

Ahmed, Kamal (2018) Teaching critical thinking and writing in higher education: an action research project. *Teacher Education Advancement Network Journal*, 10 (1). pp. 74-84.

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Teaching Critical Thinking and Writing in Higher Education: An Action Research Project

Teacher Education Advancement
Network Journal
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University of Cumbria
Vol 10(1) pages 74-84

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Abstract

Critical thinking (CT) and critical writing (CW) skills are no doubt one of the core requirements and necessary tools required in Higher Education (HE). Previous research has highlighted the need as well as the benefits of supporting students with critical thinking, yet few have identified strategies which can be used effectively to promote students' understanding and development of the concepts. This study identified some of the challenges often faced by students in HE with regards to CT and CW and explores how a targeted intervention could potentially develop students' understanding and application of CT and CW. In particular, the study found that although students were aware of what CT and CW were, they required explicit instruction on how to apply and demonstrate these concepts in their assignments. Using an action research methodology with a random sample of 10 students from Black and Minority Ethnic (BME) backgrounds at a university in London, England, the research found effective strategies through the use of a targeted workshop as an intervention to develop and enhance students' CT and CW skills. Participant feedback revealed the workshop had a positive impact on all the students highlighting the need for such interventions in order to suitably equip students with the 'critical' demands of studying.

Keywords

Critical thinking; Critical writing; Higher Education; Action research.

Introduction

The aim of this action research project was to explore how students in Higher Education (HE) transitioning from level four (first year of university) to level five (second year of university) can be best supported in developing key academic skills such as critical thinking (CT) and critical writing (CW) through the use of a specific workshop as the intervention.

As an individual who graduated and entered the academic profession recently, combined with the reality of sharing the same religious and ethnic background with the majority of my students, I found a unique advantage in my role as a lecturer in being able to empathise with the needs and challenges often faced by non-traditional learners throughout their time at university. Thus, combining both my contemporary academic and student experiences of learning and teaching in HE, I felt empowered to undertake a research project to highlight a specific, yet crucial aspect with which many students in HE appear to struggle (Arum and Josipa, 2011). The research, however, is unique as it uses a postcolonial lens to approach the discourse, adding a more culturally nuanced representation of the CT needs of non-traditional learners. Nonetheless, the research will be beneficial to many, particularly to HE practitioners and educationalists who seek to employ effective methods to support students with the transition from level four to level five. The paper considers the potential advantages of incorporating workshops to cultivate students' CT skills whilst identifying specific activities that could be used in future workshops to develop and enhance these skills.

CT can be defined as a 'cognitive activity, associated with using the mind' (Cottrell, 2011:1). Numerous studies have emphasised the need (Popil, 2011; White, 2009; Reinstein and Lander, 2008) and benefits of supporting students with CT skills in HE (O'Hare and McGuinness, 2009; Abrami et al., 2008).

Citation

Ahmed, K. (2018) 'Teaching critical thinking and writing in higher education: an action research project', *TEAN Journal*, 10(1), pp. 74-84.

However, initial work on this research identified some of the challenges often faced by students in HE with regards to CT. In particular, the problem appeared most prominent for students at this particular university transitioning from level four to level five which in effect, appeared to impact on their attainment. Subsequently, it was identified that CT is not taught or assessed at level four and as a result, students were somewhat alienated from the concept at level five. Moreover, it was also observed that CT is not a subject that is taught in its own right on the Education Studies programme within the institution.

Consequently, through constructive feedback from students, combined with empirical research findings which demonstrated the positive impact of specific structured interventions (Abrami et al., 2008; Case, 2005), the idea of developing a separate workshop to 'teach' CT skills to level five students emerged. Through the success of the project, it was hoped that students would gain a clear understanding of CT and be able to apply and demonstrate these skills in their summative assessments. Furthermore, it is hoped that such workshops can be embedded within the programme framework similarly to other workshops which take place throughout the course such as referencing and avoiding plagiarism.

Literature Review

The concept of CT is arguably one of the core requirements and desired outcomes in Anglophone universities. However, despite the popularity of the term since the 1980's (Fisher, 2001) and the fact that it is seen as a 'product of liberal undergraduate education' (Greenlaw and DeLoach, 2003:36) there exists much uncertainty over what it entails and how it can be manifested. The cause of this uncertainty perhaps lies in the heterogeneity of the concept as it presents different meanings for different people (Moon, 2007). This is supported by Mason (2008), Peters (2008) and Turner (2006) who argue that CT varies according to content and culture creating a more nuanced approach which highlights the complexities involved in understanding the concept.

Consequently, despite the contested views on the subtleties of the nature of CT, there appears to be a consensus within the literature which is effectively captured through Cottrell's (2011:1) definition of a 'cognitive activity, associated with using the mind'. Tsui (2002:743) elaborates this further and provides a systematic process of expressing these cognitive activities through a student's ability to 'identify issues and assumptions, recognise important relationships, make correct inferences, evaluate evidence... and deduce conclusions'; all of which underline most assessment techniques in HE (Leopold and Vickerman, 2010). CT is therefore often required to be manifested through CW which requires the writer to exhibit a complex and dynamic process of thinking informed by deep learning (Biggs, 2003; Ramsden, 2003).

Additionally, despite the popular nature of CT in academic discourse, students appear to have a premature understanding of how to apply and express CT through CW (Arum and Josipa, 2011). A common misconception among students is the conflation of the term 'critical' with the term 'criticise'. Assignment questions which begin with words such as 'critically discuss' or 'critically evaluate' often trigger an adversarial stance in writing among students. This leads students to believe that they are required to criticise authors' research and claims by identifying negative aspects of the research without presenting their own argument (Andrews, 1995). In order to develop students' understanding and application of CT however, it is imperative to locate the underpinning theoretical construct of the problem.

The Higher Education Academy (HEA) (2014) highlights the problematic nature of CT for international students indicating that non-Western students can often feel alienated from the concept as it is neither a helpful nor advisable approach to thinking within their own cultures. This is reflected within the location of the research setting which captures a rich narrative of migration and diaspora of South

Asian families (Hoque, 2015). More significantly, the students within the institution are predominantly from BME (Black and Minority Ethnic) backgrounds with a large proportion from Bangladeshi communities. It is within this cultural sphere there appears to exist a variety of cultural representations of CT. According to Egege and Kutieleh (2004) and Cadman (2000), students from Asian countries tend avoid a critical approach to education which Andrews (2007) argues is a result of their education system being based on rote learning. Another cause for this non-critical approach within South Asian cultures may be due to the high level of respect shown to teachers and scholars as a result of which, any form of critique can be construed as either disrespectful or at the least, impolite (Andrews, 2007). However, this interpretation appears to only present a Eurocentric perspective which views CT as a specific concept to Western culture (Atkinson, 1997; Ramanathan and Kaplan, 1996; Atkinson and Ramanathan, 1995).

A postcolonial lens therefore appears valuable to counter this master narrative of European perception and subsequently adds a distinct dimension to the research, setting the foundation of CT discourse from a point of view other than that of the established, dominant ideology (Housee, 2012; Vertigans, 2010; Roy, 2004; Wolfe, 2002). However, although the scope of this study does not allow for an in depth discussion of postcolonial theory, its application can perhaps be used to explain the underlying cause for students' alienation from the concept of CT as a direct result of colonialism; specifically the establishment of the superiority and inferiority relationship between the coloniser and the colonised. CT is often attributed to a higher level of learning (Murphy, 2007) and therefore considered exclusive to Western thought (HEA, 2014). Moreover, those who present this argument also consider CT as inappropriate for learners who come from different cultures as it is considered culturally specific and a uniquely Western concept developed as a direct result of being socialised within Western cultures (Atkinson, 1997; Ramanathan and Kaplan, 1996; Atkinson and Ramanathan, 1995).

This monotonous view of CT as a culturally specific concept creates a further debate on whether it can be formally taught through a systemised approach or whether it should be developed independently (Cummings, 2015; Blair and Mader, 2013; Choy and Cheah, 2009). Rezaee et al., (2012) posit the idea of educators modelling and explicitly teaching students to think critically. This stems from De Bono's (1970) theory of lateral thinking in which he establishes thinking as a 'skill' which can be taught, practised and enhanced. Using this model, the intervention will seek to adopt a 'deliberate' approach of developing the mind logically from various angles (De Bono, 1970). Moreover, the research will consider how pedagogical inputs from educators can develop and enhance the nature of CT. Effectively, this will provide a reciprocal effect on CW as Elder and Paul (2006:38) assert that there exists an 'intimate connection between the ability to write well and the ability to think well'. Finally, exploring this concept through the means of a workshop may provide valuable information on strategies and directions HE institutions can adopt to improve student experience, attainment and employability skills.

Research Design

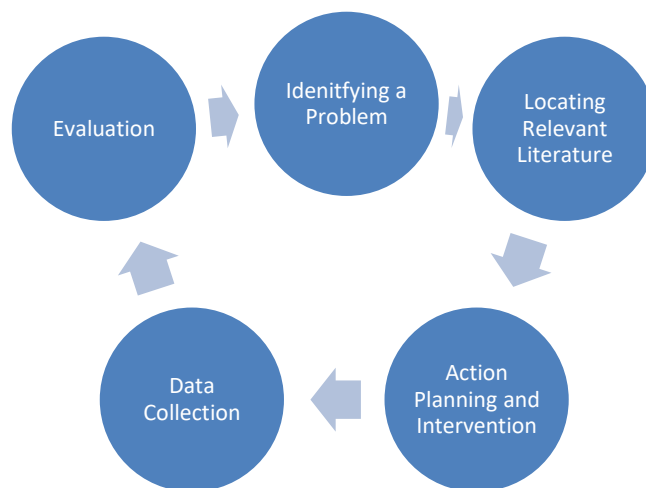
For the purpose of this research, action research was selected as the research design as an approach to explore how incorporating a CT workshop could potentially develop students' understanding and application of CT and CW. Levin (2006) considers action research as research *in* action as opposed to research *about* action. This approach therefore provides a framework to explore and develop new elements and understandings of teaching and learning by integrating practice and research through structured inquiry (Reason and Bradbury-Huang, 2013). Located within an interpretivist paradigm, it supports the notion of gaining a better perception of the compound realities occurring within the research setting and the research topic (Denzin and Lincoln, 2005). Its strength lies in the belief that 'knowledge comes from doing' and that theory 'can and should be generated through practice' (Brydon-Miller et al., 2003:14).

Accordingly, this action research integrated De Bono's (1970) theory of lateral thinking in which he establishes thinking as a 'skill' which can be taught, practised and enhanced through practice or in this case, the intervention. Within this context, action research may be considered as a 'practice changing practice' (Kemmis, 2009:463) which effectively provides a practical solution to a specific problem identified in one's practice (Stringer, 2007). Consequently, action research requires combining the inquiry with the research and as such, requires the researcher to be actively involved in the research (Baumfield et al., 2013).

Additionally, a mixed methods approach; combining both qualitative and quantitative data collection methods proved to be an effective approach as it offered the possibility of combining the flexibility embedded within the qualitative approach and the natural objectivity within the quantitative approach (Punch, 2009). Moreover, the qualitative approach allowed the researcher to play an active role (Baumfield et al., 2013) in influencing and facilitating the improvement of students' CT skills through the intervention with the advantages of applying sensitivity to meaning and context, local groundedness and an in depth study of a small sample (Punch, 2009). The quantitative approach thereafter allowed the data to be quantified in order to trace trends and relationships as well as formalise comparisons (Punch and Oancea, 2014).

Furthermore, whilst all action research follows similar action research models in that it is a cyclical process (McNiff, 2010), this study adopted McKay and Marshall's (2001) model of action research as presented below (Figure 1.).

Figure 1. McKay and Marshall's (2001) model of action research.



As the first two parts have already been discussed in the introduction and literature review, this section will continue from the action planning and intervention stage.

Action Planning and Intervention

The intervention consisted of a single workshop which lasted two hours. The content of the intervention incorporated significant aspects of CT and CW which was twofold; the first included explicit information about what CT is and its relevance in HE. The second included socially mediated activities allowing students to discuss and interchange their ideas about the topic and tasks. The

session included a PowerPoint, activities and discussions with the aim of providing students with a clear understanding of what it means to be 'critical'. Discussions allowed students to collect and collaborate on ideas to improve their own thinking. It provided students with a platform to also challenge ideas with the aim of gaining a more holistic understanding of the topic; a core concept within CT (Judge et al., 2010).

Furthermore, with consideration to Brydon-Miller et al., (2003) concept of 'knowledge comes from doing' and Dewey's (1933) theory of learning by doing, structured activities were embedded into the workshop to allow students to apply and practice learned concepts in order to support and develop their CT skills (King and Kitchener, 1994). Specific activities drawn from empirical research identified as beneficial in developing and enhancing CT skills were incorporated. These included activities to recognise biases and examine different viewpoints (Wolcott and Lynch, 1997) and the use of case studies (Popil, 2011; White, 2009).

The primary activity consisted of reading a passage and thereafter: identifying the line of reasoning; critically evaluating the line of reasoning; questioning surface appearances; identifying evidence in the text; evaluating the evidence; identifying the writer's conclusions; and thereafter evaluating whether the evidence supports the conclusions. Other activities included identifying and comparing examples of 'descriptive' and 'critical' writing and analysing one's own writing using a checklist. The collection of activities was taken and adapted from Cottrell's (2011) list of activities to support and develop students' CT skills.

Data Collection

The data collection in this study took place on the university campus with ten level five Education Studies students. The study used a purposive sampling method and the only criterion for inclusion was participants were required to be second year Education Studies students. The decision for the sampling to focus on second year students was justified as the research identified it was within this year group that CT was crucially required. All races and ethnic groups were included and the study included both males and females aged 18–25. However, due to the lack of male enrolment on the Education Studies programme, the proportion of females within the study was naturally larger.

The sample size of 10 participants was selected due to the small scale nature of the research as well the time limitations to analyse and present the data. However, although the small sample size was initially identified as a limitation as it would only produce a small sample of student feedback, it was nonetheless considered an adequate sample to measure the effectiveness of the intervention as Gray (2009) asserts, a considerably small cohort can produce a comprehensive portrait of a research area such as this one. However, due to the small sample, the findings did not represent the entire student population at the university as the conclusions drawn from the research were tentative and subject to this sample of students. Moreover, this prevented any generalisations being drawn from the feedback due to the subjective nature of students' evaluations of their own experiences. Nonetheless, the findings can still be transferable, particularly for practitioners working with non-traditional students who can selectively employ some of the methods found within the research to support and develop students' CT skills at all levels.

At the end of the workshop, data were collected in the form of feedback from participants by way of a semi-structured questionnaire which contained both open-ended and closed-ended questions (Lankshear and Knobel, 2004). To ensure the data were analysed with accuracy, data from the feedback were organised by pairing each participants' pre and post intervention perceptions and then presented in a bar chart. The bar charts were then used to analyse and determine whether participants felt the intervention had improved their CT skills and if so, to what extent.

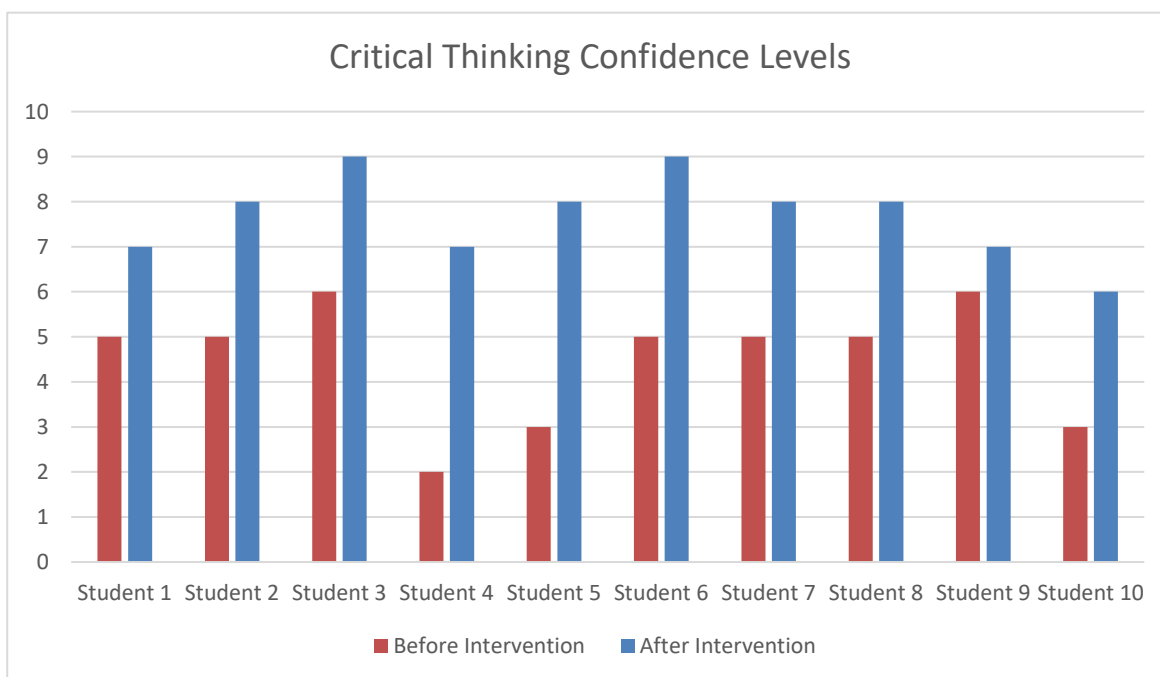
To ensure the research was conducted ethically, the researcher ensured all aspects of the research followed BERA’s (2011) ethical guidelines. The researcher also gained ethical approval from the university via its ethics approval form.

Evaluation

The purpose of the research was to identify how a targeted intervention could support students transitioning from level four to level five in developing CT skills. In order to address this, it was necessary to identify and clarify what CT is by examining the literature and through discussions with the participants to form an agreement. Once this was achieved, the participants were given meaningful opportunities to practice and enhance their newly learnt skills (De Bono, 1970) in the workshop. Throughout the workshop, students engaged in discussions and activities considered relevant and applicable (Cottrell, 2011) to developing their CT skills.

Through the feedback questionnaire, it was identified that the intervention did appear to achieve its purpose in improving and enhancing students’ CT skills. Figure 2. presents the responses of participants when asked to rate their confidence levels on a scale of 1 – 10 before and after the workshop. All the participants reported that their CT confidence levels had improved significantly after the intervention (Figure 2.). The findings therefore revealed how pedagogical inputs from educators can potentially develop and enhance students’ CT skills. More specifically, it demonstrated how students can be taught to think critically through modelling and explicit teaching (Rezaee et al., 2012).

Figure 2. Critical Thinking Confidence Levels.



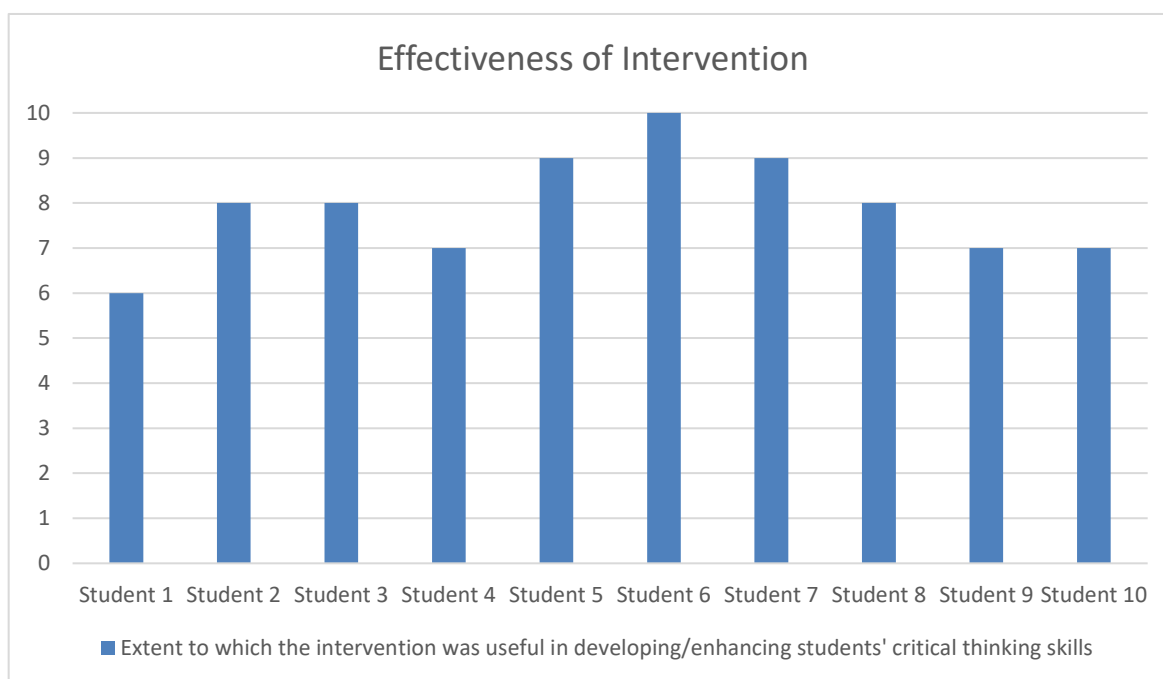
Furthermore, in order to ascertain which activities students found most useful in developing and enhancing their CT and CW skills, the main contents of the workshop were categorised into nine categories. Students were asked which topics or aspects of the workshop they found most interesting or useful. Table 1. demonstrates the number of times each category was cited by the participants as being the most useful. The findings revealed that students most frequently cited the ‘identifying and comparing critical and descriptive writing’ activity as the most useful in helping them develop their CT and CW skills. This provided a useful insight into what strategies are most effective in supporting students with developing and enhancing their CT and CW skills.

Table 1. Content of Workshop with Student Response.

Workshop Content	Participant Responses
Discussion from literature – What is CT?	1
Discussion on how to become a critical writer	1
Discussion on critical reading	1
Activity with 7 steps to reading critically	2
Activity on identifying and comparing critical and descriptive writing	7
Discussion on the key features of critical writing	1
Examples of critical and descriptive writing	1
Examples of critical thinking	1
Activity using critical writing checklist	0

The feedback questionnaire also asked participants to rate the effectiveness of the intervention on a scale of 1–10. In particular, when participants were asked, ‘*to what extent do you feel this workshop was useful in developing/enhancing your critical thinking skills?*’ all the participants responded with a score of 6 and above (Figure 3.).

Figure 3. Effectiveness of Intervention.



From the above data, it can be concluded that participation in the workshop significantly improved and enhanced students’ CT skills. Interestingly however, the findings somewhat contradicted the literature in terms of students’ understanding of CT. At the start of the intervention, students were asked to ‘*define critical thinking and writing*’, and though the literature suggested that students are often confused about the concept (Andrews, 1995), only one student used the term ‘criticise’ in their definition. The remaining students included key terms often associated with CT with the majority corresponding to Tsui’s (2002) systematic definition of CT identified in the literature. This suggests that students did, to some extent, have a sound understanding of what CT is, evidenced by the key words and phrases they used to define the concept (Table 2).

Table 2. Key Words and Phrases Used by Students to Define Critical Thinking.

Identifying authors viewpoint	Identifying biases	Presentation of argument	Strengths and weaknesses	Reliability and validity
Advantages and disadvantages	Questioning	Looking beyond face value	Two sides of an argument	Various perspectives
Making a judgement	Informed thinking	Reasoned thinking	Evaluating	Balance

On the other hand, the findings did correspond with the literature in terms of students' ability to 'apply' CT skills in their writing. When students were asked how they felt the intervention will help them improve with their studies, 7 out of the 10 participants cited CW as a factor of improvement. As CT in HE is often manifested through CW, this implies that although students had a sound understanding of what CT is, it was applying this skill in their writing which they struggled with. This was further evidenced by the activities they engaged in. For example, when asked to distinguish between critical and descriptive writing, the students were able to do so demonstrating their ability to recognise CW. As a result, for these students, prior knowledge of CT did not have a reciprocal effect on their ability to write critically as they all demonstrated their abilities to think critically but highlighted difficulties with writing critically.

Interestingly, this contradicted the literature which identified the reciprocal nature of CT and CW (Elder and Paul, 2006), yet this was not the case with these students. This is perhaps best addressed by referring back to the cultural dimensions of CT. The HEA (2014) highlighted the challenges non-Western students face with CT and how these students can be alienated from the concept due to its absence within their respective cultures. However, the findings suggest that students were in fact familiar with the concept but it was applying and expressing this in formal academic discourse that they struggled with. On the other hand, those who view CT as culturally specific to Western culture (Atkinson, 1997; Ramanathan and Kaplan, 1996; Atkinson and Ramanathan, 1995) may find it interesting that the participants were all second generation BME students born and raised in the United Kingdom (UK). This could lead to the claim that these students' demonstrated knowledge and understanding of CT as a direct outcome of being socialised within Western cultures, in this case the UK.

From this it is evident that the needs of all students cannot be generalised as indicated in the literature. More specifically, the literature identified two separate and uniform groups of students; Western and non-Western (HEA, 2014) and cited their needs in HE. However, it failed to consider the needs of students who possess a hybrid culture of a non-Western background acculturated in a Western environment. The needs of such students were revealed to be somewhat different to the needs of those originally identified. Contrary to the literature (Andrews, 2007), the students struggled with CT not due to alienation from the concept as they demonstrated they were familiar with it, rather they needed support with how to apply their CT skills in a manner which corresponds to Western academic rhetoric.

In conclusion, this action research project set out to explore how a targeted intervention could potentially develop students' understanding and application of CT and CW. The research identified the challenges of CT specifically for second year students and subsequently implemented a critical thinking workshop as the intervention in order to cultivate students' CT and CW skills. Through the use of qualitative and quantitative feedback, the findings revealed the workshop had a positive impact on all the participants which suggests students require explicit teaching, instruction and training in these skills in order to keep up with the 'critical' demands of studying at level 5. Moreover, in terms

of practice, the implications are that the current absence of such workshops is not catering to the CT and CW needs of students which may have a reciprocal effect on their overall attainment. Additionally, the research found effective strategies that could be used in future workshops to develop and enhance students' CT and CW skills. Most importantly perhaps, the research has identified the specific needs of students from the particular research setting in that although they are familiar with CT as a concept, they require support through scaffolding, specifically in terms of how to apply their CT skills in a manner required of them in academic discourse.

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