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3. DEVELOPING REFLECTIVE PRACTICE

3.1 INTRODUCTION

The authors of chapter two introduced and briefly discussed how a process of critical reflection could be applied to support student teachers in becoming reflective. Chapter three picks up that discussion and considers the idea of teacher educator reflective practice as well as strategies that teacher educators could use with student teachers to encourage the development of reflective practice. The chapter begins with a brief description of reflective practice and concludes by presenting two strategies (action research and co-teaching) that teacher educators could use to help them develop personal reflective practice.

3.1.1What is Reflective Practice?

Reflective practice is the process of continually improving one's teaching through engagement in it where critical thinking capacity is a necessary feature (Edward and Thomas, 2010). Engaging in reflective practice is generally considered to be a core standard and benchmark within the teaching profession. For example, the General Teaching Council for Northern Ireland (GTCNI) publication "*Teaching: the Reflective Profession'* states that 'one of the principles which underpin the Council's concept of competence is the centrality of reflective practice.... (and that) competence is developed through reflection on practice and through dialogue with others." (GTCNI, 2007, p.13).

'Reflection' and 'being reflective' have therefore been the subject of much research and provide the cornerstone for many professional development programmes (Pollard, 2005). However Larrivee (2008) points out that despite the prominence of reflective practice within professional standards the pressure to meet imposed standards of student performance can result in teachers' practice being more focussed on expediency and efficiency, and less informed by reflection.

Time constraints and a crowded curriculum can often restrict engagement in reflection. There are also the problems resulting from the absence of a clear and shared meaning of what exactly constitutes reflection and how it differs from other types of thought.

S. Rodrigues (Ed.), Handbook for Teacher Educators, 33–48.

Without specific criteria, reflection becomes difficult to engage with and any sense of progression may be hard to identify. Rogers (2002, p.843) believes that ''in becoming everything to everybody, it (reflection) has lost its ability to be seen'' despite its "allure… as something useful and informing" (Loughran, 2002, p.33) and its ubiquitous nature.

Husu,Toom and Patrikainen (2008) contend that teacher reflection has not been as effective as promised because reflective analysis does not come naturally and requires structure and dialogue. Bolton (2010), whilst recognising the need for supportive mechanisms, cautions that reflection should not be imposed but nurtured, and that induction and facilitation are required to avert negative feelings and resentment.

If we are to convince current teachers and student teachers of the value and worth of engaging in reflective practice we must create opportunities and contexts in which this process can be supported and, as Spalding and Wilson (2002, p.1393) suggest, "we must actively teach and model reflective skills in a variety of ways if we are to demystify reflection." Alger (2006, p.287) found that modelling the various levels of reflection made it accessible and a useful "tool for student teachers to do the organizing and reorganizing of their understanding."

Hatton and Smith (1995) attribute the barriers to promoting reflection among student teachers to their limited conceptions of the work of a teacher and their preoccupation with coping with their current situation. Given the evidence that structure and support are necessary, if the skill of reflection is to be developed among student teachers, Alger (2006) questions the extent to which these skills will be employed in their future teaching careers, and urges a greater concentration on the development of a positive disposition to reflection rather than solely on the skills of reflection.

Provocation 3A

Larrivee (2008) wrote about four levels of reflection (pre-reflection, surface, pedagogical and critical reflection).

Critical reflection – looks at long-term implications of their teaching and teaching strategies, and tends to be from the learner's perspective rather than the teacher's perspective.

Pedagogical – underlying approaches are analysed in terms of impact on pupil learning.

Surface- relies on 'what works' approach, tends to be from a teacher's perspective.

Pre-Reflection - tends to be a reaction to teaching situations.

Sometimes reflection during, or simultaneously with, our actions is challenging because of the multiple demands we juggle at the time. With hindsight, consider a recent episode in your practice, and try to identify where you sit/sat with regard to Larrivee's four levels.

3.1.2 Why Reflective Practice?

Good teacher educators are reflective practitioners. Teachers educators demonstrating reflective practice are able to evaluate and identify their own capabilities and competence level, and act on weaknesses while building on strengths in order to grow as professionals. Awareness by the teacher educator (and teacher/student teacher) of issues of power and control can lead to more deliberate thinking about creating more democratic classrooms. At the heart of this process, critical reflection becomes crucial for 21st century student teachers as a means of enhancing practice (McLeod, 2011; Reed and Canning, 2010; Edwards et al., 2002). Our argument is the need to nurture and develop open-mindedness and a readiness to see as the necessary starting point for critical reflection.

As Dimova and Loughran (2009) clarify, open-mindedness requires being ready to listen to more sides than one as an active listener. This means being prepared to hear views and ideas that may be contrary to our own and being able to see that a prior belief may be inappropriate particularly in relation to pedagogy (Rinaldi, 2006). To start this 'opening process' there is the need to be ready to demonstrate an openness of mind, heart and will (Scharmer, 2009, p.37).

Critical reflection requires and begins with self-awareness, which can be developed gradually and progressively as part of teacher education so that openness and readiness is nurtured. In the development of such attitudinal dispositions we show how the process of becoming open can be supported by a practical framework for reflection, named here as the '*9 R's of Reflection'*.

3.1.3 Using the 9 Steps of Reflection Pedagogical Approach

The '*9 Steps of Reflection'* (or 9R's) as a practical framework developed by McLeod (2012) illustrates how a pedagogical approach involving deep critical reflection supported teachers, and enhanced their participatory teaching with young children. The central argument is that critical reflection needs to start with the self and embodied readiness through creating the right conditions for learning.

Just as McLeod (2013) facilitated professional development with teachers in the form of deep self-awareness using creative collaborative workshops including reflective tasks over a period of time, so too with student teachers the same process can be applied. The ultimate intention is that participation can be sustained through a process of critical reflection. The key point is that the process of self-awareness in the form of creative collaborative workshops was key to nurturing a critically reflective approach.

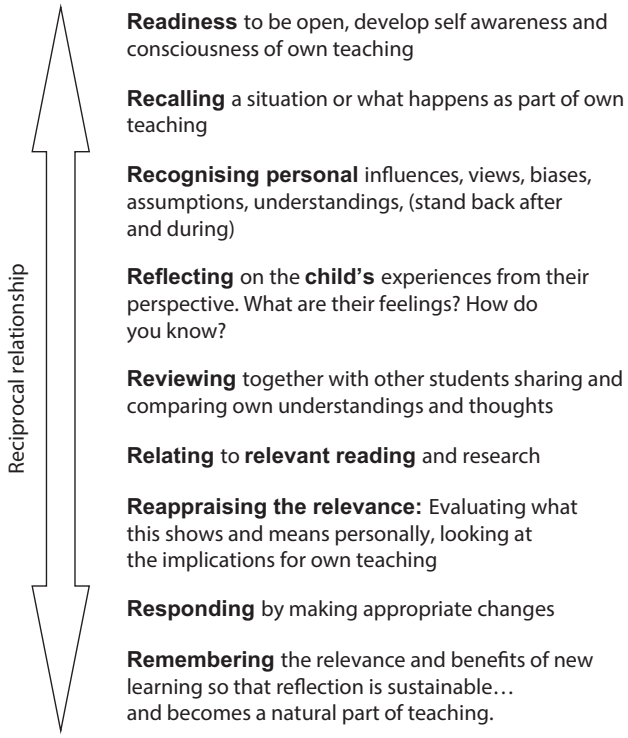

Figure 3.1: Nine Steps of Reflection

The '*9 R's of Reflection'* enabled the teachers to focus positively on the challenges they faced within their educational setting. Just as the 9R's developed gradually with the participant teachers, so in the context of working with student teachers, the 9R's could be gradually introduced. Regardless of which sector you work in, as a teacher educator you can model these 9Rs.

In the context of becoming a teacher educator there is a tendency to follow Government policy and directives without considering or questioning why and how appropriate they are for supporting children's learning. Student teacher learning plans are often very teacher directed and objective driven with very few opportunities for genuine participation that involves or follows children's interests.

This is not a conscious decision but rather the result of a lack of awareness of how personal values, beliefs, experiences and understandings influence what is considered appropriate as a means of teaching. In the study by McLeod, 'working with' rather than 'doing to' the participants facilitated creating a safe space that promoted an open, collaborative approach (McIntosh, 2010). This approach enables

participants to embrace uncertainty, a willingness to fail and a desire to engage in participatory teaching with young children.

Provocation 3B

This provocation models the 9Rs.

Recall a situation that was part of your teaching with student teachers.

Begin to 'Recognise' personal influences, views, biases, assumptions, understandings, (so that later student teachers may be encouraged to stand back and value a child's perspective).

Reflect on this from the student teachers' perspective.

What was their experience of learning?

Were they involved? How?

From working with student teachers over the last twelve years, it is clear that students feel a pressure to 'get it right'. They are uncertain about sharing ideas, having a go, or experimenting, for fear of getting it wrong. Thus creating a pedagogic environment with the right conditions for collaboration in order to enable sharing thoughts and ideas is essential and at the heart of becoming self-aware.

In McLeod's (2012) study, the intention was for the teachers to use the *Steps* as a structure for keeping a reflective journal in relation to their practice focusing on participation (Moon 2008). Through their journal writing and engagement in the reflective and collaborative nature of the dialogic/creative workshops, they became more self aware and open to change. Their ability to see personal influences on their practice and appreciate the child's experience was enhanced.

Quite early in the study the additional reading provided a sense of relevance, purpose and authority for the teachers as a way of justifying participation with young children (Eun, 2011). This needs to be at the heart of a student teacher's journey to becoming pedagogically aware. The reading provided needs to be relevant, so that students can make links between participatory pedagogy (see Shier, 2001) and their own teaching.

In the context of developing self-awareness and a personal pedagogical approach, it is essential that student teachers draw on both research and relevant pedagogical literature alongside Government policy initiatives. The process of collaborating and sharing together becomes more natural and valued by the teachers and is seen as '*Reviewing together'*. As workshops progress, the student teachers will become more expert at evaluating and *Reappraising the relevance* of their teaching in relation to participatory practice.

The structure of the *9 Steps of Reflection* could be used to provide practical pedagogical steps to help teacher educators and student teachers.

The *Reciprocal Relationship* arrow represents the 'golden thread' that connects each of the aspects of the process. It indicates steps as part of the purposeful process of critical reflection. However, the steps should not be seen as a restrictive set of rules to be followed rigorously. The 9R's of Reflection can help promote deeper pedagogical insight for teacher educators and student teachers.

3.2 ACTION RESEARCH: A STRATEGY TO SUPPORT REFLECTION

Researching one's own reflections and actions is an effective strategy to improve one's professional practice. Broadly speaking, this is called action research. A much cited definition of action research is:

> a form of self-reflective enquiry undertaken by participants in social situations in order to improve the rationality and justice of their own practices, their understanding of these practices, and the situations in which the practices are carried out. (Carr and Kemmis, 1986, p.162)

3.2.1 Teacher Action Research: Pedagogical and Participatory

In the literature, views of what constitute action research appear to fall into two groups. One group of thinking link action research closely to self-reflection and is research undertaken by practitioners for the enhancement of their own practices (Carr and Kemmis, 1986). The other group views action research as the active involvement of the practitioner in the research where there is systematic collection of information, including self-reflection, designed to bring about social changes (Bogdan and Biklen 1992). The former could be viewed as pedagogical action research, while the latter has a participatory dimension that involves a community of participants in the action research. Both forms of action research are applied research that assists teachers to reflect on their own practices and gather evidence to inform how they should change the way they teach.

In pedagogical action research, the practicing teacher conducts research on their own teaching and evaluation methods, with the aim of gathering evidence to inform him/her of whether the students' learning has improved. While there are numerous anecdotal accounts of teaching innovations and examples of best practice, it is critical that research is conducted to show if these practices and innovations are actually working in the classroom.

Participatory action research is community-based where researchers from universities work collaboratively with teachers to test new ideas and implement actions for change in order to improve practice (Mason, 2005). The research design could involve other stakeholders within the school community such as other teachers, the principal and parents.

Provocation 3C

Reflect on the last two classes that you have taught.

How would you assess how well they went?

Write a list of questions. For example, how well did my students understand my explanation of the concept of energy and create some criteria for the assessment?

Now consider what kinds of evidence would you use to demonstrate the degree by which you have satisfied the criteria.

How would you improve on those criteria that you have assessed unfavourably?

How could you improve on the criteria for which you were unable to produce evidence to demonstrate that you addressed the criteria satisfactorily?

Participatory action research involves direct participation of all parties in a dynamic research process where all participants are active co-researchers. As the purpose and outcomes of participatory action research is about improving the teachers' pedagogical practices, this type of action research could be viewed as participatory pedagogical action research.

In participatory pedagogical action research, teacher practitioners are 'ultimate arbiters over what counts as useful knowledge' (Mason, 2005, p.567) and the role of the university-based researcher is to supply the theoretical resources needed for the practitioner to reflect on to further develop his/her practice (Goldstein, 2000; Johnston, 1994; Leitch and Day, 2000).

Most of the reported pedagogical action research in the literature is participatory in nature. There are variations in the interpretation of action research and its processes (see for example Elliot, 1991; Quigley and Kuhne, 1997; Macintyre, 2002; McNiff, Whitehead and Lomax, 2003; Whyte, 1991). Thus action research as a research method has had issues raised about its quality and whether it is real (scientific) research or just a description of classroom practices (Bartlett and Burton, 2006). Swepson (1995) argued that both scientific research and action research are similar and that both are combinations of rational and empirical processes.

The empirical processes in participatory action research involving a community of participants are more rigorous and accountable than self-managed pedagogical reflective practices. For example, data obtained from a student survey and a colleague's observation and feedback could be triangulated and analysed in light of the teacher's reflections, aided by a researcher.

Provocation 3D

What are the advantages and pitfalls of a self-managed pedagogical action research?

3.2.2 Underlying Principles and Processes of Action Research

Bradbury and Reason (2003) asserts that action research is grounded in lived experience and addresses significant problems. It should be designed and developed in partnership with people rather than simply studying people. Bargal (2008) adds that action research entails continuous cooperation between researchers and practitioners and that it includes a cyclical process of data collection to determine goals, action to implement the goals and the assessment of the results of the intervention (i.e. pedagogy in this context).

The cyclical process is described by Latham and Gilbert (1995) as planning - acting - observing - evaluating - planning etc. (cycle starts again) while Norton (2001) identify the elements in the cyclical process as ITDEM (see Figure 3.2).

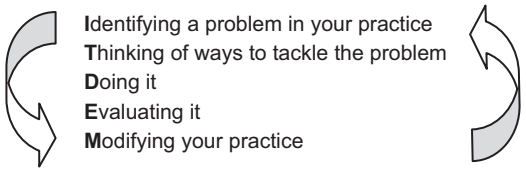

Figure 3.2: The elements in the cyclical process of action research

While there are slight variations in action research sequences described in the literature, most have the following stages in their sequences:

i. identifying a general problem or idea
ii. designing an action plan
iii. implementing and collecting the data
iv. analysing the data
v. reflecting and further action plan.

An example of the application of these stages of action research, working with a researcher follows.

3.2.2.1 Identification of a problem that needs improving. Reflect on previous data and identify an area that needs improving e.g. improve end of topic marks of low ability students. Research questions could include: what are the conceptually difficult areas that low ability students experience? What will be the impact of formative assessment on the learning of these students?

3.2.2.2 Produce an action plan. Design a modification to the existing teaching practice e.g. build in 5 formative assessments to monitor the progress of the students and identify concepts that the low ability students have difficulty with, then provide the necessary scaffolding to assist them with the learning.

Table 3.1: Stages of an action research

Norton's (2001) stages of action research	*Stages of research reflection and activities*	
Identifying a problem in your practice	Identification of a problem	Generate research question(s)
Thinking of ways to tackle the problem	Produce an action plan	Design modified practice Design research methodology
Doing it	Implement the plan and collect the data	Apply modified practice in teaching Collect data according to methodology
Evaluating it	Analyse the data	Analyse data and generate some conclusions
Modifying your practice	Reflect and plan further action	Compare with hypothesis and/or previous findings

For the research, design the research methodology e.g. pre- and post-tests, survey attitudes of students toward the topic at the beginning, interview the low ability students midway and at the end of the topic to gauge their progress and attitudes; invite a colleague to observe two classes and provide feedback; keep a journal entry etc.

3.2.2.3 Implement the plan and collect the data. Implement the teaching plan and work with the researcher to collect the data at the planned time.

3.2.2.4 Analyse the data. Analyse the data e.g. document and record patterns, themes or differences; identify areas of improvements and areas that are not so successful from the data.

3.2.2.5 Reflect and plan further action. Compare with early assumptions, hypothesis and/or findings and identify unresolved issues or new problems. Reiterate the cycle. Table 3.1 above shows these stages mapped into Norton's (2001) sequence of action research.

3.3 DEVELOPING REFLECTIVE PRACTICE THROUGH COTEACHING

Coteaching is an ideal methodology that teacher educators can use to simultaneously enhance their own reflective practice as well as the reflective practice of in-service and student teachers. Coteaching can be described as teachers sharing the responsibility for all aspects of practice, such as planning, teaching, assessing and evaluating

(Martin, 2009). It can provide a range of benefits such as decreasing student teachers' anxiety in the classroom, improving teachers' skills and pedagogical competences, allowing for more pupil-centred enquiry-based learning and, importantly, enriching the learning experience of pupils. Indeed, in the US, the National Council for the Accreditation of Teacher Education (NCATE)'s Blue Ribbon panel on clinical preparation and partnerships has noted the critical role of coteaching as a model for linking theory and practice in preparing teachers to teach (NCATE, 2010).

Coteaching was initially developed as an inclusion model for K-12 classes where a special education teacher was paired with a classroom teacher (Kluth and Straut, 2003). When coteaching is used as the model for student teaching, the established practices involved with learning to teach are challenged and student achievement and attitudes are positively impacted.

For more than five years, Bacharach, Heck and Dahlberg (2007) explored the development and implementation of an empirical student coteaching model involving formal school-university partnerships in 17 school districts. Children who were cotaught in mathematics and reading classes showed *statistically significant improvement in achievement*.

The study provided strong evidence of the benefits coteaching afforded for student learning and teacher preparation. In this section of the chapter we will focus on how coteaching can be used to enhance reflective practice so that more sustained benefits can be accrued from the practice.

Each of the popular models (Kolb, 1984; Gibbs, 1988; Atkins and Murphy, 1994; Korthagen and Vasalos, 2005) used to represent the process of reflection generally involve a cycle of what can be approximately represented by the stages; planning, teaching, evidence collection, evaluation, refinement, and teaching. As practitioners move through this cycle one could investigate how each stage is enriched by interaction between the coteachers within this zone of proximal development (ZPD).

Coteaching provides ideal conditions for learning by creating a zone of proximal development in which the collective achieves more than the individual. The key characteristic underpinning coteaching is that preservice teachers engage in discussions about practice and praxis with their cooperating teaching partners. It is this dynamic between participants which we have found to be key to making the often challenging practice of reflection more accessible, meaningful, and more rewarding.

Some of our most recent work on coteaching, which we include in this chapter, interrogates questions relating to the extent to which coteaching promotes reflective practice, the particular affordances provided by coteaching, which support reflection, and how even a brief coteaching experience might inform the future reflective practice of both participants.

Coteaching essentially progresses via three key stages: coplanning and copreparation; copractice, which includes coteaching and coevaluation, including coreflection (see Figure 3.3).

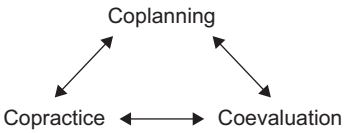

Figure 3.3: Phases of co-teaching

In our recent coteaching research focusing on developing reflective practice in the context of primary science, teacher and student-teacher coteacher pairs were encouraged to plan, teach and reflect on lessons and schemes in relation to 'ideal' practice, as opposed to the more pragmatic planning enacted by teachers working alone.

Coteaching therefore provides the mutual support of two (or more) professionals during praxis to develop and reflect on their own and each other's improving classroom practice to aid the learning of the students. We provided coteachers with *tools* for reflection, which comprised:

1. Coreflection sheets on which coteachers commented on areas of the lesson and on their coteaching by recording their responses to questions such as:
   - 'Ideal' children's science learning from this lesson – how did we/they do?
   - What limited children's learning?
   - How good were the tools we used and how could we improve them?
   - How far did coteaching enable both teachers to attain the planned learning/development?
   - What changes should be made?
2. Self-diagnostic tools, in which coteachers could assess their own levels of reflection (e.g. see Larrivee, 2008).
3. Key readings about reflective practice, against which coteachers could raise their own levels of reflection.

Following coteaching, student teachers employed the pedagogical approaches, which they had developed in the copractice phase, during their solo teaching placement. Cooperating teachers also integrated their new learning from the coteaching into subsequent solo practice.

Provocation 3E

Introduce yourself to coteaching via sharing expertise by coplanning a session for your student teachers with a colleague.

Coteach it.

Coreflect on the potential of coteaching for student teachers.

Data on coreflection comprised semi-structured interviews, focus group discussions, completed coreflection templates after each lesson, and reflective essays (student teachers only) and video journals (data not used for this proposal).

The findings, overall, suggested that coteaching provides a method for improving reflective practices of student and cooperating teachers, particularly in relation to the learning and teaching of primary science. Coteachers highlighted the value of reflection. They commented on how they had used it before but with little effect. They commented on how they now realised the benefits of reflection-in-action as they worked together in the classroom, and reflection-on-action in both their coreflections following lessons, and in the later reflection during interviews and additionally for preservice teachers, in the reflective essays.

More specifically, coreflections identified huge benefits of coteaching, including:

- working with a critical friend;
- improved confidence to teach science;
- improved learning environment for children;
- more experimentation with teaching approaches;
- reduced use of worksheets;
- teaching more science;
- children 'owning' their learning and driving lessons;
- coteachers and children working at a higher level.

This is illustrated by responses from cooperating and student teachers to identifying new practices following coteaching, for example:
Researcher: *Anything in your practice now that you didn't do before [coteaching]?*

1. Cooperating teacher: *Even teaching science. Having more confidence and carrying out daring lessons that might not go so well.*
2. Student teacher: *I wouldn't have touched investigative side before with a barge pole. On my placement in P3 I gave them cups of water. Not on your life would I have given them a cup of water before because I would have been nervous of what they would do. Even how you set the room up at the start – my experience totally changed that.*

Individual reflections on coteaching identified a key difference between student teacher and cooperating teachers in that student teacher reflections indicated that they had progressed from evaluating resources and classroom activities to *reflecting on children's learning*. Cooperating teachers' reflections, however, suggested that they moved from evaluating resources and activities to *reflecting on their own pratice and its effectiveness*:

3. *The content of reflection changed. Before I focussed on resources and how they worked, whereas after coteaching I went: "okay this group didn't get this, and this is why I think they didn't get it, so this is what I'll do instead next time". It was much more detailed in terms of children's learning instead of the practical setup of the classroom. (student teacher)*

4. *You evaluate your notes but it took your evaluation in a different way because you were now being more about self. Before you were looking at things that work in your notes and don't. Now you were looking at yourself and what do you expect to get from it. It was more looking at you and could you have done something better. Even learning from the student with the sheet and going over it together and maybe on your own you would have poured over it for hours and analysed every word and they were just 'you don't have to go into huge detail just cover it'. (Cooperating teacher).*

Most reflections from interviews with cooperating teachers referred to the theory and practice of science learning and teaching. However, direct and deep reflection on the theory-practice relationship more generally was more evident in student teachers' reflective essays.

5. *Through coteaching I have developed my reflective practice through the levels of progression and in a variey of ways through reflection in action and reflection on action… It is evident that whilst coteaching has developed my refective practice, the road to becoming a competent 'Reflective Practitioner' (GTCNI, 2010) will be long. Reflection is arguably a process, not a method, but a process which must be developed throughout a teaching career. This journey of effective reflection, facilitating lessons which site pupils' learning in the forefront has begun and it will be interesting to chart the progress and effectiveness of my reflections throughout my teaching career.*

In terms of meta-reflection, Coteachers invariably talked of the value of reflecting and how reflection improved their practice; cooperating teachers commented on time constraints re reflection; all appreciated coreflection was a major reason for coteaching being successful in improving practice. The agreed template for reflection was critiqued after use by some student teacher :

6. *Throughout the coteaching experience, reflection arguably occurred through the provision of a structure, in the coreflection template, maximising the thinking process. This structure gave reflections a premise, however, care must be taken in the use of templates when reflecting to ensure that the process is not hampered by the completion of sections on paper.*

Most reflections were characterised as level 3 and 4. Indicative quotes 1 and 2 - level 2 [surface reflection] of our adapted Larrivee tool (eg: using evidence and making adjustments based on experience only). Quote 3 – level 3 [pedagogical reflection] (eg: adjusts methods and practices based on students' relative performance). Quotes 4-6 – level 4 [critical pedagogical reflection] (eg: commitment to continuous learning and improved practice; constructive criticism of own practice; sees teaching practices as remaining open to further investigation).

3.4 CONCLUSION

In conclusion, we suggest that action research and coteaching provide an ideal approach to develop reflective practice. Two factors are crucial: firstly, a constant focus on ideal, rather than pragmatic practice in relation to development of learning and development. It could be argued that much of the current continuing professional development offered to teachers embraces the rather low level "this is how to…", instead of aiming higher, as is encouraged in the coteaching approach "what is the *ideal* way to develop children or students' learning of..?" Secondly, we recommend that action researchers and coteachers are provided with 'tools' for reflection, such as articles, self and peer diagnostic instruments to evaluate levels of reflection, and ideas from key scholars on reflection, such as Dewey, Vygotsky and Rogers.

Our lived traditions produce values, biases and beliefs which influence the manner in which we consciously or unconsciously form our professional identity, our priorities and understandings of working with young children (Hassan, 2005; Beijaard et al., 2004). It is these embodied experiences, especially those unconscious ones that we need to understand if we want to understand the 'richness and subtlety of human experience' (Leitch, 2006, p. 551).

Within the context of education, teachers tend to feel restricted by an outcome driven curriculum and targets imposed by government as part of a top down approach. As a result there is the tendency to sometimes 'play it safe' and follow rules without questioning (Wilkins, 2011). Being aware of these power relations can promote a consciousness of reality so that we (and our student teachers) are more able to make informed decisions about what is appropriate pedagogy and take ownership of our and their practice (MacNaughton, 2005; Freire, 1994) rather than doing what is familiar and safe.

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