CRITICAL THINKING SKILLS IN ADULT LEARNERS.

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Abstract

The need to identify the role of critical Thinking within teaching and learning is important in order to develop and improve the quality of education at all levels and for all learners. The literature has been divided over the different definitions of what is meant by critical Thinking let alone approaches to develop it within education programmes. The focus of this article is to suggest that there may need to be further consideration of critical Thinking in terms of adult learners and the learning environments, in which they are involved. It suggests that mature learners may have developed critical Thinking skills through experience in addition to the learning opportunities and that these additional experiential skills have yet to be properly accepted or indeed explored.

Introduction

The drive for enhancing the quality of education for all has included improving buildings, facilities but most of all developing how and what we teach. A key component of developing teaching and learning has been the realisation that ensuring learners know how to think is pivotal to success not just in terms of education but in

the wider context of society Dewey (1933). I intend to focus on the broad issues, which relate Thinking skills, but to look at the way in which Further education has addressed the delivery of Thinking skills.

In order to address the issues raised in improving and developing qualities of Further Education it is important to consider what is understood as Thinking skills. In seeking a definition, it is necessary to look at different perspectives, philosophical and psychological approaches to developing which allow the learner to accept new ideas. Having considered the meaning of Thinking skills, it is then necessary to look at different pedagogic approaches used to provide them for adult learners, including those who come from different educational experiences, considering different strategies, which will allow the learner to meet the growing challenges of education in the 21st Century.

So what are Thinking skills or should I say what is critical Thinking?

It is evident that for most of us Thinking is something we do, they key is to identify what type of Thinking is required in which given situation, Glevey (2006). In academic terms what is required might be, according to Smith (2002), effective Thinking, linked to some form of measurable outcome such as a good essay, well written work, presentation or the ability to conduct reasoned argument Kuhn (1991) Bailin (1997). We measure this in a critical fashion primarily. It is this debate on definition and measurement, which has been continuing for some time, and I shall seek to reflect on the key terms and the issues, which arise from it.

There are contrasting ways of identifying the ability to think in a critical way. Lewis and Smith (2003) explored two: firstly the philosophical approach- looking at developing critical Thinking, as evidenced by McPeck (1990), Ennis (1990) amongst others, which seeks to identify an end product, focusing on the analysis of argument, driven by theory, Paul (1995) suggested that it was "Thinking about your Thinking while you're Thinking to make your Thinking better" (p. 91). Secondly the Psychological approach – the Thinking skills process which has a greater preference to process as Siegel (1995) suggests that it is "… an active process involving a number of denotable mental operations such as induction, deduction, reasoning, sequencing, classification and definition of relationships" (p.18).

These conflicts reflect that there are challenges not just to definition but also to what is expected from the tutor and the learner when seeking to balance their teaching and learning processes. What does however appear to be clear is that there is a need to develop these skills or attributes in order to be able to compete not just in terms of formal education environments but also in vocationally driven programmes. Paul (1995)

> "…critical Thinking is the essential foundation for education because it is the essential foundation for adaptation to the everyday personal, social and professional demands of the 21st century and thereafter."

Thinking Skills – the Debates

There are many reasons as to why it has been difficult to define specifically, what is meant by Thinking Skills.

It is important to break this term down in order to see where there challenges exist, a skill according to Moseley et al (2005) " brings up a picture of physical expertise " p10, whereas Thinking suggests a combination of " consideration, reflection and judgement.' The combination of these words has led to significant dispute about how to further refine the definition deciding whether it is right to generalise or to indicate the Thinking skills are individual to person or subject.

There remains a considered view that as they are skills based they can be taught and probably can improve if the approach is relevant and appropriate for the needs of the learner in the given context Garratt et al (2000). The value of this to the learner is instrumental in affording the opportunity to be able to improve their attainment and thereby improve life chances Bailin (1997).

Dewey (1933) indicated that Thinking occurred where the learner moves away from a point of reflection to inquiry, at this stage they will then apply a critical thought process to the inquiry ultimately reaching a conclusion that can be supported and justified by more than individual beliefs. Dewey's idea being that all the Thinking flows from one source but that there is no predefined route that the learner takes in using that information / knowledge each step is based on evidence and understanding. The purpose is to ensure that the learner also challenges his or her own understanding

and approaches at each step, thereby developing a metacognitive approach to learning.

King, Goodson, Rohani, (2011) suggested that Thinking skills are made up of a range of different concepts and include critical Thinking, creativity, insight, comprehension, problem solving and intelligence. They suggest that these are the most significant, elements, which help to identify and develop higher order Thinking skills (HOTS). This term is often used when identifying what, is understood to mean Thinking skills. It can be accepted, therefore, that there are different levels of Thinking, Smith (2002) and McPeck (1990), King et al (2011). However, it is important to develop higher order Thinking skills (HOTS) and this has been identified as critical Thinking or effective Thinking, Garratt et al (2000) as this will allow the learner to carry out enquiry at any level for any purpose.

Kuhn (1991) Bailin (1997) take a view, which seems to have broad acceptance that in terms of teaching and learning, critical Thinking relates to the ability to conduct reasoned argument.

However, Glevey (2006) felt that there has been a fundamental misunderstanding about what Thinking skills means and this is where 'Thinking' is so readily substituted for 'reasoning" p 295. The result is that there is a failure to recognize that Thinking in general terms is much wider and can encompass a range of different elements such as "…contemplating and imaginativeness" p 293 and there is also the non-verbal method of demonstrating Thinking through image. Therefore, Thinking cannot be easily pigeon holed into one thing and therefore the way to promote it

cannot be narrowed down without reduction in their impact.

Attempts at reviewing how Thinking skills have been taught in schools have also led to unsatisfactory definitions. The Thinking skills review group Moseley *et al.* (2005),carried out its review of 29 different teaching approaches to Thinking skills stated that the current position was that no one single definition encompassed all aspects of critical Thinking and further 'the term is ambiguous and there is disagreement about how it relates more broadly to aspects of pedagogy.'

An additional issue is that most assessment forms fail to take notice of these non-subject /knowledge based skills, how you can assess something which is not defined, recognized as individually valid, but summatively crucial?

What is clear that there is very little consensus as to what Thinking skills are, yet we know that learners need to have them and teachers should have strategies which will allow learners to identify, develop and use the skills. However it is clear that the skills can be identified as metacognitive, with learners using experience, previous learning and moving beyond acceptance of what is taught they become critical and begin to question and make meaning their own meaning.

Indeed several countries have set out very different educational policy provision which focus on different aspects of Thinking skills that are relevant to their needs, therefore having a specific definition of Thinking skills may not be important for policy makers as it is for educators Kadir (2011).

Approaches to Thinking skills

Where there is consensus it is that Thinking skills are pivotal to education and the more developed the Thinking skills are the more effective education appears to be. The different approaches to defining Thinking skills suggest that there are different ways of developing them, those methods, which are directed at specific tasks, and those skills, which can be applied in a general way.

The Generalised Thinking Skills (GTS) movement take a view that Thinking can be addressed in a way, which is not contextualised and therefore be developed broadly allowing for flexibility. The result would be the setting of a pattern or template, which would allow a learner to apply that template to any task, in whatever discipline, in order to gain a structured and clear outcome, Smith (2002).

Ennis (1991) suggests that it is possible using this process to develop skills, which can be applied to a range of different criteria not just academic work, but also which would be applicable to work and life. Since we know that education now is no longer restricted to formal educational environments such as schools, FE colleges and HEI recognising that skills can be gained in alternative ways may have value for those involved in workplace, vocational programmes. The development of Foundation degrees over the last 10 years has suggested that giving credit through the APEL system (Accreditation of prior experiential learning) recognises that Thinking skills exist in a wider context. This recognition has gained support but it faces challenges in particular when looking to demonstrate success or failure in acquiring skills – the assessment process therefore becomes crucial.

Newman (2002) suggests that in terms of medical training that Learners critical Thinking skills are crucial if they develop GTS- then this will allow them to apply this framework of learning to a new programme, this ability to transfer skills reflects the suggestion that HOTS are not subject specific and might be sufficiently generalisable to allow progression from one learning environment to another. It also suggests that the individual skills gained from different environments could be transferred successfully. This general fluidity has received much criticism- the issue is that in order to be able to take on board complex issues learners must have the strategies to cope with variety depth and difficulty of work, some learners develop them and some do not. Thinking in terms of a framework of skills may not be the best way to develop specific skills.

There have been considered developments of teaching programmes ; Lipman (1991)– focus on Communities of Inquiry, which encourages learners to look for, shared, meaningful, and reflective Thinking leading to transferable learning outcomes.

: Feuerstein, (1981) where the mediator works with the learner to develop a process of Thinking about the Thinking process relevant to situations and De Bono (1985)– who encourages mental habits such as PMI analysis amongst others which provide practical advice and guidance as to what sort of interventions will best enhance Thinking for the learner. They were primarily focused on children and young adults and have been met with traditional scepticism from some educationalists Smith (2002). The attempts to use these approaches with adults have been limited, the view where it has been taken, that as adults are already thinkers they don't need help, seems to deny the issues which exist in relation to the practical educational gaps in learning strategies for returning learners.

The critics of GTS approach, such as McPeck (1991), Bailin et al (1993), take a view that Thinking cannot be seen in an abstract way, in order for learners to appreciate and formulate understanding they must be able to contextualise, building their understanding from their surroundings and influences – a social constructive approach. Further, that applying this one size fits all argument creates a homogenised non-specific approach, which loses its cohesion once challenged, the "power trade off argument". McPeck (1991) suggests where there are generalised skills – templates for learning and processing – these cannot be as effective as a specifically developed approach within a subject or discipline. The argument runs that there is no point in asking a GP to carry out complex surgery – they may have generalised medical skills but their surgical knowledge is not specific the patient might live but the operation carries more risk of harm, complications and pressure.

McPeck (1991) suggested that in order to develop effective Thinking skills there had to be structures put in place so that a learner can contextualise his learning- De Bono's Thinking hats –problem solving questions- the view is based on the premise that individuals think about something – that non-subject specific strategies were bound to fail as learners could not develop the relevant foundation for Thinking. This argument has merit. Studies such as that carried out by Soden and Pithers (2007) indicated that where Thinking skills such as key skills with children and study skills with adult FE learners were taught separately learners struggled to see how the skills could be applied in their subjects or indeed why they were doing the module in the first place. Paul (1995) cited in Lai 2011 indicated that joining with the domain

specific non GTS group "identifies critical Thinking as learning to think within one's discipline by appropriating the standards and values embodied in that discipline" p15.

However, Smith (2002) takes the view that Thinking skills, as McPeck/Ennis considered is too broad, that indeed, whilst most people can think, what is needed is to have effective critical Thinking skills, delivered in terms of domain rather than task. Thinking therefore could be delivered through *setting down procedures* in the cognitive domain: *operationalizing the Thinking* and then *demonstrating understanding* The suggestion is that the process/product argument can be forgotten in practical terms, but that in terms of a strategy for developing teaching and learning incorporation of these three elements will encapsulate the facility to produce critical thinkers.

Bailin (1997) takes a view that there is a third way to consider integration of encouraging and developing Thinking within education. Her focus is to generate a mastery of Norms and values- rather than skills, by so doing she moves beyond the contrasting positions of the philosophical and psychological approaches and limits her consideration to the developing Thinking, looking at the what the learner needs in order to ensure that Thinking takes place – and that they come to a reasoned decision. This seeks to diffuse the power trade off argument and reflect that there is a need to develop an understanding that encourages Thinking in educational terms, by passing the challenges to the curriculum developers; this may not be helpful, as it still does not give a definitive answer that can guide policy in a practical way. It does however suggest that there is no wrong way to develop Thinking in learners.

Indeed Siegel (1995) tried to link the positions of Ennis (1991) and McPeck(1991), suggesting that there were two parts to Critical Thinking, one which was based on Reason Assessment – accepting that a person can think in this way and that they can justify why they do so, and the second, critical spirit which looks at dispositions to think in this way. This form of compromise was also supported by Dam and Volman (2004) suggesting that where there was a development of general skills, outlines of critical Thinking could be transferred from one domain to another, allowing for transference of skills. However, it is also clear adult learners, in order to develop these Thinking skills processes, need help to do this and that is where I turn to next.

Frisby (1992) suggests that there are real issues as to what educators perceive Thinking skills are and this range of academic views is of no real help to those who have curriculum issues to consider and those who have to teach the programmes, whether they are bespoke teaching skills classes or integrated skills within the task. The nature and breadth of adult education is such that it creates innate pressures to succeed in different learning environments, which are not helped by unclear teaching and learning approaches.

Adult Learning and Thinking skills

Whilst there have been significant curriculum changes for children in compulsory education, with ensuing philosophical debates about how this has worked, adult education - Further Education (FE) in particular has been largely left to look after itself Lingfield (2012). However, with a growing number of mature learners returning

to education, in FE colleges, university or in employment, the skills gap has begun to be evident Leese (2010). In Higher Education there has been recognition that mature learners who come to university may not have the necessary Thinking skills, Ecclestone *et al.* (2009) which will allow them to feel confident integrating into challenging programmes. Students coming straight from FE also seem to be lacking in certain skills, which allow progression Lowe and Cook (2003) suggest that universities have identified that such learners are not equipped with effective Thinking skills, that they have been programmed in school and are slow at adapting to transition, leading to a high dropout rate linked to poor study skills which include Thinking skills.

Knowles (1967) set out his theory of adult learning, Andragogy, based on the view that adults unlike children do not need direction and control the way in which younger less mature learners did. The method has been considered and has been accepted as a teaching and learning strategy for adult learners it is however not without controversy Hartree (1984) Grace (1996). There is a significant diversity in adult learners educational experiences, Knowles view was that they are all willing and able to learn may not be applicable to all learners Knowles (1979); Grace (1996). The motivation for attending HE/ FE courses is not consistent and for many learning is not an opening, which they gladly take, it is more out of necessity that they return to education, especially in the Further Education environment. This position reflects one of the key criticisms of Knowles; his subjects were mainly middle class returners to education at a particular level, whereas many learners today face pressures, which were not contemplated in his study Holton E. f (2001). It is therefore important to look further into teaching and learning frameworks, which consider learning in a

vocational as well as academic framework. Towler et al (2011) suggest that in certain FE programmes learners felt that they needed direction in order to give them a learning framework supporting the contention that adult learners are not always able to learn in the way Knowles anticipated.

King and Kitchener's (1981) adult learning framework suggests that a learner needed to go through 5 stages in their development in order to get to the point where they could start to be critical and a further 2 in order to act upon their ability to be critical in their own Thinking. This seems to be contrary to Knowles position at first glance, but on review it fleshes out further what Knowles was contending, that whist adult learners are perhaps more open to learning there are some significant challenges to their own understandings which have to go through, and that adult learners are prepared to do this. The disposition of a learner is therefore crucial to their openness to challenge their own knowledge Siegel (1995). Where perhaps King and Kitchener (1981) part company with Knowles is that they see adult learning to involve an approach which demands more than problem solving, it envisages that the learner will be able to move across learning boundaries and contexts adding to their knowledge and being aware knowledge and understanding are different.

Craft (1991) posits that for her Thinking skills belong in the cognitive domain and are more likely to be considered as solving skills and as such adults have displayed them already in life, but may not be attuned to academic formal study. This position is supported by Brookfield (1997) who intimates that adults tend to think in a practical, short term, problem based way, developing ideas may not be what they intend to achieve but may occur nevertheless. Ennis (1991) suggests that as Thinking Skills are

overlapping constructs of life, knowledge and creativity with the sum of the whole being greater than the parts.

The above presupposes that the learner is also ready to learn, however there are challenges to this position, which suggest that there is no clear age defining moment when the learner begins to, think critically. The issue is when does a person begin to develop the potential to learn at the higher order level, if we can determine this then the teaching and learning strategies for delivering the skills to think critically can be identified and put in place.

According to Piaget, in Sutherland (1999) children begin to have the potential for higher order Thinking skills at about 12, however less than 50 % go on to develop those additional skills in a formal school framework. If Piaget was right then all adults have the capacity to think at the higher order level but they may not act on this and therefore do not practice those skills in order for them to become effective thinkers as Smith so wanted. However, Dirkx (1998) reflects that perhaps adults apply these higher order Thinking skills in different ways, non-academic, non-assessable ways every day, arguing that adult learners make meaning through life rather than through subjects. Therefore, in order to harness this when the learner returns to education it becomes important to scaffold the learning approach to their natural learning process rather than an imposed method.

Overseas Students and Critical Thinking

There is an increasing awareness that students from different learning cultures may find that criticality is not a skill, which has been developed in their undergraduate education Tian and Low (2011). In a recent study considering issues which students from China faced when studying in UK reflected that in many instances the ability to think critically in terms of life and education comes with maturity . This opens a further aspect of study within Critical Thinking as to whether or not it us a purely Western construct which is deserving of further consideration at a later date. The broader issue of criticality and cultural criticality was also raised by Tian and Low (2011) and for postgraduate study Tian and Low (2012) Leedham (2011).

Whilst Paton (2005), Durkin (2008) suggest that this is a significant issue there is little evidence at present to indicate that critical Thinking at undergraduate level is not achieved.

However, it is right to say that there is an increase in the number of overseas students moving directly on to Masters level programmes, which demand a more stringent area of criticality than Undergraduate programmes. These learners therefore not only have to take on board new surroundings, language but also a new system of engaging critically with ideas. Limited studies have taken place, which considers the implications of studying abroad, in particular for Chinese students, and even less has taken place in terms of comparing mature home and overseas students Tian and Low (2011). However, what is clear is that there are potentially significant cultural and educational barriers, which overseas students may face in terms of engaging critically with philosophies of learning. Further that these barriers are perhaps driven by their

own educational experiences, which tend not to demand the same degree of criticality or overt engagement in the learning process and their understanding of the technical language and vocabulary of education Leedham (2011). Whilst some institutions support learners through integration programmes prior to engagement with the course proper there appears to be limited evidence that this has involved the relevant departments in terms of teaching relevant subject technical vocabulary. An increase in the number of overseas students recruited to UK and US based universities makes it an organizational issue to ensure learner opportunity to gain success and satisfaction on their programme. Further that they should be able to engage with similar understanding as those who progress with fewer overt barriers Wang and Farmer (2008).

Broader perspectives on critical Thinking:

Freire in The Pedagogy of the Oppressed (1970) sought to raise critical consciousness amongst groups of adult learners through teaching and developing literacy and numeracy skills focusing the issue of criticality on democratic perspectives. The curriculum was delivered focusing on what Freire thought were relevant to the learners, thereby encouraging ownership of understanding, linking thoughts and views to the learners own dispositions. Freire influenced by Dewey, saw that education was pivotal for social change. The challenge with Freire's model for developing Critical Thinking was that it sought to change social perspectives through the challenging the educator / student relationship. In addition, Freire identified that in his view that there was a conspiracy of silence in the way in which certain groups were seen to be the oppressed – they were he felt limited because they were not allowed to challenge

accepted norms within the development of curriculum or teaching / student relationships.

Mezirow's (1981) views were based on three aspects of teaching and learning, experience, critical reflection and rational discourse, all embedded in the principle that communication is the most effective way to encourage growth and change. The key for Mezirow was to ensure that change took place the learner had to use all three aspects to move away from their own narrow world view of knowledge, to something which encompassed a wider world view and thereby leading to greater autonomy in their own choices and awareness within society, again like Freire a bigger picture outcome based on meaning and dispositions. These skills can be formally identified through either the APL (accreditation of Prior learning) scheme, more relevant to formal qualifications but also the APEL process which takes on board the informal experiential learning of an individual as evidenced in Wilcox and Brown (2011) as well as the Open University qualifications focused specifically on the skills gained in employment in addition of course to the process of recognizing skills in the foundation degree scheme. A view which runs somewhat counter to Mezirow's Transference has been developed by Boyd et al (1988) and supported by Merriam (2004), where the rationality is given a broader context, allowing the experience, individuality of the subject to play a greater part on making meaning from experience and discourse. Accepting that in some circumstances making meaning of situations does not always involve rationality to the same degree as Mezirow suggests.

Conclusions

In the field of lifelong learning, the policy of widening participation plays a vital role in determining change in adult education. Adults are returning to various types and levels of further and higher education more equipped by life experiences than ever before, but their prior educational experiences either at school or undergraduate level may not have equipped them to use these experiences. Indeed, it may also be suggested that neither FE nor HE is necessarily as equipped to support them in their educational journey as perhaps we once thought.

What we can say from the literature is that there are different approaches to Thinking skills: those with a psychological focus are seen to be more process oriented rather than philosophical where the product of learning is critical. Further that the learner will gain skills because of the dispositions which they have and that these dispositions are identified through the attitudes and values, which the learner has at the outset of the intervention as well as those that they gain during the process.

We can also reflect that mature learners appear to be more ready to evaluate understanding differently, King and Kitchener (1991), Mezirow (1981), Freire, (1970) that some of the dispositions they have been informally developed are nonetheless useful, practical and relevant to Thinking in an effective way. The learner therefore should be encouraged to channel their experiences in a way, which satisfies the needs of the programmes. There is also a wider implication, that perhaps many of the programmes offered in FE and HE fail to take on board the informal skills and abilities which learners have, that there needs to be reevaluation on the content as well

as the method of delivery of the programmes offered in order to ensure that learners gain value in educational terms for the informal life experiences. Whilst some evidence of this has been taken on board through APEL, many organizations are unsure of how to do this, or indeed, they are not convinced that this process satisfies the relevant rigour demanded of their professional body or institution.

One of the ways to develop the programmes is to look at the methods of building in life skills in an academic fashion, the McPeck /Ennis discussion about the concept of Thinking skills depends on individual dispositions and the willingness to be open to change in new ideas. Knowles, King and Kitchener and Mezirow amongst others reflect that adults, mature learners are more ready for this type of intellectual development although learners who are mature by experience have developed life skills or dispositions which also equip them to become effective critical thinkers, in that context age therefore may not be the only indicator of openness to higher order Thinking skills.

As indicated earlier also that there is now also a different set of mature learners to consider when looking at criticality in Thinking. The principles set out in McPeck et al (1990) seem to relate primarily to the theoretical issue of Thinking skills, there is a wider additional picture, which also needs to be addressed in terms of adult learners coming from different learning cultures such as China.

Despite all of the issues set out above, it remains clear that many governments are demanding the development of education systems, which allow learners of all ages to

develop relevant Thinking skills. They may not have the same focus but they serve a very real educational and cultural purpose.

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Admitted as a lawyer in 1990, practised in south of England, specialist in Domestic violence, family and mental health related matters, with a hint of advocacy throughout. I became a teacher in FE and HE, taking my PGCE through distance learning with the University of Greenwich with law as a specialist area. As a result of my legal knowledge, teaching practice I have developed a FdA legal practice course taking on board e learning / integrated and blended learning for adult professional learners.

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