Kim, 1999). Knowledge is perceived as socially constructed with reflection focusing on critique, evaluation, and liberation (de Cossart & Fish, 2005) in his focus on three areas of knowledge (*technical, practical, and emancipatory.*)

Another key and influential player within the field of reflective practice is that of Schön (1983). For Schön (1996) critical reflection equates to *professional artistry* involving *reflection in action* (during the event) and *reflection on action* (after the event). He emphasized the importance of professional artistry in contrast to rule following technical rationality. *Reflection in action* involves being able to evaluate, assess, and act in order to shape ongoing activity in the moment. In reflection on action, professionals consciously review, describe, analyse and evaluate their past practice with a view to gaining insight to improve future practice. The notion of reflection in action builds on *knowing in action* where

Schön (1983) emphasizes the intuitive grasp that practitioners have in managing teaching in the moment ‘*spontaneous skilful execution*’ (Van den Bossche and Beusaert, 2011). When knowing in practice becomes increasingly tacit and spontaneous so that the teacher has overlearned what s/he knows such professional specialisation can limit learning and development of practice. Reflection in action has been interpreted in different ways. From a teacher education perspective, reflection in action has face validity in describing the ability to integrate both rational and intuitive thought in the moment by being able to adapt lessons in relation to ongoing formative feedback as to what is happening in the classroom at any given moment. Such reflection in action requires confidence, a level of expertise and available working memory capacity to be able to think in complex ways and to manage emotions as part of self-regulatory activity within the moment. However, from a phenomenological philosophy perspective Ekebergh (2007) argues that to achieve *real* self-reflection, a learner needs to be able to step out of the situation and reflect retrospectively. The issue is related to the levels of reflection involved which is discussed by Wilson and Demetriou (2007) building on Eraut’s work (2004c) in their discussion of three types of reflection which they describe pejoratively. Firstly, *hot action* (aligned to reflection in action) is perceived as intuitive, tacit and influenced by feelings and constantly present in teachers’ actions within the classroom leading to routinization of practice. Secondly, *reactive /reflective actions* (aligned to reflection on action) focused on teachers’ post lesson analysis are deemed reactive as such reflection is not necessarily aligned with enhancements in practice and reflection is seen at a more descriptive rather than analytical level. Thirdly, *cooler deliberative learning* (aligned to reflection for action) is based on deeper understanding of the dynamics within the classroom and more widely, it is more conscious and research-informed (see Wilson and Demetriou, 2007, p. 224). Within the Personal Learning Styles Pedagogy we have emphasized the

importance of analytical and intuitive thinking in reflection as has Korthagen (2005) in the development of his reflection model.

In applying Schön's notion of reflection in action and the associated concept of inner speech (thinking through ideas and experiences using the unspoken word) Enfield and Stasz (2011) emphasize the potential of dialogic activity within communities of practice, when individuals share inner speech with others to enable articulation of ideas in order to communicate meaning and to challenge their own implicit assumptions and ideas – making the implicit explicit which may facilitate deeper levels of reflection in action.

There are a number of integrated holistic models informed by the work of Dewey, Habermas and Schön that integrate different levels of reflection and also ensure a focus on both critical and emotional dimensions of critical reflective practice (Jay & Johnson, 2002). Johns' reflexive model of structured reflection (1994, 2000) (see Appendix: Tools C) places emphasis on the *mindful self* during and after experience with the goal of realizing a vision of practice as a lived reality (Finlay, 2008). John's *ten Cs* of reflection (2000) includes:

- Commitment Accept responsibility and be open to change
- Contradiction Note tension between actual and desired practice
- Conflict Harness this energy to take appropriate action
- Challenge Confront your own typical actions, beliefs and attitudes in a non-threatening way
- Catharsis Work through negative feelings

- Creation Move beyond old self to novel alternatives
- Connection Connect new insights in the world of practice
- Caring Realise desirable practice
- Congruence Reflection as a mirror for caring
- Constructing Building personal knowledge in practice

The ideas can be applied to individual and collaborative reflexive activities where individuals and groups can model sharing feelings and reflective practice for others as part of collaborative critical reflection practice.

Types of Reflection

From a hierarchical perspective when examining the potential of reflection to impact perspective transformation, Mezirow (1991) argued that in considering three types of reflection: *Content reflection* (thinking about the actual experience itself), *process reflection* (problem-solving strategies), and *premise reflection* (examining long-held, socially constructed assumptions, beliefs and values about the experience or problem), only premise reflection led to transformational learning .

Smith (2011, p. 216) differentiates between forms and domains of reflection in discussing personal, interpersonal, contextual and critical reflection. The *self level* is reflexive in its exploration of personal thoughts and actions; the quality of which depends on individual awareness, receptivity, and abilities. It is introspective involving the learner in self-dialogue.

The *interpersonal level* is focused on examining interactions with others and group dynamics to ascertain and question practice norms and decision-making processes. It is intersubjective by being focused on the relational dimension and associated with a participatory dialogical approach. *Contextual reflection* is deliberative in examining how concepts, theories and methods inform and influence practice and how these relate to one's own implicit theories. *Critical reflection* examines issues of power and raises social justice questions about which ways of thinking have been privileged by whom and for what reasons? For Finlay (2008) this is also about managing power imbalances within context as part of *social critique and ironic deconstruction* involving examination of the ambiguity and multiplicity of meanings in specific contexts.

The nature of reflection is also linked closely to the requirements of the task. Zeichner and Liston (1996) differentiated between five different levels of reflection within teaching: 1. Rapid reflection – immediate, ongoing and automatic action by the teacher (reflection in action); 2. Repair – involving teachers' decisions to alter their behaviour in response to students' cues (reflection before, in, and on action); 3. Review – exploration of an aspect of teaching through thinking, discussing and writing (reflection on action) ; 4. Research –teacher engagement in more systematic and sustained thinking over time individually or collectively (reflection before, in or on action); 5. Retheorizing and reformulating – the process by which a teacher / group / school critically examines their own practices and theories in the light of academic theories (reflection before, in or on action).

Much of the educational literature focuses on the personal level of critical reflection but critical reflection at the organizational level of analysis has much potential with examples of approaches

including (i) *public reflection* involving open discussion of the inter-personal and political complexities of organizational life (Raelin, 2001); (ii) *productive reflection* examining productivity and quality of working life and the potential of reflection in addressing work practices (Boud, Cressey, & Docherty, 2006); *organizing reflection* focusing on how emotions in organizations contribute to the power relations that can constrain emotional responses or define the contextually specific nature of emotional work (Reynolds & Vince, 2004).

Critical Reflection Processes

Models of critical reflection typically involve to varying degrees a focus on *retrospection* (thinking about a situation or experience); *self-evaluation* (critically analysing and evaluating actions, assumptions and feelings from different theoretical perspectives that up to that point have been uncritically accepted as representing common sense wisdom), and *reorientation* (adopting alternative perspectives and applying what has been learnt to new learning in order to effect change) through an increased awareness of recognition, and understanding of the power dynamics within specific contexts and the variable impact of these on different members of the organisation (Burns, 2002; Quinn, 2000).

Brookfield (1988) argued the importance of four key processes in learning how to become critically reflective: (i) *assumption analysis* (making explicit our taken-for-granted notions of reality); (ii) *contextual awareness* (how assumptions are a product of a specific historical and cultural context); (iii) *imaginative speculation* (imagining alternative ways of thinking about phenomena); (iv) *reflective scepticism* (ability to question universal truths or patterns of interaction and working). The ability of an individual to engage in critical reflection will vary over time and space dependent on both individual and contextual affordances and the interrelationships between the two.

In summary, a number of themes permeate different theorizations and enactments of reflective practice involving the use of models and tools. Firstly, there is an emphasis on different forms of reflection from a *timing perspective* (reflection before action; reflection in action; reflection on action) with less emphasis being afforded to reflection before action. Secondly, it is suggested that it is possible to differentiate lower and higher order levels of reflection with some models incorporating all stages of reflection from descriptive to critical and others focusing solely on a specific level of reflection. While emphasis is on the greater value of double loop learning (learning which questions values) compared to single loop (learning regarding accepted values) (Argyris & Schön, 1974), not all reflection needs to be critical and it would be difficult to achieve this given the emotional investment involved and the emphasis on transformational change. From a pedagogical perspective it is about using the appropriate level of reflection for any given context. Thirdly, as part of differentiating levels of reflection, reflection is often seen as a hierarchical staged process moving from description of practice events to analysis of situations and intentions and finally to critique of practices regarding conflicts and inconsistencies to enable emancipation and change processes (Kim, 1999); alternative cyclical models are also offered. Fourthly, models place varying influence on the role of cognitive and affective dimensions. Lastly much emphasis is placed on individual reflection compared to collaborative and organisational reflective practices.

PROMOTING EFFECTIVE CRITICAL REFLECTION PRACTICE

Practices to support effective critically reflective practice have been aligned to the principles underpinning the PLSP and are summarised in Table 10.1. Factors impacting on the efficacy of reflective practice relate to the level of reflection required, the context, the individual and the interrelationship between these variables. Given that critical reflection takes place within social contexts the nature of such contexts is of great importance (Fook et al., 2006). Climates encouraging critical acceptance (Fook) and reflective discourse (Mezirow) are essential. Such climates are characterised as being: open to different perspectives and ideas; valuing reflective practice; information rich; encouraging of dialogue and transparency; open to innovation; respectful of individual differences, and supportive of distributed leadership.

Promoting Critical Reflection Practice within a Personal Learning Styles Pedagogy

A. Exploration of student and teacher beliefs/ modelling and support.

- Place emphasis on an examination of learners underlying beliefs and assumptions that affect how learners make sense of the experience (Segers & DeGreef, 2011).
- Explore learner's emotional learning histories – (the notion of contextual space is important in relation to individual and organisational affordances and limitations (Van der Zwet et al., 2011). (Contextual space refers to how learning / training is organised and assessed; how learners are supported – e.g., mentoring support for trainee teachers; length of student placements; opportunities for feedback; access to resources; opportunities to work independently; to take on the responsibilities of a teacher; mix of classes allocated to a teacher).
- Centre reflective practice on the learner '*about you and your work*' (Ghaye & Lillyman, 2000).
- Focus on learning from experience as an integral part of teaching (Ghaye & Lillyman, 2000).
- Exploring with learners what they value, what they do, and *why* they do it (Ghaye & Lillyman, 2000).
- Emphasise as part of reflection the links between values and actions (Ghaye & Lillyman, 2000).
- Ensure critical reflective practices are authentic and attuned to learners' professional working contexts – '*reflection in the context of practice*' (Boud, 2010).

B. Careful selection and application of styles.

- Ensure critical reflection is not used as an unthinking tool (Brookfield, 1995).
- Use a range of models/tools (Finlay, 2008; Fook, 2006; Ixer, 2003; Smith 2011).
- Explored critical reflection from different theoretical perspectives (Fook, 2006).
- Ensure theory and practice are integrated (Ghaye & Lillyman).
- Ensure reflective practice is research informed – “*respecting and working with evidence*” (Ghaye & Lillyman; Rychly & Graves, 2012).
- Clarify with learners that different reflective models and tools engage different levels of complexity and therefore need to be used selectively and judiciously.
- Examine with learners the strengths and weaknesses of different approaches in relation to the value of each model in supporting the learner to meet requirements (self, task, context).
- Support learners to think flexibly and not dualistically (Rychly & Graves, 2012).

C. Optimising conditions for learning / Sensitivity to learner context

- Encourage a joint commitment on part of learner and teacher to engage in rigorous reflection (De Cossart & Fish, 2006).
- Recognise the proficiency of each learner to use reflective tools and their individual capacity for growth (Stein, 2000).
- Allocate sufficient time to support critical reflection (De Cossart & Fish, 2006; Ixer, 2003).
- Develop learner ability to perceive classroom practice from own and others' points of view (Rychly & Graves, 2012).
- Promote and develop a supportive environment (Finlay, 2008).
- Ensure critical reflection approaches are sensitive to specific cultural and social contexts.
- Scaffolding should be used to ensure appropriate use of tools from simpler to more sophisticated models.
- Ensure learners are aware of the broad range of critical reflection models from the outset. Different models are needed, at different levels, for different individuals, disciplines and organisations, to use in different contexts (Finlay, 2008).
- Facilitate learners to try out models / tools safely in practical /experiential ways (Hobbs, 2007).
- Give learners choice in their chosen method(s) of critical reflection.

D. Design of learning environments

- Use critical reflection models as tools to stimulate reflection rather than as ends in themselves; they should not be prescriptive (Lucas, 2012). They should be used to enhance practice (Ghaye & Lillyman, 2000).
- Expose learners to different models and approaches to critical reflection to inform *their* choices as to what is most suitable for them (Evans & Waring, 2009, 2015; Finlay, 2008) (*also highlighted above in C*).
- Reflection before, during and after action should all be considered with increased emphasis being placed on reflection prior to learning.
- Learners should be provided with opportunities to use a variety of tools to support critical reflection (logs, diaries, critical incident analysis, autobiographical and narrative approaches (De Cossart & Fish, 2006; Ixer, 2003; Smith, 2011).
- Sufficient support should be provided through critically reflective partners (peers) and tutors and through supporting the learner to become autonomous in their critical reflection.
- Structured critical reflection should be facilitated to ensure higher levels of reflection are tapped (Rychly & Graves, 2012; Smith, 2011).
- The reflective conversation is at the heart of the process. Facilitate opportunities for discourse for learners to expose their own meanings to critical reflection.
(Ghaye & Lillyman, 2000; Mezirow, 2000).
- Use reflective practice to help learners make sense of their thoughts and actions (Ghaye & Lillyman, 2000).
- Encourage a more collective emphasis on reflection at work (Hoyrup & Elkjaer, 2006) through the use of dialogue; collaborative reflection opportunities; lesson study.

- Use action learning groups to help learners associate, integrate, validate, and appropriate new meanings (Graham, 1995).
- To support learner perspective transformation there should be: (a) a process for diagnosing existing conceptual frameworks and revealing them to the learner; (b) A period of disequilibrium and conceptual conflict which makes students dissatisfied with existing conceptions; (c) A reconstruction or reforming phase in which a new conceptual framework is formed (Leung & Kember, 2003).

E. Supporting Learner Autonomy: Choices in Learning / Student Voice

- Ensure the value of critical reflection is mirrored in assessment practices. Critical reflection should be integrated into assessment so that students are able to demonstrate critical reflection as part of formative and summative assessment (Evans, 2015).
- Learners should be given opportunities to engage in critical reflection as a solo activity and as a group process (Evans, 2015; Finlay, 2008; Ixer, 2003).
- Learners should identify for themselves areas of opportunity for further learning (Rychly & Graves, 2012).
- Critical reflection should be used as an empowerment tool to support the generation of locally owned knowledge (Brookfield, 1995; Ghaye & Lillyman, 2000).
- Ensure reflective practice is systematic and rigorous (Ghaye & Lillyman, 2000).
- Ensure critical reflection is authentic and related to the development of learners' own knowledge as an integral part of professional practice.
- Place emphasis on developing facilitative cultures that promote and support collaborative critical reflection practice (Boud, 2010; Brookfield, 1995).

Table 10.1 Critically reflective practice within the personal learning styles pedagogy framework (note: learner = teacher and student)

At the individual level, critical reflection may be affected by a learner's cognitive ability; their willingness to engage in the reflective process; orientation to change; commitment to self-enquiry and readiness to change practice, and their own self-awareness (Stein, 2000). At the interaction level, the commitment of learner and teacher to devote time to engage in sustained critical reflection is of paramount importance; issues of trust and power are

important in this dynamic, along with the expertise of the teacher to appropriately scaffold critical reflection practice to enable learner autonomy through the judicious choice and application of models and tools.

Tools To Develop Critical Reflection

There are a wide variety of tools that can be used to support the development of individual and collaborative critical reflective practice. Such tools can be used both informally or formally, in different mediums (written, diagrammatic or verbal forms), and to focus on different stages of reflection (de Cossart & Fish, 2006; Fook et al., 2006). Such approaches, for example, include the use of Brookfield's lenses (1995) to examine ideas from different perspectives (learner, peers, pupils, research); critical incident analysis (Flanagan, 1954); DeBono techniques (Tripp, 1993); narratives, diaries, stories, poems, pictures, objects, concept maps (de Cossart & Fish, 2006; Smith, 2011); use of drama (Boal technique – Boal, 1993; 1996); videos, blogs, portfolios and diaries (Evans & Waring, 2015; Fowler, 2013; Stein, 2011); feedback and self evaluation forms (Boud et al., 1985); rubrics to examine different dimensions of reflective practice (Evans & Waring, 2015); assessment practice rewarding critical reflection as part of formative and summative assessment (Evans & Waring, 2015); use of action learning groups – e.g., lesson study techniques (Davies & Dunnill, 2008); peer discussion (Brookfield, 1987); problem-based learning (Fyrenius, Wirell, & Silén, 2007). The critically informed use of such tools places emphasis on the key purpose of reflection (which layers of reflection are being tapped) in relation to the requirements of the learner within context, the underpinning theoretical framework and not on an exclusive focus on the tool itself (Smith, 2011).

SUMMARY

Not all reflection is critical and nor does it necessarily need to be. Different contexts will demand different sorts and combinations of reflection. The pedagogical concern from the teachers' perspective is about ensuring the appropriate level of reflection within a given context. Underpinning the concept of critical reflection is an emphasis on transformation informed by social and political analyses of contexts. A key question is the extent to which engagement in critical reflection enables teachers and their students to become successful change agents. Critical reflection is about undergoing a perspective change which Brookfield has argued is best done collaboratively given the emotional investment involved.

Questioning the assumptions on which we act and exploring alternative ideas are not only difficult but also psychologically explosive... [it] is like laying down charges of psychological dynamite. When these assumptions explode... the whole structure of our assumptive world crumbles. Hence, educators who foster transformative learning are rather like psychological and cultural demolition experts. (Brookfield 1990, p.178)

Critical reflection is not without risk (Brookfield, 1994, 1995). It should not be undertaken lightly given its potential impact to destabilise both individuals and organisational systems. Done badly it can leave individuals feeling helpless if the opportunities to change are not there and it can reinforce dominant cultural assumptions that may work against challenges to power. Given the ethical issues involved, Finlay (2008) questions whether teachers and students are obliged to take part in critical reflection. Even when organisational climates are supportive, there is a danger that critical reflection can become unthinking, routinised, mechanical, and inauthentic when models and tools are used as an end in themselves without

seeing critical reflection as an integral part of professional practice. The characteristics of the individual learner are one of the most important factors impacting critical reflective working behaviour (Fook, 2006). However, as already noted, learners will vary in their readiness and ability to engage in critical reflective practice (Stein, 2000); features that may be compounded by lack of time and other work pressures. Furthermore, unearthing the more tacit elements of practice concerned with professional artistry, relational and ideological dimensions may be problematic as these are hard to quantify.

Mindful of concerns about the ways in which critically reflective practice is enacted, there is a substantial body of work articulating aspects of best practice in developing critical reflective practice as summarised in Table 10.1. These emphasize ensuring authenticity of practice; opportunities for learners to observe and to experiment with different approaches in safe environments; to have choice in their use of approaches and agency in managing the process.

A key issue for teachers is in supporting learners to transfer the skills acquired from one context to another, and to ensure rigorous evaluation of approaches used to inform future practice in order to address concerns about the lack of evidence to suggest that critically reflective learners become change agents and that the skills learnt in the development of critical reflective practice can easily be applied to different contexts (Stein, 2000). There is also a lack of evidence on the effectiveness of collaborative critical reflection activities, although findings from lesson study where critical reflection has been employed are promising (Ylonen & Norwich, 2013). In moving critically reflective practice forward Boud (2010) has emphasized the importance of seeing critical reflection not as an individual venture but as a collective one.

Productive reflection...picks up concerns about the need for new ways of considering reflection in workplaces that are not focused on the individual independent learner... reflection in such settings cannot be an individual act if it is to influence work that takes place with others.' (Boud, 2010, p32)

A key issue in the development of collaborative critical reflection is the ability of organisations to maintain an “outside looking in approach” and one that encourages the *dance* (experimentation and risk) (Brookfield, 1995). Questions arise as to which constellation of factors enable the most effective practices and what critical mass is needed to initiate and sustain initiatives; the nature of leadership is important here.

Where critical reflection is seen as an integral part of one’s own teaching practice with the motivational aim of enhancing one’s own and others’ teaching it can be emancipatory, as evidenced in our work with early career teachers using the PLSP framework where assessment of the teachers’ learning depended on their identification and development of an area of their own teaching using a critical reflective approach (Evans, 2015; Evans & Waring, 2015).

The course [PLSP framework] provided me with a connection to theory, policy and practice which gave me the confidence during my NQT [newly qualified teacher] year to teach in the way I wanted to and enabled me to develop a 'voice' in the busy context of my school. It gave me the opportunity to explore an area of interest and a way of working which has enriched my teaching and developed my skills as a reflective practitioner. (NQT 1)

The course helped me to see the bigger picture in my first year of teaching, and to delve deeper into my chosen area of interest with the support... I felt that I needed to keep a toe dipped in theory to inform my practice. This has enabled me to continue thinking about how I can improve and share good practice with others. The course has given me the incentive to carry on with my studies, as just being a classroom teacher isn't enough. It's good to be on the outside looking in (NQT2).

Supporting teachers to be ready and equipped to critically reflect on their own practice is an essential element of teacher professional development if teachers are to manage their own learning, support the learning of their colleagues, and most importantly support their own pupils' ability to critically reflect in order to develop greater independence in learning.

QUESTIONS FOR REFLECTION

Having reviewed the different approaches and conceptions of critical reflective practice, please consider the following:

- What is your perception of the value of critical reflection in learning and teaching?
- How do you reflect on your current professional practice?
- What are the main types of reflective practice that you have engaged in during the last year?
- Can you describe any examples of perspective transformation where your thinking has changed? What triggered your personal change?

- From a changed perspective were you able to develop your practice and put your ideas into practice? What factors facilitated and/or hindered this from individual and organisational perspectives. How could you further develop your use of critical reflection?
- How do you encourage students to reflect on their practice and to use higher levels of reflection? What are the facilitators and barriers in enabling you to do this?
- What approaches and tools do you use to facilitate critical reflection and what is the use of these informed by?
- To what extent are you able to apply the principles and approaches to critical reflective practice as highlighted in Table 10.1?
- To what extent are you involved in collaborative reflective practice and what does this involve? What do you see as the advantages and limitations of collaborative approaches to reflection?
- How are you supporting your students to be able to apply critical reflective practice beyond the classroom?

Bortons' (1970) framework below focuses on reflection on action. Develop a template to enable you to use this to reflect before and in action.

Bortons' (1970) Framework Guiding Reflective Activities

What?	So What?	Now what?
<i>Description</i> and <i>self awareness</i> level	<i>Analysis and evaluation level</i> looking deeper at what was behind the experience.	<i>Synthesis level</i> considering alternative courses of action and choices.
<ul style="list-style-type: none"> • What happened? • What did I do? • What did others do? • What was I trying to achieve? • What was good or bad about the experiences? 	<ul style="list-style-type: none"> • What is the importance of this? • So what more do I need to know about this? • So what have I learnt about this? 	<ul style="list-style-type: none"> • Now what could I do? • Now what do I need to do? • Now what might I do? • Now what might be the consequences of this action?

See Tools E (in Appendix)

1. How can critical incident analysis support understanding of self and interaction with others?
2. Is critical incident analysis best done alone or in discussion with others?
3. How can you use the critical incident technique in your teaching?
4. How does change come about?

FURTHER READING

Bolton, G. (2010). *Reflective practice*. London: Sage.

Different ways of exploring and facilitating reflective practice and reflexivity are exemplified from a variety of contexts. A companion website accompanies the book at www.sagepub.co.uk/bolton.

Brookfield, S. (1995). *Becoming a critically reflective teacher*. San-Francisco: Jossey-Bass.

This book integrates theory, research and practice in its exposition of critically reflective practice. Brookfield's four lenses (self, peers, students, and theoretical literature) provides a framework through which to examine and reflect on our own practice. The notion of criticality in reflection is explored from individual and collaborative reflective perspectives. See also Brookfield (2005).

Poulson, L., Wallace, M. (2004). (Eds.) *Learning to read critically in teaching and learning*. London: Sage.

This book and the follow up by Wallace and Wray (2011) provide clear guidance on critical reading and writing and in so doing provide tools and frameworks to support the analysis and synthesis of research.

(Wallace, M., & Wray, A. (2011). (Second Edn). *Critical Reading and writing for postgraduates*. London: Sage.)

Tripp, D. (1993). *Critical incidents in teaching: Developing professional judgement*. Oxford: RoutledgeFalmer.

Tripp highlights what makes a critical incident critical is the way in which we analyse it; the event itself does not need to be critical. The book provides useful frameworks in which to explore ones' own practice and provides many examples from the school context.

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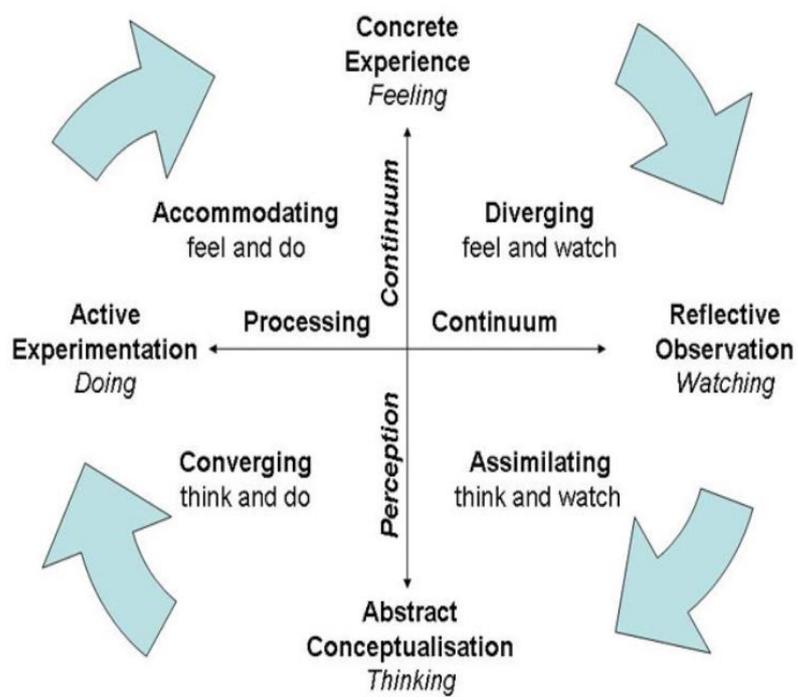
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APPENDIX

Tool A



Kolb's *Experiential Learning Model* (Kolb & Fry, 1975) comprises four elements: concrete experience; reflective observation; abstract conceptualisation; and active experimentation. These four elements form a cycle of learning. Learning can start with any one of the four elements, but typically begins with a concrete experience.

Key ideas (Kolb & Kolb (2005, p. 194; Segers & Van de Haar, 2011, p. 55):

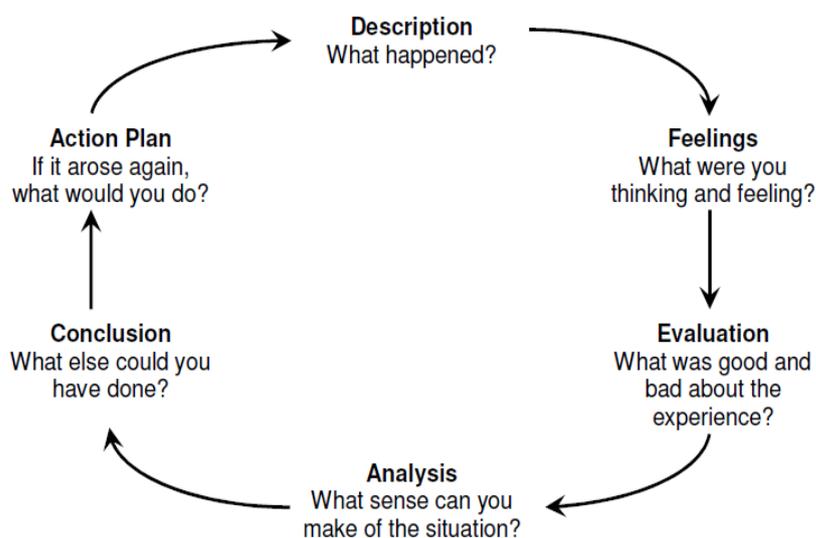
1. Learning is best understood as a process, not in terms of the outcomes; feedback is a very important part of the learning process.
2. Learning is best facilitated by a process that draws out students' beliefs and ideas about a topic, so that they can examine, test and integrate these with new, more refined ideas.
3. Learning requires the resolution of conflicts between dialectically opposed modes of adaptation to the world. Conflict, differences and disagreement drive the learning process. In the process of learning, one is called upon to move back and forth between opposing modes of reflection, action, feeling and thinking.
4. Learning is a holistic process of adaptation to the world. It is not just the result of cognition, but involves the integrated functioning of the total person: thinking, feeling, perceiving and behaving.
5. Learning results from synergetic transactions between the person and the environment.

- Learning is the process of creating knowledge. The experiential learning theory represents a constructivist theory of learning, whereby social knowledge is created and recreated in the personal knowledge of the learner.

Tool B

Gibbs Learning Cycle Reproduced with permission from Gibbs, G. (1988) Learning by Doing: A Guide to Teaching and Learning, Oxford Centre for Staff and Learning Development, Oxford Brookes University, Oxford. This publication is available to download from <http://www.brookes.ac.uk/ocslid/publications/>

Gibbs' model of reflection (1988)



(Gibbs 1988)

Gibbs Learning Cycle Reproduced with permission from Gibbs, G. (1988) *Learning by Doing: A Guide to Teaching and Learning*, Oxford Centre for Staff and Learning Development, Oxford Brookes University, Oxford. This publication is available to download from <http://www.brookes.ac.uk/ocslid/publications/>

Gibbs's (1988) pragmatic reflective cycle encourages a description of the situation, analysis of feelings, evaluation of the experience, making sense of the experience through analysis, arriving at conclusions where other options are considered and reflection upon experience for the learner to consider what they would do if the situation arose again.

Tools C

Tool C.1 Johns' Model of Structured Reflection (1994) was developed for medical contexts but can easily be applied to practice in schools. The framework uses five cue questions which are then divided into more focuses to promote detailed reflection (*substitute patient with pupil*).

1. Description of the experience	<ul style="list-style-type: none"> • Phenomenon – describe the here and now experience • Casual – what essential factors contributed to this experience? • Context – what are the significant background factors to this experience? • Clarifying – what are the key processes for reflection in this experience?
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2. Reflection	<ul style="list-style-type: none"> • What was I trying to achieve? • Why did I intervene as I did? • What were the consequences of my actions for: <ul style="list-style-type: none"> ○ Myself? ○ The patient / family? ○ The people I work with? • How did I feel about this experience when it was happening? • How did the patient feel about it? • How do I know how the patient felt about it?
3. Influencing factors	<ul style="list-style-type: none"> • What internal factors influenced my decision – making? • What external factors influenced my decision – making? • What sources of knowledge did / should have influenced my decision – making?
4. Evaluation: Could I have dealt with the situation better?	<ul style="list-style-type: none"> • What other choices did I have? • What would be the consequences of these choices?
5. Learning	<ul style="list-style-type: none"> • How do I now feel about this experience? • How have I made sense of this experience in light of past experiences and future practice?

	<ul style="list-style-type: none"> • How has this experience changed my ways of knowing? <ul style="list-style-type: none"> ○ Empirics – scientific ○ Ethics – moral knowledge ○ Personal – self awareness ○ Aesthetics – the art of what we do, our own experiences
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Johns’ model of structured reflection (2006) is informed by Carper’s (1978) ways of knowing developed specifically for nursing which again can be adapted for use within education. The four fundamental *patterns of knowing* in Carper’s original conception include: (i) *Personal*: knowledge and attitudes derived from personal [self-understanding](#) and [empathy](#); (ii) *Aesthetic* – *in* relating to the here and now: Awareness of the immediate situation, seated in immediate practical action; including awareness of the patient and their circumstances as uniquely individual, and of the combined wholeness of the situation; (iii) *Empirical* – factual knowledge that can be empirically verified; (iv) *Ethical* – attitudes and knowledge derived from an [ethical](#) framework of professional practice, including an awareness of [moral](#) questions and choices. Finlay (2008) highlights the reflexive nature of John’s approach as highlighted in the additional column below.

Tool C.2 Ways of knowing (Johns, 2006, informed by Carper, 1978)

Personal	Aesthetics	Empirical	Ethics	Reflexivity
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Bring the mind home	Focus on a description of an experience that seems significant in some way	What knowledge informed me or might have informed me?	To what extent did I act for the best and in tune with my values?	How does this situation connect with previous experiences?
How was I feeling, and what made me feel that way?	What issues are significant to pay attention to?	?		How might I respond more effectively given this situation again?
What factors influence the way I was/am feeling, thinking and responding to this situation?	How are people feeling, and why do they felt that way? (empathic inquiry).			What would be the consequences of alternative actions for the patient, others and myself?
What factors might constrain my responding in new ways?	What was I trying to achieve, and did I respond effectively?			Am I better able to support myself and

				others as a consequence?
How do I now feel about this experience?	What were consequences of my actions on the patient, others and myself?			What insights have I gained through this reflection? (framing perspectives)

Tools D

D.1 Smyth's (1989) Framework for Reflection on Action

Activity	Cues
Describe	What did I do?
Inform (Analysis)	What does this mean?
Confront (Self-awareness)	How did I come to be like this?
Reconstruct (Evaluation and Synthesis)	<p>What do my practices say about my assumptions, values and beliefs?</p> <p>Where did these ideas come from?</p> <p>What social practices are expressed in these ideas?</p>

	<p>What is it that causes me to maintain my theories</p> <p>What views of power do they embody?</p> <p>Whose interests seem to be served by my practices?</p> <p>What is it that acts to constrain my views of what is possible in my practice?</p>
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Tool D.2 Smyth's (1993) six principles underpinning reflective practice<tool_d2>

Reflection:

1 should not only be concerned with *technical skills* – it should be concerned with the *ethical, social, and political* context within which teaching occurs;

2 should not be restricted to teachers *reflecting individually* on their teaching; there should also be a *collective and collaborative* dimension;

3 is a process that is centrally concerned with *challenging the dominant myths, assumptions and hidden message systems* implicit in the way teaching and education is organised;

4 is about *creating improvements in educational practice and the social relationships* that underlie those practices;

5 is founded on the belief that *knowledge about teaching is in a tentative and incomplete state*, and as such, is continually being modified as a consequence of practice;

6 occurs best when it *begins with the experiences of practitioners* as they are assisted in the process of *describing, informing, confronting and re-constructing* their theories of practice.</tnl>

Tools E

E.1 Critical Incident Analysis (based on Flanagan, 1954)

Key points:

- 1.** Any event can be analysed to create a critical incident (CI): “incidents appear to be ‘typical’ rather than ‘critical’ at first sight, but are rendered critical through analysis. (Tripp, 1993, pp. 24–25).
- 2.** [critical incident analysis] does not consist of a single rigid set of rules governing such data collection. Rather it should be thought of as a flexible set of principles that must be modified and adapted to meet the specific situation at hand. (Flanagan: 1954, p. 335).
- 3.** The analysis should focus on eliciting the beliefs, opinions and suggestions that formed part of the critical incident rather than concentrating solely on a description of the incident itself (Cheek et al., 1997).
- 4.** “ [CIs] are not at all dramatic or obvious-they are mostly straightforward accounts of very common place events that occur in routine professional practice which are critical in

the sense that they are indicative of underlying trends, motives and structures...in teaching, importantly, critical incidents are created. Incidents happen all the time, but critical incidents are produced by the way we look at a situation: a critical incident therefore is an interpretation of the significance of an event..." (Tripp, 1994. pp. 65–76).

Approaches to Critical Incident Analysis

- Describe the event
- Provide a contextual explanation of the incident
- Identify your position.
- Find a more general meaning:
 - Was it related to the learning environment?
 - Was it behavioural?
 - Was it subject related?
 - Was it pedagogical?
 - Other:
- Articulate a position

Tool E. 2 The *surgical strands of reflection* (De Cossart & Fish, 2006) can be adapted to educational contexts and used within critical incident analysis. (*substitute pupil for patient*)

Surgical Strands of Reflection	Prompts
<p>FACTUAL STRAND: Give a descriptive narrative of the event.</p>	<ul style="list-style-type: none"> • what happened? • what you felt, thought and did? • What were the key moments of the event? • How do you see these? (Consider them critically)?
<p>RETROSPECTIVE STRAND: Look at the event as a whole. What patterns and possible new meanings can you see? (this is still about surface performance)</p>	<ul style="list-style-type: none"> • What are the main patterns of: (for example: reason and/ or motive, activities, failures, successes, emotions, frustrations, limitations, constraints, coercions)? • How might others (patients/fellow team members/observers) have seen it overall? • Analyse the oral language used between self and fellow professionals.
<p>SUB-STRATUM STRAND: What assumptions, beliefs, values, reasoning and judgements underlay the events?(Probing deeper)</p>	<ul style="list-style-type: none"> • What have you learnt about being a member of a profession? • What beliefs, assumptions, theories, and values, shaped your conduct? • customs, traditions, rituals, beliefs, dogmas, prejudices, were brought to/endemic in the

	<ul style="list-style-type: none"> • situation? Where did they come from? • What knowledge was used or created during the event? • What beliefs are emerging about knowledge and how it is gained/used/created? • What perspectives from formal theory and personal experience and theory shaped the event? • What does the event (and these reflections) tell us about how you view theory and practice? • What key thinking processes did you engage in? • What key professional judgements were made during practice? • What moral and ethical issues were raised for you by this experience? • How do you regard these now?
<p>THE CONNECTIVE STRAND:</p> <p>Relate what you have learnt in the above strands to the wider world – of practice ideas, reflections, theories and actions of</p>	<ul style="list-style-type: none"> • How does it relate to past experiences, and how will it relate to future ones?

<p>other professionals, and (via reading) to formal theory.</p>	<ul style="list-style-type: none"> • What issues and practices in your own work will you now explore further? • What theories might you develop for/about future action? • What do you need to find out more about? How will you do this? • What explorations/investigations of future practice might you plan?
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Tool E. Tripp (1993, p. 44) advocates the use of thinking strategies to support critical reflection. His framework includes consideration of the following:

- | | |
|---|---|
| <i>Non-events:</i> | Why what did not happen did not happen. |
| <i>Plus, minus and interesting:</i> | What was good, bad or neutral about an event. |
| <i>Alternatives, possibilities and choices:</i> | Thinking about alternative things that could have happened and devising ways to make them happen. |
| <i>Other points of view:</i> | Seeking out views of participants and non-participants to question assumptions and opinions. |
| <i>Parts and qualities:</i> | Looking at something as a collection of parts or as a set of qualities – examining our attitudes, values, and judgements. |

Reversal: Looking at something from the opposite point of view.

Omissions: What have we left out? Have we considered all possible ideas that we can generate.

Tool F

Brookfield (1995) proposes four lenses that teachers can use in a process of critical reflection:

1. autobiographical;
2. the students' eyes;
3. colleagues' experiences;
4. theoretical literature.

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