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Culturally Relevant Teaching

Teboho Solomon Ngubane

Abstract

This chapter intends to highlight the importance of Relevant Teaching, hereinafter referred to as CRT within South African context in the twenty-first century. CRT will contribute towards achieving quality education. This chapter is conceptual by nature and a desktop literature was employed. CRT may have positive impact on the life of Africans because they have experienced poor education since the early 1900s after the Nationalist Party decided to develop a system of education that had a negative impact on the culture of African people as the backbone of their nation. In order to attempt addressing the culturally relevant teaching quest, this chapter discusses Bantu education, African Traditional Education, Western type of education, education as a foundation, ever changing needs, and curriculum as a core business for teaching.

Keywords: cultural relevant teaching, culture, curriculum, black people, quality education

1. Introduction

There is a continuous concerted effort of using education as one of the vehicles for change to a better life in the whole world. This has seen the whole world converging in 2015 once again to plan for a better future that should be realised around 2030. The United Nations Development Programme (UNDP) was developed after the 17 Sustainable Development Goals (SDGs) 2030 was adopted by 193 countries [1]. Quality education is SDG number four and it is meant to 'Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all' [1]. South Africa as one of the SDGs' country, the government had already diagnosed that education for black people in South Africa is very poor and it must be improved [2]. This was despite many school curriculum changes that took place from Curriculum 2005 (C2005) to the Revised National Curriculum Statement (RNCS), then to Outcomes Based Education (OBE) and lastly to the Curriculum and Assessment Policy Statement (CAPS) within 19 years in democracy [3]. According to Chisholm [4], "Inadequate recognition of the curriculum as the core business of the departments" is one of the challenges identified by the ministerial committee that evaluated the implementation of the curriculum. It indicates the existing gap between the relevant stakeholders (black people) and the curriculum when it comes to implementation. One of the conclusions that can be drawn from this setback is that the curriculum is not relevant in addressing needs of black people. It is obvious that teaching is also negatively affected because of the lack of cultural relevance. In addressing the need for policymakers including the curriculum agents to take into consideration the culture of black people that education is intending to develop, would bring to the fore the necessary positive change that should aid the process of developing and realising quality education in South Africa.

2. Literature review

There was an effort from apartheid government in South Africa based on the quality of education that was given to black people in the early 1900. The effort intended that black people must be given poor education that will produce labourers instead of academics because that's what they thought was good enough for black people to remain under the control of white people. In 1945 addressing the South African parliament, Mr. M.D.C. de Wet stated what the apartheid white government meant by poor education for black people when he said the following, which must not be viewed in isolation or one-dimensional because it might be misleading as a good intention towards black peoples' education:

"As has been correctly stated here, education is the key to the creation of proper relationship between European and Non-European in South Africa... Put Native education on a sound basis and half the racial questions are resolved... I say that there should be reform of the whole education system and it must be based on culture and background and whole life of the native himself in his tribe... This (present) policy is also a danger to Western civilisation" [5].

Within the same parliament, Mr. J.N. le Roux supported and clarified what Mr. M.D.C. de Wet meant in his initial address by saying:

"We should not give the Natives an academic education, as some people are too prone to do. If we do this, we shall later be burdened with the number of academically trained Europeans and Non-Europeans, and who is going to do the manual labour in the country? ... I am in thorough agreement that we should so conduct our schools that the Native who attends those schools will know to a greater extent that he must be a labourer in the country" [5].

Culture was at the centre of determining the type of education that blacks were to be given by the apartheid government for their socio-economic and political development. Bello and Idang defines culture as a way of life for the people as it includes everyday life activities like language, dress code etc. When the way of life is taken away or distorted somehow, people tend to lose who they are and where they come from. Instead they will be forced to adopt another way of living which will not represent who they are and their values. To put it into context, policies that had to regulate education, were not supposed to consider black peoples' way of life (culture) for development as academics but instead consider that blacks must be labourers in the country. This resulted in the development of Bantu Education Act of 1953 which was based on the distorted curriculum for blacks.

Distorted school curriculum and the teaching that lacks relevancy has negative effects as it breaks down the culture of black people and promotes the culture and dominance of white people [5]. The result is evident when "Far too many learners are stigmatised as failures, leaving school without literacy and numeracy capabilities, and heading for unemployment and bare survival in a society and global world that thrives on and rewards high-level education and skills, knowledge and innovation" [6]. After considerable efforts by the democratic government to change education, almost all relevant role players in the South African education are now in agreement of the direction to be taken in order to address the challenges identified at different levels. The main challenge is the intended quality education in an unequal education system [6]. In order for the education system to be equal, the culture of the people it is intended to develop must be taken into account when the curriculum is developed. This factor will contribute positively to influence the process of realising quality education.

This literature review points out that culture was intentionally not considered in the curriculum development thus poor education was given to the majority of learners in South Africa which are black. Negative effects were the results even after the democratic dispensation was realised in 1994. “However, all is not doom and gloom, since to a large extent the same policy expectations that were introduced by government after 1994 have been highly instrumental in the advancement of transformation...” within the education sector [7]. Policy makers in the South African education must take into account the way of life (culture) of the majority learners when developing the curriculum.

3. Bantu education

This section briefly discusses the negative impact of Bantu education. The previous apartheid government developed bantu-education with the sole purpose of separating black people from their own culture so that their socio-economic and political needs may not be addressed accordingly. Moloi [8] posits that black people were colonised and dehumanised by white people under apartheid in South Africa. Effects of apartheid are still experienced even after the dawn of new South Africa is realised over two decades ago. Post-apartheid era remains in the dark era of pre-democratic dispensation because of the visible ripple effects of tempering with the culture of black people in South Africa.

The “dysfunction in many of the schools, post-1994, has continued despite government attempts to restore a culture of teaching and learning” [9]. Jenkins [10] quotation better describes the cultural effects in South African education by stating that:

Thus South Africa finds itself today still saddled with a brutalizing, anti-intellectual educational system which is a distorted descendant of what was itself an aberration in the history of the development of Western education - a particular version of education which was developed to serve a small section of the British population during the short period that it had to provide the rulers of the largest empire the world has ever seen or is likely to see again.

To what extent this educational system has produced South African society as we know it today, or has simply lasted because it serves the interests of those who are inclined this way for other historical, cultural and religious reasons, is debatable: the answer is probably something of both.

4. African traditional education

This section looks at ways that African culture should influence the curriculum for CRT to be achieved. A teaching process that takes into consideration the culture of learners must be applicable to any stage of their lives. “African traditional education is based on a philosophy of education, which emphasises learning by doing, respect for elders, lifelong education, training on the job, learning to live and living to learn” [11]. This definition puts forward the culture of education that originally existed in Africa and it was for Africans by Africans before white people colonised Africa. African Traditional Education (ATE) forms the basis of the relevant cultural teaching that is needed in the twenty-first century. A teaching process that takes into consideration the culture of learners it intends to develop at any stage of their lives. The culturally relevant teaching that was informed by lifelong learning prevailed in Africa despite the fact that it was and still is suppressed by the western type of education. Ngubane [12] states:

“The western approach presently in use...employ both western and African teaching approaches in teaching...but the western approach is dominant”.

5. Western type of education

There are some good elements of western type of education and this section addresses some of them and their weaknesses. Western type of education will include prior learning and respect to a certain extent because in a western culture, one is able to call an elderly person by name, whiles in an African culture that is not acceptable but instead, it is seen as a form of disrespect. Having school buildings, assessment processes are some of the positive features of western education that should be used in the twenty-first century teaching and learning processes. All in all, the good that is from the western type of education like the assessment should be fused with the good from the Africa Traditional Education like elderly respect to meet the identified need of a culturally relevant teaching in the twenty-first century. Contrary to the good elements, Locke [13] argues that western education is informed by the idea that we are “...all born infants, weak and helpless, without knowledge or understanding (empty slates)”. To further elaborate on this point, Scheurman [14] indicates that in a western type of education, the teacher (a) has all the knowledge and (b) is responsible for transmitting that knowledge to the learners. Basically the western education does not recognise learners who did not attend formal education as knowledgeable and skilled.

6. Culturally relevant teaching (CRT)

This section highlights the importance of CRT in the twenty-first century by discussing why teaching environment is relevant and how teacher training impacts culturally relevant teaching.

6.1 Relevant teaching and learning environment

Creating conducive teaching and learning for CRT to be achieved, is discussed in this section. Conducive teaching environment is one of the important contributing factors in delivering an effective classroom lesson. In their “Classroom context for Creativity”, Beghetto and Kaufman [15] posit that “...many of the features of optimal learning environments are quite subtle...” and require teachers to pay attention on them in order to create the necessary teaching and learning environment. Several factors come into play in creating a conducive teaching and learning environment. These may include school culture, lesson plan activities, learners’ participation in the lesson, classroom setup, lesson presentation, teaching aids and classroom management. The seven factors that have a positive impact on teaching and learning environment are explained as follows because “classroom context matters” [15]:

- a. *School culture*: It is based on the culture of teaching and learning within the school premises on whether teachers teach and the learners learn as required;
- b. *Lesson plan activities*: Is the lesson plan include activities that will allow learners to participate during the lesson whiles taking into account their culture;

- c. *Learners' participation in the lesson*: Are learners allowed to make comments and ask questions during the lesson for better understanding;
- d. *Classroom setup*: Is the classroom furniture setup in an inclusive and more discursive manner like in a circular shape;
- e. *Lesson presentation*: Is the teacher presenting the lesson that is culturally relevant as effective as possible for learners to better understand what is taught;
- f. *Teaching aids*: Are they addressing the lesson content and assisting learners so that they acquire the necessary skills and knowledge;
- g. *Classroom management*: Is the teacher managing the classroom as effective as required by facilitating the lesson and allowing learner participation as much as possible.

The majority of the above factors are factors addressing classroom management. Eisenman, Edwards and Cushman [16] posit that classroom management does not receive the necessary attention it deserves in teacher training and it is a general problem in education. It became a real surprise when teachers learn that their training is addressing only a theoretical part of their classroom management [16]. Automatically, this meant, trained teachers will find it difficult to apply this skill practically in the classroom environment. It is now quite clear that practical application of classroom management skill is more important than before. Especially in the twenty-first century where there is diverse teaching and learning environment that teachers are expected to effectively teach in and assist learners to achieve the set specific outcomes.

7. Education as a foundation

Understanding why education is a foundation, would bring forth the importance of CRT in South African education. Education is “the process of teaching or learning in a school, or the knowledge that you get from this” [17]. Human development based on knowledge is key for a holistic development in the twenty-first century because knowledge evolves and demands continuous development. Human beings require some form of education in order to live a meaningful and sustainable life. Formal, informal or non-formal education may have negative or positive impact on human life depending on its policies and curriculum amongst others. Therefore, education is the foundation for human life as it determines the kind of life a person might live in future. “Education is the only bridge that leads people to their better futures. In addition, “... it cannot be separated from human's life” [18]. Different types of education have an important role they are playing in human life, one way or another. Thus we will now turn our attention to the specific role the formal, informal and non-formal education types of education are playing in human life as the foundation for development.

7.1 Formal

A type of education that is formal in nature and it is administered in an institution within a specified period. It involves teachers, learners and an institution. Teachers have to teach, learners to learn and the institution to manage and provide

the necessary equipment and tools for teaching and learning. Not all learners are inclined to learn formally based on their individual manner of acquiring and processing knowledge. Dib [19] argues that.

The setting-up of a formal education system does not consider the students' standards, values and attitudes that are relevant to the education system which, generally, is not tested or assessed at the level of student acceptance, as well as for efficacy and efficiency.

Acquiring skills and knowledge through this type of education is important to learners who find the formal environment suitable.

7.2 Informal

Learners learn under informal social activities and there are no formal teachers. Infact, everyone is a teacher to teach when possible through interactions. Learners learn from each other during the informal social interactions between themselves and between other people. There is no need for a formal institution like a school or university. Instead, any environment conducive to teaching and learning maybe used. Tudor [20] points out that informal education "...is not deliberately organized to ensure student's learning. The learner often does so unintentionally". It may include reading magazines, watching movies, reading newspapers, theatre projects amongst others. This type of education is most suitable for the majority of learners and it is employed to everyday activities.

7.3 Non-formal education

Tudor [20] states that non-formal education "...is intentional, the person attending these forms of education makes it for own reasons, and programs are organized for learning, coming to complement, support or as a source of valorisation of the learning experiences formally acquired". This is a teaching and learning process that normally takes place outside of the normal school, university or formal institution. An example will include a community gospel choir, theatre project, sports, etc. Based on the community set up in most South African sub-urban, urban and rural areas, non-formal education plays a critical role because this is where many community members get to learn and acquire the necessary basic skills and knowledge that will be used in future to change life for the better. Usually there is no joining fee or registration fee required for this type of education. When the joining fee or registration fee is required, it is usually minimal and accessible. This is where community members will learn, acquire, apply and develop their basic skills.

8. Ever-changing needs

South Africa has been an official global member after the first democratic election in 1994. This meant that South Africa is now competing on a global standard and should strive to meet these global standards through social, political and economic activities. South Africa is classified as one of the developing countries of the world based on its socio-economic and political activities. Fast forward to 2015, South Africa was part of the world countries that agreed and signed for 17 Sustainable Development Goals (SDGs) as a plan for a better life around 2030 [1]. The SDGs came after the Millennium Developmental Goals (MDGs) which ended at the end of 2016 [21]. This is because of the ever-changing global needs. Since there is a constant and continuous change of global needs, human development in terms of education must also change in order to meet these ever-changing needs.

All members of the globe should have a healthy competition in order to meet their country's political, social and economic needs.

There is an increasing need to continuously develop teaching strategies, methods and approaches that are culturally relevant in the twenty-first century. In order for this need to be realised, curriculum development must be addressed because it directly influences the classroom everyday teaching and learning. South African education has gone through several curriculum changes because of the curriculum that is not culturally relevant to have a positive impact on everyday teaching and learning that is culturally relevant. The school curriculum was changed from Curriculum 2005 (C2005) to the Revised National Curriculum Statement (RNCS), then to Outcomes Based Education (OBE) and lastly to the Curriculum and Assessment Policy Statement (CAPS) within 24 years in democracy [3]. Luckett [22] posits that the curriculum must be based on social justice, which will only be inclusive if it is informed by the experiences of black people.

Since culture is not stagnant but evolves, curriculum should also be aligned to the evolution of culture in order to address the needs of the people. There are two core principles that guide black peoples' culture in South Africa, namely human dignity and respect. Culturally relevant teaching should include these principles which can be incorporated into everyday teaching and learning by teachers as curriculum agents in their classrooms.

Therefore, a teaching strategy that will be informed by respect and human dignity is important in influencing a positive change towards the most needed quality education in South African education [12].

9. Curriculum as core business for education

Curriculum is the heart of any educational system and it based on culture of people it aims to develop in order to address their everyday societal needs. Idang [23] defines culture as "language, dressing, music, work, arts, religion, dancing, social norms, taboos and values" of people within a specific community. On the other hand, for Bello [24] it is the totality of the way of life evolved by a people in their attempts to meet the challenge of living in their environment, which gives order and meaning to their social, political, economic, aesthetic and religious norms thus distinguishing a people from their neighbours.

Therefore, culture is a way of life for the people based on their socio-economic and political activities that are influenced by their language, religion, values and the environment they are living in. The school curriculum should incorporate the culture of the people it is intending to develop in order to address their socio-economic and political needs. It is also important to realise that the effective implementation of the curriculum largely depends on the teachers as curriculum agents [25]. Yin, Lee and Wang [26] emphasise this point by indicating that teachers play an important role in the curriculum delivery. On the other hand, Skosana and Monyai [27] posit that those teachers should propel the curriculum implementation as much as possible. In order for teachers to play an effective meaningful role in the implementation of the curriculum, they need to feel equipped [28]. If culture becomes the backbone of the school curriculum, it will inform the everyday teaching activities of the teacher in the classroom. According to Bâlc [29] culture is "thinking, feeling and manifestations acquired through life".

In addition, Barnouw [30] defines culture as "...a whole complex of knowledge, beliefs, art, legislation, morals, customs, and capacities and skills acquired by a person by identifying him as a member of a particular society". Thus culture encompasses a way of life that is influenced by the environment that people live in

and it provides an identity for different communities. Clearly, for decades the South African education curriculum was not based on black peoples' culture, or failed to take their culture into consideration – that kind of education did not address their needs, because it was not informed by their way of life. Any curriculum that does not include people's culture will fail to address the everyday life challenges they face. Current shortfalls in the curriculum do not make provision for the classroom challenges teachers experience – they need a relevant curriculum to be developed by policymakers, before it is implemented as part of their teacher training [31].

This chapter is advocating for a culturally relevant teaching that should be informed by the culture of the people it intends to develop in the twenty-first century. Curriculum is taking a centre stage in this regard because it is the vehicle to deliver the classroom lesson content. Lord Macaulay's [32] address to the British parliament clearly indicates the attack that caused the damage to black people, specifically through culture as a lifeline for education. This is done by not considering the culture of black people that education is attempting to develop for a better life [32]:

“I have travelled across the length and breadth of India and I have not seen any one person who is a beggar, who is a thief such wealth I have seen in this country. Such high moral values, people of such caliber, that I do not think that we would ever conquer this country. Unless we break the very backbone of this nation, which is her spiritual and cultural heritage and therefore, I propose that we replace her old and ancient education system, her culture, for if the Africans think that all that is foreign and English is good and greater than their own, they will lose their self-esteem, their native culture and they will become what we want them, a truly dominated nation”.

Culture is the backbone of any nation and the educational curriculum must be based on it for effective culturally relevant teaching to be realised.

10. Conclusion

The literature suggest that the curriculum for the South African education was distorted by not considering the black peoples' culture as its backbone. The following points were discussed in this chapter and they assisted the researcher to make relevant conclusions on CRT: (a) Bantu education; (b) curriculum as a core business for teaching; (c) African Traditional Education; (d) Western type of education; (e) the ever changing needs; and (f) relevant adult teaching and learning. The Curriculum did not and still does not take into consideration the culture of black people. Thus the curriculum, teaching methods including teaching and learning activities are not relevant to the majority of learners in South African education. The present school curriculum is not relevant in addressing the needs of the majority of learners which is negatively affecting the everyday teaching and learning based on its lack to consider black peoples' culture. South African education would realise CRT should policymakers and the curriculum agents take into account the culture of black people in order for education to holistically develop them. This will be one of the contributing factors in positively influencing the process of realising quality education in South Africa as SDG number four.

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Author details

Teboho Solomon Ngubane
Department of ABET and Youth Development, University of South Africa,
South Africa

*Address all correspondence to: ngubat@unisa.ac.za

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References

- [1] United Nations Development Programme (UNDP). Sustainable Development Goals. New York: UNDP; 2016
- [2] Republic of South Africa (RSA). National Development Plan (NDP). Pretoria: Government Printers; 2015
- [3] Molapo MR. How Educators Implement Curriculum Changes. South Africa: Department of Education Management and Policy Studies. University of Pretoria; 2016
- [4] Chisholm L. The politics of curriculum review and revision in South Africa. In: A Paper Presented at an Oxford International Conference on Education and Development, 9-11 September at the Session on Culture, Context and the Quality of Education; Oxford. 2003
- [5] Rakometsi MS. The Transformation of Black School Education in South Africa, 1950-1994: A Historical Perspective. Bloemfontein, South Africa: Department of History. University of the Free State; 2008
- [6] Chisholm L. The challenge of South African schooling: Dimensions, targets and initiatives. 2011 Transformation Audit: From Inequality to Inclusive Growth. 2011
- [7] Hay D, Monnapula-Mapesela M. South African Education: Before and After 1994. 2017. Available from: <https://www.researchgate.net/publication/313598148> [Accessed: 3-01-2019]
- [8] Moloi KC. An African narrative: The journey of indigenous social research in South Africa. In: Chilisa B, Cram BF, Mertens DM, editors. *Indigenous Pathways into Social Research: Voices of a New Generation*. Walnut Creek, CA: Left Coast Press; 2013. pp. 11-40
- [9] Grant C, Jasson A, Lawrence G. Resilient KwaZulu-Natal schools: An ethic of care. *Southern African Review of Education*. 2010;**16**(2):81-99
- [10] Jenkins E. Culture and counter-culture in South African schools. In: *Conference of the Association of University English Teachers of Southern Africa*. 1987
- [11] Adeyemi MB, Adeyinka AA. The principles and content of African traditional education. *Educational Philosophy and Theory*. 2003;**35**(4):425-440
- [12] Ngubane T. African Social Constructivism: An Adult Teaching Approach in Gauteng District 6. Pretoria. South Africa: University of South Africa; 2016
- [13] Locke J. *Two Treatises of Government*. New York: Cambridge University Press; 1960
- [14] Scheurman G. From Behaviourist to Constructivist [Online]. 1998. Available on: <http://www.socialstudies.org/sites/default/files/publications/se/6201/620101.html> [Accessed: 22-11-2018]
- [15] Beghetto RA, Kaufman JC. *Classroom Contexts for Creativity*. Storrs, CT, USA: Department of Educational Psychology, Neag School of Education, University of Connecticut; 2014
- [16] Eisenman G, Edwards S, Cushman CA. Bringing reality to classroom management in teacher education. *Truman Pierce Institute College of Education. Professional Educator*. 2015;**39**(1):1-13
- [17] Cambridge Dictionary. Available from: <https://dictionary.cambridge.org/dictionary/english/education> [Accessed: 21-11-2018]

- [18] Johan R, Harlan J. Education nowadays. *International Journal of Educational. Science and Research (IJESR)*. ISSN (P): 2249-6947; ISSN (E): 2249-8052. 2014;**4**(5):51-56
- [19] Dib CZ. *Formal, Non-Formal and Informal Education: Concepts/ Applicability*. Brazil: Institute of Physics. University of São Paulo; 1988
- [20] Tudor SL. Formal—Non-formal—Informal in education. In: 5th International Conference EDU-WORLD 2012—Education Facing Contemporary World. University of Piteúti, Str. Târgul din Vale nr. 1, Piteúti, Romania. 2012
- [21] United Nations. *Millennium Developmental Goals (MDGs)*. New York: United Nations; 2015
- [22] Luckett K. Curriculum contestation in a post-colonial context: A view from the South, teaching in higher education [Online]. 2016. Available from: <http://dx.doi.org/10.1080/13562517.2016.1155547> [Accessed: 20-11-2018]
- [23] Idang GE. *African Culture and Values*. Vol. 16. Number 2. South Africa: University of South Africa. Unisa Press; 2015. pp. 97-111
- [24] Bello S. *Culture and Decision Making in Nigeria*. Lagos: National Council for Arts and Culture; 1991
- [25] Yin H, Lee JCK, Wang W. Dilemmas of leading national reform in a global era: A Chinese perspective. *Educational Management Administration and Leadership*. 2014;**42**(2):293-311
- [26] Maphosa C, Mutopa S. Teachers' awareness of their role in planning and implementing school-based curriculum innovation. *Anthropologist*. 2012;**14**(2):99-106
- [27] Skosana PS, Monyai RB. The teacher as a catalytic agent in the implementation of the curriculum. *International Journal of Humanities and Social Sciences Invention*. 2013;**2**(9):90-96
- [28] Park M, Sung Y-K. Teachers' perceptions of the recent curriculum reforms and their implementation: What can we learn from the case of Korea elementary teacher? *Asia Pacific Journal of Education*. 2013;**33**(1):15-33
- [29] Bâlc S. *The Concept of Culture in Educational Management*. Romania: Research Association for Interdisciplinary Studies. Bucharest Baptist Theological Institute; 2017
- [30] Barnouw V. *Culture and Personality*. Homewood, Ill: Dorset Press; 1963
- [31] Monyane T, Selesho JM. Challenges regarding the implementation of the revised National Curriculum Statement. *Anthologist*. 2012;**14**(1):81-85
- [32] Macaulay TB. *Parliament Speech*. British Parliament. 1835. Available from: <https://thewire.in/history/macaulays-speech-never-delivered> [Accessed: 8-11-2018]