Can Teaching Critical Reflexivity be Improved Using Metaphors? The Hippo in the Room
Abstract

This case study investigation reflects on the benefits of using metaphors to teach postgraduate education students how to deal with personal bias, subjectivity and advocates critical reflexivity as a method for doing this. Students are reluctant to be critically reflective (Adriansen and Knudsen, 2013) as they can feel threatened by the reflective process (Borochowitz, 2005), feel they can sit apart or outside their research and write without bias (Gursti-Pepin and Patrizio, 2009) and/or feel critical reflection may damage their research findings, (Fook and Askeland, 2007). The paper explores the effectiveness of an approach to overcoming this reluctance by applying a metaphor from a research module in Zambia to a UK education class. In Zambia students discussed personal bias by likening it to an encounter with a dangerous unseen animal, and identified similarities with a hippopotamus. This animal is difficult to tame, dangerous, hard to deal with, can remain hidden for a long time, it appears unexpectedly, cannot be ignored, and awareness the main defence. Anecdotal reports suggested this improved the early adoption of critical reflexivity in their dissertations. This metaphor was then used as a key discussion point on a postdoctoral education programme in the UK and investigated using focus groups. Students reporting a greater understanding personal bias, recognition of the importance of being critically reflexive, and felt the metaphor of the hippo had been instrumental in their understanding and the use of Rokeach’s’ personal values; morality, competency, personal and social behaviour, provided a supportive reflexive framework. Follow up research with supervisors showed an increase in the application of critical reflexivity early in the students research. This is underpinned by findings from Hoggan (2016) who researched the used of metaphors to help cancer patients explain difficult personal constructs about their condition.
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Introduction

Social research is inherently entwined with the researchers own personal bias and values. A key aspect in teaching social science research methods to early career researchers is the need to impart the knowledge of the effects of these factors so students can advise of the partial nature of their research (Butler 2005). In particular the power relationships of the supervisor, researcher and participants in the research should be reflected on and advised (Bondi, 2009). Using critically reflexive observations gives the researcher a method of advising how knowledge gained from their research has been affected and formed by the researchers own position (Finlay, 2003) and clear positionality. This paper reflects on the difficulties of teaching professional postgraduate students how to recognise and deal with personal bias and values in their research. It reports on lessons from a research class in Zambia and in the UK. In Zambia students gained an understanding of personal bias by likening it to an encounter with a hippopotamus, improving early adoption of critical reflexivity in their research. The metaphor was then used and further investigated on a Postdoctoral Education programme in the UK with the students also reporting a greater understanding of the importance of being critically reflexive, a greater understand of the nature of personal bias, the need for critical reflexivity early in their research, and felt better able to create a research base.

Positionality, Bias, and Critical Reflexivity

Many practices and methods are advocated in qualitative studies to ensure research is founded in good practice. The need to respond to the researchers’ position of power in the investigative structure has led to a strong emphasis for self-reflection on the researchers place in the research, and the use of critical reflection to advise of its
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effects Daily (2010). Mackay and Tymon (2013: 644) describe critical reflexivity as the ‘conscious review of an individuals’ subjective position’ in their research. This
subjective position is at the central of the research in many educational studies and the
effect on the results of the research is difficult to plan out using positivistic methods. In
practitioner research in particular research is often practiced as a reflective exercise on
something within the researchers own influence as a manager or teacher. As such it
places the researcher in a central position in terms of power, authority, and
subjectiveness. It is the authors opinion that this subjectiveness is so central to the
nature of this type of research that it cannot be planned out of the research and so must
be advised as part of the research as early as the method and that the earlier critical
reflexivity begins the more founded in substantive qualitative method the research
becomes. However, not all academics advocate or use reflexive practices in qualitative
research. Newton et al., (2011), in a large scale literature review of qualitative studies,
found a lack of self-reflection and a reliance on positivistic methods was still prevalent
as researchers attempted to work bias out of the research and find absolute truths.
This is unlikely to be possible in qualitative practitioner research as the intrinsic nature
of this type of research provides many variables such as time, power, subjects,
situations and feelings. Therefore the need to teach students to engage with their
position, bias and subjective assumptions is fundamental to underpinning good
research. Critical reflexivity would therefore seem the only way of dealing with the
complexities involved (Greenbank, 2003) and therefore effective methods of teaching
critical should be explored.

Teaching Reflexive Practice
There is a reluctance among research students to recognise and deal with bias by reflecting critically on their own position in their research. This is recognised academically (Ping-Chun, 2008; Adriansen and Knudsen, 2013; Hibbert, 2012) and makes teaching it difficult. Students can feel threatened by the reflective process (Borochowitz, 2005), they feel they can sit apart or outside their research and write without bias (Gursti-Pepin and Patrizio, 2009), they may be unfamiliar or not comfortable with the terminology used (Gazdula, 2015), they feel critical reflection may damage their research findings, they are reluctant to be self-critical as they feel it may undermine their research (Fook and Askeland, 2007). Anxiety about discussing personal traits is also considered to be a key obstacle to reflection (Ruch, 2002) and Merriam (2004) argues even experienced students will not have developed the theoretical capacities to critique their own ideas effectively. The professional backgrounds of the students observed for this paper appear to have consolidated these ideas as managers avoid being critically reflexive because they are used to ‘taking responsibility for making decisions and reducing complexity,’ (Adriansen and Knudsen, 2013:120). The postgraduate students investigated in this study were from health, engineering, government and education and their position as managers or professionals appeared to engender a singularly right or wrong view of their research subject with little attention made to margins in between, or their personal situation in the research.

The teaching of bias, positionality, and approaches to being critically reflexive is also varied. Research supervisors variously see reflexivity as something to be gained by the student through reflexive conversation (Moon, 2007), as part of the supervisory support in the students epistemological journey (Bruer and Roth, 2003), taught formally (McKay
and Tymon, 2013) or even left until very late in the research and advised on as the research is being written up. Jenkins (1995) argues that social research is rarely going to be perfect so it may be better for early career researchers to make mistakes and use the later stages of their dissertation as a reflexive learning instrument. Ping-Chun, (2008) conversely asserts reflexivity cannot be learned passively or advised on later in the research and argues researchers will benefit from early engagement with their personal bias and from having a suitable advisory approach built into to their methodology from the beginning. Ping-Chun advocates critical reflexivity as early as the research instrument design stage. Perhaps the most important reason for good teaching practice in critical reflexivity is highlighted by Smith (2011, cited by Newton et al., 2013:645) in recognising the dangers of becoming too reflective making the researcher ‘negative, overly self-critical and isolated,’ which could negate the research and ultimately the confidence of the researcher.

Through personal experience of teaching researchers how and where to use critical reflexivity and supervising a number of resultant dissertations, early reflexivity helps build objectivity into the research during the research instrument design and begins the process of allowing the students to objectify the objective of their research early. It gives the student time to reflect and helps to begin good practice at a time when supervision is regular and interventions can guide the student away from the more dangerous aspects of reflection such as subjectiveness in planning the research method or undue negativity.
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This investigated case study was a review of teaching on two postgraduate classes 9 months apart and is presented as a researched case study. On the first class in Zambia, a lecture gave definitions and overview and tutor led discussion with students developed the idea of using the analogy of the country’s most dangerous animal, which unexpectedly was revealed as the hippopotamus, for bias. There appeared to be a better acceptance of the need to show bias at the end of the sessions and an anecdotal increase over previous cohorts, in the use of critical reflexivity reported by tutors marking dissertations. It was therefore decided to try the approach by doing a phenomenological study with a UK class. The classes had some similarities which underpinned the research, both groups of students worked full time, both were professional managerial students drawn largely from the health, management, engineering and teaching professions but the Zambian class (n=13) had more diversity as some individuals were managers from private organisations whereas the students in the UK (n=18) were from the public sector. The investigation in the UK used a focus group approach with the tutor as the researcher. This was chosen as the investigative method because it was felt these would give particularly good interpretivist insights into student understanding of the topic (Wilson, 2016) and a pre class discussion and post class discussion was used to assess the effects of the class based on the analogy. The questions used to initiate the discussion were:

1. What is personal bias?
2. How might personal bias affect your research and findings?
3. How might you deal with personal bias in your research?
4. Would identifying your personal bias improve the outcome of your research?

After the class the students were asked:
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1. If they felt confident they understood the concept of personal bias.
2. How might personal bias affect your research and findings?
3. Would identifying your personal bias improve the outcome of your research?
4. Did the analogy of the Hippopotamus help their understanding of the concept of personal bias?

Finally discussions with dissertation tutors considered if they had seen an increase in the use of critical reflexivity

**Case Study**

The use of analogies predates modern teaching and can be traced back to Plato. It is also reported in modern academic studies of teaching practice (James and Scharmann, 2007; Woody and Himelblau, 2014). African education has a historical tradition of using stories, metaphors and analogies in education to impart and exchange knowledge (Omolewa, 2007). In Zambia standard teaching materials were used to deliver a taught session on bias, positionality, subjectiveness and advocated critical reflexivity as an approach to advise of them in the research. The session consisted of a powerpoint lecture with definitions, examples, discussion points and advocated Rokeach’s four personal values; morality, competency, personal and social behaviour (Rokeach, 1973) as a framework to help reflection, advise on their own place in the research and explain their subjectiveness. The subsequent discussion was particularly difficult and students concentrated on discussing the negative aspects of critically reflecting on their own academic work. They felt this approach undermined their research and it was up to others to critique their work if they felt it was incorrect. As an alternative approach, students were asked to develop a metaphor or analogy for bias with the following
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criteria. They should think of an African example with some or all of the following features. It should be:

* difficult to identify
* hard to observe
* may appear unexpectedly
* can cause considerable damage
* needs careful consideration
* can be planned for
* may be unavoidable

During the session students felt this might be a Hippopotamus, something which is untameable, difficult to deal with, and can be highly dangerous. They kill more people than any other mammal in Africa. If it can’t be avoided the plan for an encounter would be to gain higher ground or shoot it, but the main defence is to make people in the vicinity aware it was there. Likening personal bias to the hippopotamus seemed to bring a level of illumination to the class. This was followed up by revisiting Rokeach's Personal Values and working through the framework for critical reflection. This became a run, shoot, or avoid decision with a plan to inform nearby communities. Subsequent observations of project dissertations and discussions with other supervisors on student research methodology suggested that methods of reporting and reflecting on personal bias had been taken into consideration to a greater extent than students previously undertaking the course.

Investigation
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The use of this analogy was applied in a UK Doctoral class with education students through a tutor led exposition and a question and answer session to see if it would help their understanding of bias and help critical reflection on their research. To investigate the usefulness of this focus groups were held before and after the session.

Before the session they discussed three key questions:

What is personal bias? How might personal bias affect your research and findings? Would identifying your personal bias improve the outcome of your research?

Students reported they understood personal bias but either didn’t feel it was relevant to their research, they would be able to use a positivistic approach to be objective and impartial, or they would not let their feelings become involved in the research. They felt they could manage their bias out, but also they felt identifying bias would be self-detrimental to their research. Some admitted they were unsure how to deal with it and intended to ignore it. All students felt uncomfortable about reflecting on their position in the research.

The class used the same structure and materials as the class in Zambia but after definitions and explanations of key terms, extra slides on the Hippopotamus were introduced. Here the analogy became a metaphor as it was explained how African students were wary of them, why, and their key characteristics. In groups students discussed the key traits of the animal and the class were asked to give ideas and begin a discussion of how they would deal with it. Initially students explained avoiding it would be the best approach, but on questioning if they should avoid researching
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anything with subjectivity, they came to the understanding this would mean avoiding many forms of educational research which was in-compatible with an educational doctorate. Cohen et al., (2013) describes education as a messy place and Greenbank (2003) argues the only way to untangle this is through critical reflexivity. The discussion then moved to planning for Hippo’s. Students decided the first stage was to inform people there were hippos in the vicinity. These included signposts and verbal conversations with people nearby. There was a general realisation that personal bias could be treated the same way. A critical point was realising that not informing the community would have worse consequences that letting people know it was there. A revisit of the key traits of the Hippo on a powerpoint allowed the students to identify the key traits of bias and positionality in their own research and the session summarised with Rokeach's four personal values (1972) as a framework within which they could reflect on their own positionality.

After the class the focus groups were re-formed and asked to consider:

If understood they concept of personal bias. How might personal bias affect your research and findings? Would identifying your personal bias improve the outcome of your research? Did the analogy of the Hippopotamus help their understanding of the concept of personal bias?

The results from the UK students showed they all felt the Hippopotamus analogy had helped them to understand the importance of identifying and critically reflecting on their bias, positionality, and subjectivity, and realised this added to their research rather than detracted from it. The point of realisation was the fact that ignoring the hippopotamus
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could have consequences to others. Thus educational research might be very
dangerous without very clear consideration bias and its impact, not least to the research
subjects themselves (Sullivan, 2011). There was some surprise and humour amongst
students that the Hippopotamus was such a dangerous animals, which might have
added impact. One student commented ‘I thought they were cuddly things.’ Students
said they realised personal bias was not something they should ignore or try to hide.
One student reported

‘Maybe it was the Hippo, it helped me to realise there were more dangerous
things than reflecting…..the idea (the hippo) helped me understand ignoring my
own position was more dangerous that dealing with it.’

There was a general recognition at the end of the class that identification of personal
bias was not a weakness but a strength in their research.

‘If suppose if I reflect carefully, other people reading my work won’t be able to
comment that it’s just my opinion which I’ve supported by finding articles.’

A number commented they understood the need to reflect critically on their own position
and personal bias and this added depth and clarity to their research. They felt early
planning to include bias identification and reflexivity in their methodology added quality
and perspective to their approach.

‘The more I think about it the more important it seems to become a key aspect
of good research,’
The students also reported this understanding also helped contextualise Rokeach’s personal framework for them. This class was much easier to run than previous classes on the topic. On following up the class with dissertation supervisors it was reported that students were asking questions about how to apply critical reflexivity to their studies in supervision sessions.

Toward the end of the focus group students began to consider the ways they might reflect rather than if they should reflect. Questions concerned the number of reflections in a dissertation, where to reflect, and how deep the reflections should go. ‘If I do too much it might affect the detail of my dissertation so is there a word limit?’ and ‘Should I do a full reflection at the end of each section of my dissertation?’ This brought about a number of individual preferences such as critical journals running alongside the dissertation, a reflexive chapter in the dissertation and a series of statements on reflexivity at set stages. By the end of the focus group students felt capturing reflections as they went along by a method of their choice was the best way to be critically reflexive. Reflective logs were the most common suggestion. This type of discussion would be useful to summarise the taught session and used in future classes.

Using metaphors as an aid to understanding personal bias and subjectivity to promote critical reflexivity in research can be underpinned by theoretical concepts. Transitional learning (Illeris, 2007, Wildemeersch and Stroobants, 2009), shows how learning in one place is used in a different place or different context. Mezirow (1997) discusses transformative learning where people reflect on a situation and use them to build new beliefs or opinions. Illeris (2014:148) defines transformative ‘as transformations of meaning perspectives, frames of reference, and habits of mind.’ The difficulties in
teaching critical reflexivity perhaps requires an example or object away from the research such as the Hippo, to overcome the existing belief that self-critical reflection damages rather than supports research. Hoggan (2014), directly links transformative learning to metaphors. Hoggan, in a study of breast cancer sufferers, discusses how difficult to explain feelings and concepts were used to help understanding of the patients’ condition. Patients would give their disease a name or relate a story on being told of their situation. He also explains how humour was helpful to people in explaining concepts which patients found difficult to explain normally. The hippopotamus metaphor combined these features and helped challenge beliefs brought about by the position of the researchers at work in a safe and non-confrontational way.

Reflections on the Research

Good research demands tutors practice what they preach (Griggs, 2011, Makay and Tymon, 2013) and being critically reflective is an appropriate approach here. The two classes were of a slightly different nature in terms of outlook and culture, and in each case supervisors reported an increase in the use of critically reflective frameworks. In the case of the researched class in the UK dissertations are formative and the effect of the metaphor may not be fully obvious until the end of their doctoral programme. The decision was therefore taken to obtain reports from supervisors about critical reflexivity in student work as soon after the class as possible, rather than do a thematic exploration of student dissertations which may take years, be incomplete or include learned experiences from outside their class as part of their epistemological journey.

There are arguments that metaphors do not always contribute to understanding as they do not reflect the reality of practical situations (May, 2010), and therefore may have
limited use in aiding conceptualisations. Yet in the example reported here teaching the topic was easier, a fact worth reporting in itself, and there was a reported increase in the understanding and application of critical reflexivity. The underpinning conceptual models may also be subject to scrutiny. Illeris (2014) notes Mezirow himself accepts there are more elements to transformative learning than reflection on beliefs. Illeris points out that emotions and social relations are included in Mezirows’ later work but this too may have helped the relational understanding of the hippopotamus to personal bias as students were surprised and discoursive about the animal being seen as highly dangerous.

The research was undertaken by the tutor as an insider in the study. While not directly belonging to the student group the researcher was the tutor, in a position of power and a member of the extended group, which in itself is a powerful position. This has advantages and disadvantages (Unluer, 2012). Advantages as an insider allowed access the group after due ethical processes and permissions. The knowledge of previous classes helped gain a perspective on the teaching approach, and access to tutors for follow up information. However as an insider the tutor researcher will always have a power position and mean subjects are exposed to this (Blass, 1991). Student may give the answers they think the researcher wants to hear. Subjectiveness is also a strong consideration when the researcher is researching their own classes and therefore critical reflexivity is an important part of the research method.

To cope with these using Rokeach Personal Values Framework (1972), advocated during the lessons, is helpful to identify the authors position. The morality of this situation is that it is right to reflect on and report practice in the classroom and was a
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considered reflection of the practice rather than an investigation of the students. Competency to do the research is somewhat subjective too but this was undertaken by a trained researcher in the subject area and the method is considered. Personal values include personal objectives and this paper only became an objective after the second class reported positive results and showed students were attempting to reflect earlier in their research than normal. An advisory presentation to the academic community in 2015 (Gazdula, 2015) showed there was interest in the research. Social behaviour includes political and educational beliefs. Transnational studies are difficult to reconcile due to many variables in culture, societal concerns, political and personal pressures. However cross cultural examples producing improvements in the educational process and learning are in themselves exciting and worth reporting though the opportunities to do this are always limited. These therefore should be investigated and advised upon when they occur.

Summary

Critical reflexivity is a difficult concept to teach, learn, and measure for understanding, yet is important to qualitative study methodology. In the case of the education student researchers observed this study, their professional backgrounds embedded a deep belief in avoiding self-criticism and an unwillingness to reflect critically on their own position generally. This is transferred into their research approach as they sought to be apart from the research and attempt a positivist approach giving absolute truths. This is generally compounded by a bewildering variety of approaches to teaching or learning personal bias, subjectivity and critical reflexivity. However Mackay and Tymon, (2013) argue contemporary learning theories should be taught and where possible demonstrated in practice. The difficulties in teaching critical reflexivity are highlighted
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earlier and research showing successful approaches should therefore be reported academically.

The use of analogies and metaphors are widely reported in teaching but less prevalent in postgraduate studies, but this research shows they have value here too. The search for appropriate metaphors may be best done within the students own experience, as Hoggan (2014) describes with his patients. This was the case in Africa. However some are capable of translation across boundaries. An important part of this seems to be where key features align easily with the concept being studied or where deep seated beliefs of learned experience may exist to hinder understanding of the concept. This in itself may be worthy of further research. In this study, the idea of personal bias and subjectivity as something hidden but dangerous aligned well with the Hippopotamus, and the creature is well enough known in most countries for people with little chance of an encounter to understand the dangers when explained, even if this caused some surprise and humour. The real knowledge was gained in working out the ways to deal with it and this where the realisation came from. Advising the community in the vicinity of an approach translated directly into advising of bias and positionality and the Rokeach Personal Values Framework gave an easy model to begin reflexivity. There are other frameworks and these may also prove useful in guiding student approaches. This approach contrasted with previous approaches to teach the topic which was more instructional, and consisted of a lecture and discussion. Sfard (1998:13) argues metaphors avoid theories being transformed into instructional prescription which are ‘the worst enemy’ for successful understanding. They work because they are accessible, flexible, imaginative and have aesthetic value.
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