

## Situating critical thinking and creativity as enablers of value-based education among secondary school students in Kenya

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### Abstract

This article aimed at reviewing the literature based on the critical thinking and creativity as enablers of value-based education among secondary school students in Kenya. This paper may help highlight the need to include critical thinking and creativity in the curriculum, thus prompting the need for a curriculum review. In understanding the context of this discourse, the paper focused on two approaches: philosophical and psychological perspectives, emphasising moral philosophy for value-based education. This paper employed the collection of secondary data by using a desk research method of data collection. The data utilised two types of approaches: Internal and external desk research. The data was then subjected to content and discourse analyses to realise systematic and objective outcomes and interpretation as guided by the theoretical conceptualisation. The paper revealed that critical thinking involves inductive and deductive reasoning and problem-solving, nurturing creativity and innovativeness. Education aims at producing well-informed learners with skills and competencies that enable them to think analytically and critically, thereby applying what they have learned to enhance their own lives and sustainably contribute to society's development. This paper highlighted the need for instructors to provide explicit instructions to learners on how to transfer to new contexts and use cooperative and collaborative learning methods (constructivist approaches) that place students at the centre of the learning process.

**Key terms:** Critical thinking, creativity, innovation, value-based content, education.

## INTRODUCTION

In Kenya, the education system has undergone several reviews since independence. Several commissions were set up to review or develop policies to guide the curriculum. The Ominde report (1964) was established for colonial education reforms. The report helped establish policies on national development, international consciousness, social equity, individual growth and fulfilment, national unity, development of cultural heritage and respect. The Ominde report was followed by the Gachathi report (1976), which advocated for introducing in-service courses, and full payment of fees at every education level and abolished the ranking of schools as low or high paying. Mackay's report (1981) terminated the A-level education and established the current 8-4-4 education system. The system requires learners to go through eight years of primary school, four years in secondary and four years in the university. The Kamunge report of 1988 featured mainly on education quality, relevance and financing. Then came along the Koech report (1999), whose recommendations on comprehensive, integrated quality education and training were never adopted. Even with the establishment of the various commissions whose task was to make recommendations that would then help improve the education curriculum largely, the curriculum and teaching methods have remained unchanged. Teaching is basically teacher-centred. Learners rely on notes given by the teachers to pass their examinations.

In 2017, the Kenya Institute of Curriculum Development designed a new system of education. The system referred to as the Competency-Based Curriculum emphasises the significance of developing skills and knowledge and applying these competencies in real life. This curriculum is being implemented in lower grades, and therefore, the impact on whether it encompasses the elements of critical things and creativity will be felt after several years. Two theories will be used to enlighten the reader on the value of blending critical thinking and value-based education. This paper aimed to review literature that is based on critical thinking and creativity and also looked at the value of critical thinking in the education of the young people passing through our educational institutions.

## LITERATURE REVIEW

The discourse analysis of this paper was guided by two theoretical frameworks, namely value-based theory and honing (theory of creativity). The first theory used was a value-based theory that looks at questions that have to do with what we as human beings value most, whether it is a thing or a person. Values are essential building blocks on which education for a humanistic and international society must be built. This boosts personal and cultural self-esteem, promotes both cultural and personal, promotes respect and tolerance for others as members of ethnic/cultural groups and as individuals, and creates a sense of belonging. Value-based education promotes a secure emotional, physical and political locus in the society, a sense of responsibility regarding social, political, economic, and environmental factors and culture, and an appreciation of the importance of learning (Sanyal, 2000). The value-based approach to education can probe a well-rounded development and help students' aim for the highest (Eidle, 1993). "Practice what you preach" is a very apt saying for teachers in relation to values education. Teachers should be able to imbibe values in their attitude and action to bring them into their classrooms. According to Narvaez and Lapsley (2008), education is a value-infused enterprise; they addressed the question of the way teachers should be trained for positive character formation. Therefore, the importance of teacher training towards a goal of high-quality education is imperative.

According to research carried out by (UNESCO, 2016; Hawkes & Lovat, 2013; and Drake, 2007), value-based education promotes a thought-provoking and interactive environment for the students through the values incorporated in the curriculum. It promotes quality education and the holistic development of each child for a bright future. Educators need to play a big role in helping the learners embrace these values. The development of an all-around individual is important not only for the individual but also for the development of any country. Teachers need to integrate these values into the classroom. It is paramount for them to create a conducive learning environment.

Value-based education instils students' educational and cultural values. It aims to achieve the multi-faceted development of a holistic human being. The

incorporation of values in a value-based curriculum may include but is not limited to cooperation, simplicity, responsibility, happiness, love, unity, peace, respect, humility, tolerance, honesty, and freedom (ALVE, 2016). Holistic education purposes to prepare students to meet the challenges posed by all aspects of living. However, looking critically at the curriculum offered in Kenya, academics are emphasised more than any other values, therefore depicting a severe deficit.

Therefore, any education system that aims to inculcate values anchored in Value-Based Education, such as culture, religion, morals or character formation; need to change its curriculum, as is the case in the Kenyan education system. If these values can be integrated into the school curriculum, they may enhance character building. Rather than basing a curriculum on academic performance, which leaves many questions about character building, a new shift needs to be embraced. Value education leads to the development of fundamental principles, common humanity, sustainable development, social justice and equality for peaceful coexistence. Probably the incidences of burning schools witnessed in most schools in Kenya in the recent past may no longer exist if Value-based Education is embraced. In addition, there is a need in Kenya to produce citizens who are critical thinkers, creators and innovators who are able to respond to emerging issues in society. Value-based Education will be a vehicle that may help achieve this goal.

This paper also employed the second theory, honing theory, referred to as the theory of creativity. Honing theory, which Gabora (1997) developed, posits that creativity arises due to an individual's worldview's self-organising and self-mending nature. The theory posits that creativity fuels the process by which culture evolves through communal exchange amongst minds that are self-organising, self-maintaining, and self-reproducing. According to Honing's theory, minds modify their contents and adapt to their environments to minimise entropy like other self-organising systems. Creativity begins with the detection of high psychological entropy material, which provokes uncertainty and is arousal inducing. The creative process involves considering this material recursively from new contexts until it is restructured sufficiently that arousal dissipates. Restructuring involves dynamic

binding and neural synchrony; temporarily shifting may facilitate it to a more associative mode of thought.

Honing theory explains that the creative process is a way in which the individual hones (and re-hones) an integrated worldview. Although honing theory emphasises the externally visible creative outcome and internal cognitive restructuring, it also stresses the worldview repair brought about by the creative process. Interaction between the task conception and the worldview comes up when faced with a creatively demanding task. The task's conception changes through worldview interaction and the worldview changes through task interaction. The conception of the task changes through worldview interaction and the worldview changes through interaction with the task. This interaction between the creative process and cognitive restructuring continues until the task is complete. At this point, the task is not only conceived of differently, but the worldview is drastically or subtly transformed as it follows the natural worldview tendency in attempting to resolve dissonance and seek internal consistency amidst its components, whether they be attitudes, ideas, or bits of knowledge.

Gabora and Saab (2011) noted that a central feature of honing theory is its notion of a potentiality state. Honing theory opines that creative thought proceeds by searching through and 'mutating' randomly predefined possibilities and drawing upon associations existing due to the distributed neural cell assemblies' overlap, which participate in the encoding of experiences in memory. Midway through the creative process, an individual may have made associations between the previous experiences and the current task but not yet disambiguated with aspects of those previous experiences relevant to the current task. Hence, the creative idea may feel 'half-baked'. At that point, it can be said to be in a potential state because how it will actualise depends on the different internally or externally generated contexts it interacts with.

Honing theory has gone further to explain certain phenomena that other theories of creativity have not dealt with, for example, how diverse works by the same creator are observed in studies in exhibiting a recognisable style or 'voice' even in different creative

outlets (Gabora & Unrau, 2017). This is not predicted by creativity theories that emphasise chance processes or the accumulation of expertise. However, it is predicted by honing theory, according to which personal style reflects the creator's uniquely structured worldview. Another example is the environmental stimulus for creativity. Generally, creativity is considered to be fostered by a supportive, trustworthy, nurturing environment conducive to self-actualisation.

From a personality-traits perspective, several traits are associated with creativity in people (Zhang & Sternberg, 2006). For example, creative people tend to be more open to new experiences, self-confident, ambitious, self-accepting, impulsive, driven, dominant, and hostile than people with less creativity. Creativity may be due to the outcome of years of generating ideas in relation to an evolutionary perspective. As ideas are generated continuously, the need to evolve results in the need for new ideas and developments. Therefore, people have been developing and creating new, creative, and innovative ideas to build our progress as a society.

## RESULTS AND FINDINGS

### Positioning the Concept of Critical Thinking

Critical thinking helps individuals develop independent thinking and good judgment, evidenced by their actions. Critical thinking requires logic as well as being creative. Therefore, a person applying critical thinking may use inductive and deductive reasoning to deal with issues. In this context, critical thinking involves both dispositions and cognitive skills. These dispositions, which can be seen as habits or attitudes of mind, include open-mindedness, inquisitiveness, a desire to be well-informed, a propensity to seek reason, flexibility and a respect for and willingness to entertain diverse viewpoints (Hariyanto et al., 2022). In addition, there are both general- and domain-specific aspects of critical thinking. For example, teachers may be encouraged to teach the application of content in a collaborative manner while using learner-centred learning methods. This approach will give an opportunity for all learners to be taught to think critically. Without embracing critical thinking, it is hard to equip learners with the skills required by students preparing to face the world work in our contemporary society. For Kenya to achieve Vision 2030, which has

education and training at the top of the social pillar, this type of education is necessary.

### Critical Thinking and the Average Person

Some researchers are working in the area of critical thinking lament the poor state of critical thinking in most educated adults and children. For example, Halpern (1998) points to research from the field of psychology, concluding that many, if not most, adults fail to think critically in many situations. Kennedy et al. (1991) and Van Gelder (2005) have arguably concluded that many adults lack basic reasoning skills. This could be attributed to the kind of education system that they went through. This situation could also be made worse by the introduction of information technology, whereby all a person needs to do is use the search engines to get whatever they want without using much of their reasoning skills. Halpern (1998) cites the example that large numbers of people profess to believe in paranormal phenomena. Halpern attributes such failures not to the inability to reason well but to simple “bugs” in reasoning. She further argues that human beings are programmed to look for patterns, particularly in the form of cause-and-effect relationships, even when none exist. Van Gelder (2005) echoes this sentiment, characterising humans as “pattern-seekers and story-tellers”. This inclination tends to jump to the first explanation that makes intuitive sense without carefully scrutinising alternative possibilities, a phenomenon that Perkins et al. (1983) have termed “makes sense” in epistemology.

One may question the deficiency in basic reasoning skills in the populace. The answer might be found in our education systems. In concurrence, this paper positions value-based education as the key to unlocking this impasse. Paul (1992) points out that typical school instruction does not promote the development of higher-order thinking skills like thinking critical. Paul's sentiments are evidenced by the kind of learning in most schools in Kenya. The higher domains of learning are not emphasised. A lot of attention is given to recall rather than critical thinking. This leads to poor performance in the workplace later due to a lack of association and application.



In an attempt to introduce critical thinking and application of skills, the Kenyan government introduced the Competency-Based Curriculum (CBC) that realigned to this shortfall. Emphasis is placed on skills acquisition, competencies and other dispositions rather than knowledge acquisition. This is in response further to Kenya's Vision 2030 as well as the introduction of the policy of education for sustainable development and global citizenship education (2019). This move by the Kenyan government will, with time, cater for all learners regardless of their backgrounds. According to Kennedy et al. (1991), empirical research implies that critical thinking instruction can benefit students of all intellectual ability levels. Similarly, Lewis and Smith (1993) state that critical thinking skills are for everyone, not just for the gifted.

## Critical Thinking in the Context of Philosophical Dimension

The writings of some philosophers like Aristotle, Socrates, Plato, and, more recently, Richard Paul and Matthew Lipman exemplify the philosophical approach. The approach focuses on the conjectural critical thinker, enumerating the characteristics and qualities of this person rather than behaviours or actions the critical thinker can perform (Lewis & Smith, 1993; Thayer-Bacon, 2000). Sternberg (1986) has observably noted that this school of thought approaches the critical thinker as an ideal type that focuses on what people are capable of doing under the best of circumstances.

Additionally, Paul (1992) discusses critical thinking in the "perfections of thought" context (p. 9). This preoccupation with the flawless critical thinker is seen in the American Philosophical Association's consensus portrait of the ideal critical thinker as a person who is open-minded, fair-minded, inquisitive in nature, flexible, understands diverse viewpoints, has a desire to be well-informed and is willing to suspend judgment and to consider other perspectives (Facione, 1990).

Illustrative of the 21<sup>st</sup> century, the learners ought to be taught the theory and practice of these vital virtues. The virtues include but are not limited to love, joy, peace, patience, kindness, generosity, gentleness, and self-control. These are virtues that are also shared in the books of worship used by many faiths all over the world. According to Karuna (2020), an institutional

culture in which positive presence of ethical behaviour, regard for and acceptance of human rights of others, equality and social justice are necessary components in learning institutions. The virtues emphasise the positive attributes that individual learners should practice in school and later at the workplace. If these virtues are practised, both in the letter and spirit, such vices as corruption, nepotism, discrimination, racism, radicalisation, and crime would be minimised virtually in every school.

It is against this background that probably most people informed by the philosophical tradition lay emphasise qualities or standards of thought. For example, Bailin (2002) articulates that critical thinking should be the thinking of a certain quality—essentially, good thinking, which meets specified adequacy and standards or criteria of accuracy. Further, the philosophical approach focused on the application of formal logic rules (Lewis & Smith, 1993; Sternberg, 1986). One shortcoming of this approach to defining critical thinking is that it rarely corresponds to reality (Sternberg, 1986). By emphasising the ideal critical thinker and what people have the capacity to do, this approach may be very useful in this context.

Furthermore, "personal experience" is usually seen to be more compelling evidence by the general public than a scientific study that is carefully conducted. With these natural tendencies toward reasoning deficiently, Halpern (1998) warns that dramatic improvements in critical thinking should not be expected to be seen over time due to instructional interventions. Instead, teachers are urged to develop several activities that can enhance critical thinking. Such activities may incorporate but are not limited to essay writing or, as (Smith & Szymanski, 2013) suggests, using questions that adhere to Bloom's Taxonomy higher-order thinking. If adopted by teachers in schools, these activities could eventually lead to critical thinking in the learners. Though not very noticeable, there may be gaps in basic reasoning skills in our schools in Kenya due to the educational system, which stresses passing examinations more than anything else.

## Synthesis between Critical Thinking and Education

In an endeavour to situate the contribution of critical thinking in enhancing value-based education, the paper highlights the symbiotic relationship by

emphasising that one of the significant aims of education is to produce learners who are well informed and understand ideas that are essential, useful, beautiful and powerful. Another aim is to produce learners who have the appetite to think analytically and critically and thus use what they know to enhance their own lives and contribute to their societies, culture, and overall development. These aims of education as a vehicle to promote critical thinking may be based on some assumptions outlined as indicated:-

- 1) The importance of the brain and the role played by the curriculum in altering the mind is critical. The learners need to be treated as having a conscience and have the capacity to determine the course their minds take.
- 2) The role of education in preparing learners to be self-directing and not to have pre-determined roles. Education should equip learners with the skills needed to deal with life challenges.
- 3) Education systems should be open and not be confined to the realms of meanings which humans have created over the centuries.
- 4) In order to live democratically, clear thinking, careful analysis and deliberating in a reasonable manner are fundamental. Therefore, in order for any future productivity in the students to emerge, a curriculum that embraces critical thinking and creativity is inevitable.

Critical thinking skills relate to many other key student learning outcomes, such as creativity, metacognition, motivation and collaboration. Metacognition (or thinking about thinking) buttresses critical thinking in that students who can evaluate and monitor their own thought processes are more likely to show high-quality thinking. Additionally, the ability to evaluate one's own arguments and reasoning critically is necessary for self-regulated Critical thinking requires the organisation of education in such a way that, on the one hand, it focuses on the formation of a creative personality; on the other hand, the uniqueness of each young person's individuality, taking into account his own will and life aspirations (Akamova, 2021).

Motivation plays a role in supporting critical thinking in that students who are inspired to learn are more likely to persist at tasks that require critical thinking. In turn, assessment tasks and learning activities that call for critical thinking may spark the motivation of students because they are more challenging, captivating, informative, novel, or interesting. In addition, students possessing critical thinking dispositions, such as a willingness to consider various perspectives, may result to better collaborators, and opportunities for collaboration may promote higher thinking order. Finally, creativity necessitates the ability to evaluate intellectual products critically, and critical thinking requires the flexibility and open-mindedness that is a feature of creative thinking.

Several reasons may explain why critical thinking is not being focused on or integrated into the curriculum in Kenya. Competition among schools as to which school will appear on the television news or newspapers as the best performing school is just one of them. According to Choy & Cheah (2009), there may be other issues such as defining critical thinking; teaching critical thinking should be learned or taught through social interaction plague educators whose taught is on enhancing their student's critical thinking skills. This might as well be the case with the educators in Kenyan schools as well as other government stakeholders.

If the instructors are not aware or lack the skills required to cultivate learners' critical thinking skills, then there is a ripple effect. As observed by researchers, the majority of students coming into higher education and the workforce do not only seem to be lacking practical skills and major intellectual functions but also in understanding the concept (Rowles et al., 2013; Choy & Cheah, 2009; Henderson-Hurley & Hurley, 2013). There seem to be good indicators that critical thinking has not received the attention it deserves in all levels of education in Kenya. Therefore, there is a great need to teach students how to learn, as well as how to analyse the information, as well as the acquisition of skills, competencies and other dispositions.

Students who missed the opportunity of being taught critical thinking and creative skills in lower levels of education, when they make it to the higher level of

education or even the workforce, the trainers and educators are forced to begin by inculcating critical thinking skills as opposed to beginning with the information that should be conveyed. A study by Halx and Reybold (2005) established that learning requires effort after much review and research. However, critical thinking needs maximum exertion of intellectual capability and that teachers and students alike find critical thinking uncomfortable because it requires personal reflection. For this reason and the lack of time available to K-12 educators, higher education is left with much critical thinking to teach and utilise the same. Unfortunately, in Kenya, even higher education does not involve a lot of critical thinking, indicating the need to review the education system.

If students are allowed to utilise activities to enhance critical thinking, they will be better able to understand why something has occurred instead of just occurring. This deeper understanding makes the students better analyse the occurrence's circumstances and differing viewpoints about the occurrence (Tsai et al., 2013). For students to be engaged in critical thinking, the educator should; act as a facilitator, give room for discussion and encourage a freer thought process, emphasising learner-centred approaches to the teaching-learning processes are highly emphasised as opposed to the teacher-centred approach. Researchers have proved a strong relationship between identifying preferred learning styles and adopting appropriate teaching styles to improve academic achievement. Researchers have proved a strong relationship between identifying preferred learning styles and adopting appropriate teaching styles to improve academic achievement (Soraj et al., 2021).

Critical thinking can be infused into lessons throughout all disciplines by utilising a depth probing questioning technique and evaluation of both data and sources (McCollister & Saylor, 2010). If students are encouraged to track patterns in information, this will encourage them to view information as a process rather than information to be memorised. Therefore, this will help them to develop skills of recognition and prediction. In this regard, evaluation of information and sources helps students effectively learn appropriate procedures for finding and utilising

credible information and helping students learn appropriate and acceptable ways of using discretion (McCollister & Saylor, 2010). These are skills that will enhance reading comprehension and problem-solving skills, both of which play a vital role in standardised assessments (VanTassel-Baska et al., 2009; McCollister & Saylor, 2010; Tsai et al., 2013).

Various types of activities could be introduced into the normal instructional time, with little additional time needed, simply by utilising things such as online discussion boards, in-class discussions, or alternative modes of assessment in classroom settings (Snodgrass, 2011). However, it is also important that any changes to the curriculum be met with training about the new activities and how to utilise them to their full effect. There have been problems with the introduction of CBC in Kenya due to the lack/poor training of the teachers. This may have created apathy as well as a feeling of incompetence among most instructors. How does one teach what they do not know? As a result, resistance and opposition to the new system may arise. Therefore, it is imperative that any changes to the curriculum must be accompanied by training the instructors on the requirements and activities involved. Establishing professional learning communities allows educators to critically think about the methods they are employing in teaching and is a good starting point for ideas and the inclusion of critical thinking skills in the classroom (Smith & Szymanski, 2013).

## Positioning Critical Thinking as a Renewed Paradigm Shift

It is clear that an educator applying critical thinking works to develop among the learner's positive attributes, attitudes, and characteristics of value to the individual and society in general. As attested by Paul and Rosa (1995) and seemingly a generalised view cutting across the discourse in this paper, learners ought to be exposed to sharper their skills, knowledge and competencies in being robust independent thinkers, to be impartial, humble, practice spiritual courage, perseverance, curiosity, confidence, integrity, love and hope.

More specifically, learners should demonstrate independent thought by applying critical thinking in all their activities as they mature to acquire the

authenticity of thought patterns. In this way, teachers can gauge and examine their new beliefs and their arguments for or against them. Learners need not just remain with what they were they learned in school, but they ought to be “open-minded” in terms of exposure to different innovative methods and technical skills. In this kind of approach, self-directed learning is also likely to grow in importance (McLean, 2021). On impartiality, those who apply critical thinking are independent in different ways, based on factual evidence and do not give in to panic or have biases. The learner considers the views of all age groups as well as any member of the community and teachers. They are accommodative.

As arguably articulated by Paul and Rosa (1995) on the perspicacity of Personal and Social Factors, it is quite clear that persons who apply critical thinking are more open to accepting the possibility of the great influence that their personal attributes can affect judgement. Similarly, in understanding humble Celebration and Deferral Crisis, Paul and Rosa (1995) emphasised that humble intellect means to have someone cognizant of the limits of his own knowledge. Therefore, those applying critical thinking can willingly admit they do not know something and believe that what we all consider factual cannot always be because new evidence may emerge.

In this context, the values and beliefs are not always obtained by rationality, meaning reasons and information support opinions that have been researched and proven. Therefore, there is a need for value-based content in the curriculum in our schools. On integrity, the use of critical thinking makes the individual question their knowledge and beliefs and are then able to identify and admit their shortcomings. This helps them appreciate the shortcomings of others and their beliefs. This emphasises the need to inculcate integrity-related content in the curriculum.

Through perseverance, one arrives at a long-term solution. Again, a good example is given in the biblical text on the suffering of Job. Job endured suffering and did not give in to temptations for a quick solution to his tribulations. Likewise, by using critical thinking, learners can resist the temptation to find a simple and quick answer to avoid uncomfortable situations such as frustration and confusion in their lives.

The importance of confidence plays a critical centrality role to the learners since those who are well-motivated in reasoning lead to reliable conclusions. One is able to develop both inductive and deductive reasoning. The learner gains more experience in mental process and improvement and do not hesitate to disagree and be troubled, thus, acting as colleagues' role model, inspiring them to develop critical thinking.

Having Interesting thoughts and feelings for research is one of the clear impetus for the learners. In fact, critical thinking helps one to undertake methodological steps of conducting research. One recognises the need to recognise, examine or modify the emotions involved with critical thinking. So, suppose they feel anger, guilt and frustration for some event in their work. In that case, they should follow some steps: To restrict the operations for a while so as to avoid impulsive decisions due to hasty conclusions, have a discussion with a trusted on negative feelings, consume some of the energy emotion produces, for example, walking or doing calisthenics, ponder over the situation and determine the appropriateness of the emotional response. After intense feelings abate, the person will be able to make sound informed decisions.

Curiosity helps in creativity and innovation. The critical thinking usage is full of questions. It adopts the problem-solving approach, whose emphasis is on validity and reliability. The Socratic approach, where the question and the answer are sought, is a method in which one can scrutinise below the surface, acknowledge and examine the condition, identify the repercussion, look into the multiple data views and finally distinguish between what one knows and what he believes. A typical example would be procedures and steps followed by nurses while reviewing the history and progress of a patient, as observed by Lewis and Smith (1993).

## **Nexus between Critical Thinking and Creativity**

As we have seen throughout the article, creativity is the process of generating new and appropriate or valued outputs (e.g., innovations and creativity). Individuals who engage and develop such outputs are referred to as creative. A lot of research that has been carried out over half a century has revealed that



creativity is mutually related to personality traits such as openness to experience, norm-doubting and tolerance of ambiguity (Barron, 1969; Batey & Furnham, 2006; Eysenck, 1993; Feist, 1998; Martindale & Dailey, 1996), and with particular brain networks activation (Vartanian et al. 2013). Studies also reveal that creativity is related in interesting ways to culture (Lubart et al., 1990) and family birth order (Bliss, 1970; Sullo way, 1996).

However, some critics would say that although we have gained much in the way of fragmentary knowledge about creativity, an integrated framework for creativity eludes us (Bowden et al., 2005; Sternberg & Kaufman, 2010). However, formal models of creative cognition have been around for some time (e.g., Langley et al., 1987), but we do not know how to formally describe a 'half-baked' idea or why immersion in creative tasks.

## Creativity across Cultures

Creativity is viewed differently in different countries (Sternberg, 2006). For example, cross-cultural research centred in Hong Kong found that Westerners perceive creativity more in terms of the individual attributes of a person who is creative, such as their aesthetic taste. In contrast, Chinese people view it to be more of the social influence of creative people, for instance, what they can contribute to society (Niu, 2006). Mpofu et al. (2006) surveyed 28 African languages and found that 27 had no word that directly translated to 'creativity' (except Arabic). The linguistic relativity principle, i.e. that thought can be affected by language, suggests that the lacking an equivalent word for 'creativity' may influence the creativity views among speakers of such languages. Nevertheless, more research would be required to establish this, and there is no suggestion that this difference in linguistics makes people any more (or less) creative; Africa has a rich heritage of creative pursuits through oral literature.

Nevertheless, there has been very little study on creativity in Africa (Mpofu et al., 2006). In addition, there has also been very little research on creativity in Latin America (Preisser, 2006). In the Northern hemisphere, creativity has been more thoroughly researched, but the cultural differences between countries or groups of countries in close proximity

exist. For instance, Creativity is seen as an individual attitude which helps in coping with life's challenges in Scandinavian countries (Smith & Calsson, 2006), whereas in Germany, creativity is perceived more as a process that can be applied to help solve problems (Preisser, 2006). Creativity has a connotation of attitude, while it is a process for others. Creativity should be in tandem with real-life situations (applied to help solve problems).

Finally, many researchers have connected critical thinking and creativity (Bailin, 2002; Bonk & Smith, 1998; Ennis, 1985; Paul & Elder, 2006; Thayer-Bacon, 2000). At first glance, creativity and critical thinking might seem to be mutually exclusive constructs or even have little in common. However, Bailin (2002) points out that a certain amount of creativity is a necessity for critical thought. In a study by Paul and Elder (2006), critical thinking and creativity are aspects of "good," purposeful thinking. Creativity and critical thinking are two sides of the same coin. Good thinking needs the ability to generate intellectual products that are associated with creativity. However, to be a good thinker, an individual need to be critical, aware and strategic about the quality of those intellectual products. As noted by authors, "critical thinking without creativity reduces to mere scepticism and negativity, and creativity without critical thought reduces to mere novelty". Paul and Elder (2006) argue that, in practice, the two ideas are inextricably linked and develop in parallel. Accordingly, the authors believe creative and critical thinking should be integrated during instruction.

## CONCLUSIONS AND RECOMMENDATIONS

**Conclusions:** In an attempt to situate the contribution of critical thinking in enhancing value-based education, the paper highlighted the symbiotic relationship between critical thinking and creativity. Critical thinking aims to promote independent thinking, personal autonomy, and reasoned judgment in thought and action. Likewise, creativity enhances learners' appetite to think analytically and critically and thus to use what they know to enhance their own lives as well as contribute to their societies, culture and overall development. More specifically, learners should demonstrate independence of thought by applying critical thinking as they mature so as to acquire authenticity of thought patterns. In this way,

they are able to examine their beliefs under new evidence. As revealed in this paper, value-based education promotes a thought-provoking and interactive environment for the learners through the values incorporated in the curriculum. It enhances quality education and the holistic development of each learner for a bright future. Through a variety of learning outcomes, a critical thinker should demonstrate both in theory and practice the skills that include metacognition, motivation, collaboration and creativity. The pressure for teaching and learning in Kenya has been necessitated by the growing

unemployment rate and the global economy demands. This is a sign that there is a mismatch between the curriculum being offered and the demands of the labour market.

**Recommendations:** Therefore, any curriculum being designed should bear in mind the aspects of critical thinking and creativity and clearly define the outcome the learner will acquire in order to face any emerging challenges in the world of work. The learning environment should be responsible for promoting the development of competencies

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