

## Exploring Possibilities of an Undergirding Umunthu Philosophy in Malawi's Social Studies Curriculum

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### Abstract

*The article explores possibilities of integrating Umunthu values into the social studies in Malawi with the purpose of reforming the curriculum into one that is relatable and relevant to the local needs of the society. To achieve this, it examines the relationship that exists between various aspects of education and the society, requiring the need for reliance on local knowledge production through Umunthu as an undergirding philosophy. Data for the study was collected through semi- structured interviews with Social Studies teachers, students, parents and university lecturers. It also involved analysis of other available secondary sources on Umunthu, Social Studies and education. The findings of the study were analysed within the framework of two main theories: the Reconstructionist Theory and the Southern Theory. In relation to the findings, the paper concludes that a successful deployment of Umunthu as a guiding philosophy for Social Studies would require incorporation of its core principles into the curriculum, tailoring it to focus on forging a national identity and to necessitate education for Malawians. The paper then argues that implementation of a reformed curriculum reflecting the discussed propositions requires concerted efforts from various stakeholders in curriculum development and implementation.*

**Keywords:** curriculum, education, Malawi, social studies, Umunthu

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## **Introduction**

As its goal, education aims at cultivating human resource that is equipped with relevant knowledge, skills and the ability to fully and actively participate in the progressive development of a nation. It is the vehicle through which every citizen can realize his or her potential and contribute to national development. The vision of the education sector in Malawi is to be a catalyst for socio-economic development, industrial growth and an instrument for empowering the poor, the weak and the voiceless (MoEST, 2013). As Wyse (2008) notes, education serves the purpose of imparting key values, norms, and social mores which, together, comprise the community's cultural focal point, for the purpose of creating social responsibility within the community. However, development becomes at stake when education fails to inculcate enough values to prevent vices such as corruption from taking over. Social Studies as a means of citizenship education is largely responsible for ensuring that Malawi as a nation does not crumble from the unfortunate effects of individualism that are manifested in the vices. Unfortunately, that is exactly what is happening, pointing in part to a Social Studies curriculum that needs reforms.

The current Social Studies curriculum, we may argue, is cultivating intellectually sharp citizens, very conversant mostly with western values of social and political governance such as democracy and capitalist survival tendencies that put the affairs of an individual above the affairs of the society under the guise of rewarding hard work. Wyse (2008) agrees by noting that European theoretical frameworks of education are closely associated with society's economic context of capitalism. This kind of education has led to the degeneration of the Malawian society into a plethora of plunder, corruption and negligence of duties and responsibilities by public officials.

Rwomire (1998) in Woolman (2001) also cites among other problems irrelevant curricula as leading to the current status where many graduates are docile, dependent, low on initiative, and immoral. What is most crucial is Rwomire's blame on schools for inculcating a culture of egocentric materialism which has adversely caused the decline of collective responsibility, hence contributing to other problems such as corruption and unemployment (Rwomire, 1998 in Woolman, 2001). It is against this background that this study sought to explore possibilities of integrating an indigenous African philosophy of Umunthu into the Social Studies curriculum to act as its philosophical base for inculcation of African indigenous values to counter the socioeconomic problems.

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**Theoretical framework**

The study deploys the Reconstructionist Theory which propagates for the integration of indigenous culture with demands of modernization (Woolman, 2001). It regards contemporary education as most effective when it integrates the values and strengths of indigenous culture with the knowledge and skills required by new conditions of modern life (Woolman, 2001). This is very important as with the current education set-up in Malawi, modernization is often confused with westernization, resulting in a near-complete abandonment of African culture and a continuous search for solutions to Malawian problems in an education that focuses more on alien concepts than it does on indigenous values. The existence of the theory therefore, and its use to support the proposed reform with the philosophy at the centre, is very crucial to this study.

The Reconstructionist Theory is complemented by Raewyn Connell's Southern Theory (2007). In this theory, Connell advocates for the seeking of knowledge produced outside the Northern metropolis as an important intellectual resource. The Southern Theory challenges the norm in social science where the South serves as a test ground for theoretical development and refinement which take place in the Global North (Sigauke, 2016). The Southern Theory is described as resting on four principal sources: indigenous knowledge, alternative universalism, anticolonial knowledge and southern critical engagement with Northern Theory (Sigauke, 2016). The propagation of alternative indigenous knowledge as necessary for development of education in the Global South helps our understanding of the exploration of possibilities for the integration of Umunthu as a philosophy of education informing the curricular content for Social Studies in Malawi.

**Methodology**

This article originates from a qualitative study whose data collection method was through semi-structured interviews and analysis of the relevant available literature on Umunthu, indigenization, and Social Studies among others. The researcher used a non-probability sample through purposive sampling to interview teachers, students, parents and university lecturers from various districts across Malawi between July and December, 2018. 8 secondary school teachers, 12 secondary school students, and 3 lecturers were interviewed for the study. Districts from which the participants were drawn include Balaka, Blantyre, Chiradzulu, Lilongwe, Mulanje, Rumphu and Zomba. A general discussion of the study's findings was placed within the narratives of the Reconstructionist and Southern

theories for a better understanding of the researcher's position as regards the study's main purpose.

### **Literature review**

Umunthu is a Chichewa derivative for a philosophy that is inherent to African societies. Rooted in the belief in oneness of a society, the concept of Umunthu has several renditions in different Bantu speaking African societies, suffice to say its elements appear to be a sum total of all indigenous values of African life irrespective of the terminologies. Thus, from South Africa to Malawi and other countries in its vicinity, Umunthu adopts a variety of linguistically interrelated nomenclature.

The most popular rendition of the concept is the South African variation, Ubuntu. In this derivative, Ubuntu originates from a Zulu adage Umuntu Ngumuntu Ngabantu translated as "a person is a person because of or through others" (Swanson, 2009). In Malawi's Chichewa, the anaphora's rendition is Munthu ndi munthu chifukwa cha anthu ena. This rendition is evident in many Chichewa proverbs, proverbs being a key component of the African tradition. For example, the proverbs Kali kokha nkanyama ali awiri ndi anthu (A loner is a beast, those in the company of each other are humans) and Mutu umodzi susenza denga (A man cannot carry a roof on his head alone) as well as the adage Mu umodzi muli mphamvu (In unity there is strength) demonstrate how integral the Umunthu philosophy is to Malawian life. The concept of Umunthu can be described as the capacity in an African culture to express compassion, reciprocity, dignity, humanity and mutuality in the interests of building and maintaining communities with justice and mutual caring (Tutu, 1999). Key tenets of the philosophy include every society's citizen duty to care for each other with the spirit of mutual support that cumulates into the concept of communitarianism. It also acknowledges both the rights and responsibilities of every citizen in promoting individual and societal well-being (Abaunza, 2013).

In South Africa, the core principles of Umunthu have been the focus right after the fall of an apartheid system of government in 1994. The shift from apartheid to egalitarianism through a new model of democracy in 1994 created a basis for a significant transformation of the education system (Grange, 2011). This led to the integration of Umunthu (Ubuntu) into the curriculum. As Abaunza (2013) notes, the post-apartheid era began with the unveiling of the Interim Constitution of 1993 and with The National Education Policy Act of 1996:

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The Interim Constitution of 1993, which framed the values to which the final Constitution had to adhere – was this: there was a need in South Africa ‘for understanding but not for vengeance, a need for reparation but not for retaliation, a need for Ubuntu but not for victimization. (Abaunza, 2013)

Following this, the new curriculum reflected the concept of Ubuntu. The new curriculum further embraced the Ubuntu tradition and its integration into the classrooms. This was an extension of the constitutional reforms that saw integration of the values of Ubuntu in the Interim Constitution (Lefa, 2015).

In the same way the Ubuntu roots had become lost during the apartheid and resurfaced during the Truth and Reconciliation Commission years, it was lost at the beginning of the curriculum reform and re-integrated into the educational system as an integral part of learning experience (Abaunza, 2013). In this regard, Eliastam (2015) considers Umunthu in South Africa as a guiding principle for citizenship education and as a normative value for education.

From its integration into the curriculum, the philosophy has also manifested itself in other relevant areas of education such as leadership and management in schools. Among other aspects for example, teachers of some schools regard modeling as the most important Ubuntu leadership principle for successful school leadership (Mbhele, 2015). In addition, Mbhele (2015) also observes that solidarity, interdependence, sacrifice, caring and trust are some of the values that are considered as important for school Ubuntu leadership (p. 56). In the schools, the Umunthu leadership and management is administered in two manners: respect for human dignity of the learners and the monitoring of the learners by other stakeholders (Mbhele, 2015).

The philosophy of Umunthu in Zimbabwe realizes itself as *Unhu/Hunhu*. Just as in South Africa, the philosophy has had its advocates for integration into the country’s education system. In *Unhu/Ubuntu and Education for Reconciliation in Zimbabwe*, Hapanyengwi-Chemhuru and Shizha (2012) examine the concept, role and implementation of reconciliation policy as Zimbabwe emerged from a conflict crisis in the early 1980s and how it can be introduced in schools through “education for reconciliation”. They observe that education for reconciliation and *Ubuntu/Unhu* are perceived as philosophies that promote respect for human life and human dignity and values that give meaning to people’s lives and livelihoods. They then conclude that education comes in as an instrument for the inculcation and promotion of the epistemic and ontological principles enshrined in the African philosophy of *Ubuntu/Unhu* (Hapanyengwi-Chemhuru & Shizha, 2012).

If it is accepted that the philosophy of *Unhu* can be the basis for reconciliation, Hapanyengwi-Chemhuru and Shizha (2012) argue that it is then logical for education to play a fundamental role in the form of education for reconciliation as it has the greatest potential to contribute towards the successful realization of the policy of reconciliation. Education for reconciliation through *Unhu* reflects on the relationship between the concepts of reconciliation and *Unhu*. It must be an education that fosters respect for the community and other individuals. As such, focus has to be on the good for the community rendering it an education that fosters those values that are enshrined in the philosophy of *Unhu* (Hapanyengwi-Chemhuru & Shizha, 2012).

In 1998, a report by a Commission of Inquiry on education and training in Zimbabwe established by the country's president made recommendations on the inclusion of *Umunthu (Ubuntu/Hunhu)* into the country's education system. As part of its Terms of Reference, the commission was instructed to "inquire into and report upon the fundamental changes to the current curriculum at all levels so that education becomes a useful tool for character and citizenship formation" (Presidential Commission, 1999). Sigauke (2016) notes that character formation in this instance implicitly meant individuals who had qualities associated with *Ubuntu/Hunhu*. In the recommendations, the commission posited, as cited in Sigauke (2006), that teaching rights, duties and responsibilities is important because:

These should be part of a person with genuine and acceptable *Hunhu/Ubuntu*...a good human being, a well behaved and morally upright person characterized by qualities such as responsibility, honesty, justice, trustworthiness, hard work, integrity, a cooperative spirit, solidarity, hospitality, devotion to family and welfare of community (Presidential Commission, 1999).

As such, inculcating *Ubuntu/Hunhu* in education is a means of addressing what the Commission described as:

Moral decadence in society, loss of discipline and sound human, cultural and religious values; a crying need to overhaul the entire education and training system in Zimbabwe; to develop a Zimbabwean philosophy of education system that promotes a citizen with *Ubuntu/Hunhu* (Presidential Commission, 1999: p. 349 in Sigauke, 2016) .

The Commission also offers a perspective on the problems prevalent in Zimbabwean schools and the society at large. It describes them as:

Vandalism, violence and indiscipline in our schools and society are a result of lack of values, relevant ethics, morals, individual and collective responsibilities for protecting property and valuing human life. This is reflective of that *Hunhu/Ubuntu* which is currently lacking in society and the formal education process (Presidential Commission, 1999).

It adds that the philosophy should, among other things, spell out the type of person that the education system should produce in order to promote a successful nation. The product of the proposed education system should be a product who has morality and ability to learn from the philosophy of *Ubuntu/Hunhu* (p. 33). This call was important especially that it was the first time that an official study had been made for *Ubuntu/Hunhu* to be one of the central guiding principles for education in Zimbabwe (Sigauke, 2016). The Commission further observed that the absence of a coherent philosophy of education such as *Ubuntu/Hunhu* manifests itself in the products (graduates) of the education system itself who demonstrate a lack of moral focus, respect for other people, and are intolerant and corrupt (Sigauke, 2016).

Sibanda (2014) sums up the concept of *Hunhu* as being defined by discipline, morality, altruism, self and social consciousness, responsibility and duty. In his paper on the Zimbabwean conception of *Hunhu/Ubuntu*, Sibanda proposes the inclusion of the concept of *Hunhu/Ubuntu* in the national curricula right from pre-school to university and deliberate citizenship education as some of the possible means of transmitting the values of *Hunhu/Ubuntu* (Sibanda, 2014).

In Malawi, scholarly treatment of *Umunthu* in relation to education is very minimal. In an analysis on *Umunthu* and decolonization of education in Malawi, Musopole (2017) notes that since independence, Malawi has not been able to develop a relevant philosophy of education to guide educational planning for the future of our nation. He proposes *Umunthu* education as a possible master-key to the creation of an African worldview through which challenges facing the Malawian society can be resolved. The need for integration of *Umunthu* cannot be overemphasized due to the corresponding need for a self-definition for Malawians as a people (Musopole, 2017 & Musopole, 2018).

Musopole (1994) addresses the individualism of modern education, brought to Malawi as missionary education, as being responsible for the suppression of *Umunthu* as the basis for educating young people (Sharra, 2009). Musopole's

experiences as principal caused him to reflect on how the influence of the British school system remained intact even after Malawi's independence, with no effort to "radically indigenize the educational philosophy" (Sharra, 2009). Sharra also cites Musopole as wondering on what was being left out of the education system by divorcing Malawian education from Malawian values.

In his doctoral thesis, *Teaching Lives: Autobiography, Umunthu, Peace and Social Justice Education in Malawi*, Sharra (2007) investigates how teachers define and enact peace and social justice education. The study examines how the teachers use autobiography to define and construct a peace and social justice curriculum and pedagogy, informed by an endogenous African peace epistemology of humanness, Umunthu. In the study which was targeting a discovery of writing genres best suited to teaching peace and social justice, "teachers told stories about their lives growing up and going to school in the 1970s and 80s under a dictatorship, and about their lives now as teachers" (Sharra, 2007). According to Sharra (2009), autobiography (which was the main creative genre at play) turned out to be an important genre for these teachers, in developing a peace and social justice framework, and in defining *Umunthu* as a peace epistemology.

The recounts in the teachers' biographies in Sharra's work on Umunthu and how it informs epistemology reflects greatly on the relevance of incorporating Umunthu into the education system in Malawi. All the participants bemoaned corruption and social injustice which in the long run personally affected them (Sharra, 2007). In addition, there was also clear demonstration of frustration at the education system with one of the participants specifically alluding to the apparent gap between intelligence and Umunthu.

Sharra (2007) argues that studies with a focus on the educationist community would have as their aim the integration of Umunthu, peace and social justice in the curriculum and in pedagogical practices. This is the case because according to Musopole (1994), the (current) education system emphasizes "intellectual knowledge for its own sake" and in the process devalues the Umunthu of learners. Sindima (1995) refers to this phenomenon as the "crisis of people's identity and rupture of society" (p. 196) which needs to be taken seriously in re-conceptualizing curricular content (Sharra, 2007).

Sharra advances calls for more studies that merge the various understandings of what constitutes the Umunthu philosophy and how it can provide a framework for the revitalization of society in its various spheres, including education, politics, economics, the judicial system, and religious life. From the pedagogical perspective, he shifts to advocate for inclusion of Umunthu at the content level. According to Sharra (2007), policy makers must heed to



Zezeza's (1997) call for the school curriculum to be aligned with advances made in the study of Africa, and Malawi in this particular case. This, he argues, would mean more evidence in the curriculum of the inclusion of the scholarship on Umunthu.

### **Locating the necessity of Umunthu as a guiding philosophy**

This study made four interrelated findings with regards to the role of education that necessitate the proposed integration of Umunthu as a philosophical basis for the curriculum of Social Studies. These included: the relationship between society and the school; the relationship between citizenship and education; socioeconomic problems in the absence of Umunthu and the resulting consequence of capitalism as an antithesis of Umunthu.

### **Society and the school**

The belief that education mirrors the society has been reflected in many people's thoughts on education around the world. Chandra (2014) states that education transforms human beings from ignorance to enlightenment, from shades of social backwardness to light of social amelioration and, a nation from underdevelopment to faster social and economic development. The values and principles that a society holds are therefore reflected in the school curriculum with the objective of nurturing citizens that are fit for the particular society. This accounts for the various reforms that take place time after time, which have also resulted in the various curricular changes in Malawi at different politically significant periods. The curriculum is always carefully tailored to suit the needs of the society, often from the perspective of members of the society trusted with decision-making powers on behalf of the populace.

The role that education has in the society makes the school an important tool for socialization as formal schooling complements what informal schooling achieves in the home. In the context of Malawi, therefore, Social Studies holds a special place in the school curriculum with regards to the inculcation of moral values and responsible citizenship among other critical skills in students. This viewpoint is generated from the objectives/core elements and their outcomes as outlined in the Social Studies curriculum (MoEST, 2003; MoEST, 2013).

The link between the society and education appears to form the conscience of various stakeholders in education. Participants of this study from the three categories pointed to a strong link that exists between the two. Because parents are very crucial in tracking progress of students with regards to inculcation of values as they [the students] try to find their own space in the society, the study sought to

seek their [parents] views on how much they expect from a child they send to school regarding inculcation of values. All the parents responded that they expected a lot from the school in terms of the education of their children. One parent from Lilongwe considered the school as an extension of parenthood. 'As a parent I believe that a school is a second parent. If I emphasize on moral values at home, the same thing should happen at school and this should be even much better than I do it at home'. Another parent from Balaka also reiterated this expectation, pointing to the inculcation of values in learners as 'the greatest expectation' he has from the school.

These high expectations coincide with those of teachers on their students as they get absorbed into the society. One teacher from Blantyre said 'Social Studies is believed to help students to be responsible citizens in the family, community and the society whereby they are able to acquire morals and values which guide their well-being'. This was repeated by another teacher from Rumphi who said she expected Social Studies to be 'inculcating cultural values in students; behavioural change [students should show that they have changed from bad to good]; and etiquette to be followed'. Another teacher from Zomba said she expected Social Studies 'to give them [students] knowledge that will help shape their understanding of their communities and the world as a whole' as well as to 'establish a link between their cultural views and what the world expects of them'. And, while another teacher from Mulanje responded with direct reference to the objectives outlined in the Social Studies curriculum (MoEST, 2013), another respondent from Lilongwe put the objectives across in his own understanding in the following response:

Social Studies as a subject per se, you expect the students to achieve quite a lot once they are done with their studies. First, it should inculcate the spirit of patriotism among the students because you know that's love for one's country. As the students move out, we expect them to take care of properties they find out there, they also have to show love – it may be in terms of taking care of the environment, taking care of the government's property among others. But you see, we also expect Social Studies as a subject to develop students into responsible citizens. Responsible citizenry pay taxes, look after the country, help in the development of the country...

In this response, there are three key aspects that are brought into the limelight. These are patriotism, responsible citizenship, and skilled as well as virtuous products of the school system that are beneficial to the society. In another interview on the same, a teacher in Balaka emphasized more on the aspects of development in the subject's expected outcomes indicating that students are expected to demonstrate cognizance of its political, economic and technological dimensions in both theory and practice.

Students that were interviewed in the study also acknowledged the existence of a link between education and the society through their experiences with Social Studies education. One respondent from Zomba considered the school as reinforcing his personal conduct in the community. Another Zomba student said there was 'a concrete link between what is learnt in schools and how we behave in our respective societies just because if similar situations take place, in the societies, automatically the reaction is going to be related to what we learnt in class.' Similarly, when asked on whether the Social Studies curriculum contains personal values that are relevant to their life, all the students responded affirmatively. Further, most of the respondents hinted on Social Studies instilling values such as self-respect and respect for the other, responsibility, and discipline among others.

The link between Social Studies and education was also related to an aspect of relevance of the subject to the students, all of whom expressed without doubt its significance to their own personality. One of the respondents said 'Social Studies contains real life situations so being a student one can easily turn the theoretical aspects of what we have studied into something practical hence dealing with different social situations easily'.

### **Citizenship and education**

The connection between society and the school leads to an important notion in one of the objectives of education: the nurturing of citizens that are ideal for continued progress and prosperity with shared duties and responsibilities within a Malawian setting. This generates the link that ought to exist between citizenship and education. Merry (2018) argues that more than any other public institution, schools are assigned the task of producing 'good citizens', ensuring that when children grow up and leave school, and perhaps even before, they are prepared to practise the civic virtues most valued in their respective societies. Banks (2008) cited in Quaynor (2015) also notes that the formation of youth as participatory citizens continues to be a central goal of education. The need for education to equip youth to engage with issues in their societies is essential in emerging democracies and

states with large youth populations, many of which are on the African continent (Resnick & Casale, 2011 cited in Quaynor, 2015).

The question of citizenship and education arises from the objectives that inform the Social Studies curriculum as outlined in the syllabus (MoEST, 2003; 2013). As such, the study also intended to seek views of the lecturers/scholars on their content (or discontent) with the conduct of the citizenry as products of the country's education system. The study specifically opted for lecturers' opinions due to their extensive knowledge on the same through research and teaching experience.

One lecturer argued that there are two arenas where the products of primary and secondary education system in the country could be evaluated: tertiary education for those who proceed beyond secondary school and the wider society where we meet those who did not go beyond secondary education. The academic observed that there are a few young people in both arenas who come out of the system well prepared to contribute to society. He made mention of the contributions such products make to civic life, democratic participation, social life, the economy, the arts, and entertainment et cetera. However, he also noted that many young people come out not as well prepared and do not contribute much, attributing the problem partly to the political culture and economic structure of the country which he argues as not giving young people good examples of self-less contribution and democratic participation.

This discontent was also expressed by another lecturer who narrowed down his focus to the development of citizens for a democratic country. He explained that the focus emanated from the fact that Malawi is constitutionally democratic, and it was in part attempting to provide a concise response for a question he otherwise considered too general since education encompasses a lot of things. This lecturer felt all stakeholders in the education system were not doing enough: "besides citizens for democracy, as an Educator our expectation is that primary and secondary education should focus on ideals, values, etc..."

Further, the lecturer observed that there was a lot of pressure on schools to have high pass rates and high selection rates forcing schools to focus on transmission of content for examinations purposes. This has been worsened by new reward systems for 'high achieving' schools and teachers all based on examinations outcomes. "All this however, is due to economic pressure and a spirit of individualism.... So, as an Educator, I think schools may do better, but this is not the same standard that communities and society use to judge the effectiveness of education."

**Socioeconomic problems in the absence of Umunthu**

Following concepts of indigenization, Africanization and decolonization as part of regular discourses on curricular reforms in Africa, the study sought to hear from participants on whether socioeconomic challenges facing Malawi would be directly linked to the absence of Umunthu values in systems that are significant for development such as education. The question was as important as the rest in generating perspectives that inform the very basis of this study: the integration of Umunthu into the Social Studies curriculum. The fact that Umunthu (in its various renditions) has been used in countries such as Zimbabwe and South Africa to promote peace and conflict resolution explains its relevance – and how its absence may be abhorred by Africanists.

Segmenting his response into two, one of the lecturers made reference to the existence of capitalist values in the Malawian society as an antithesis to Umunthu that is part of the socioeconomic problems. This respondent considered capitalism and market economies as seeing individuals as competitors who must fight for limited resources as well as gain advantage over one another. He then extended the underlying principle of capitalism as prevailing in politics too, noting that it was the same mind-set that sees the world as having limited resources that can only be accessed through tough competition and might that is also underlying in Malawi's politics. He further argued that:

Political power is a zero-sum game in which you must accrue as much privilege and patronage as possible and obliterates your enemy. You must dehumanise your opponent for you to win. Dehumanisation entails the denial of another person's humanity. Dehumanisation is the anti-thesis of Umunthu.

The respondent reiterated that he saw political problems as much problems of Umunthu as were socio-economic problems. Another lecturer also considered the link between Umunthu and the socioeconomic and political problems in the country strong. To contextualize his response, he argued that "if people steal from the poor because they feel they are 'less human beings' – that is lack of Umunthu". The implication was that those who plunder resources only do so because they consider others as of less value.

Another lecturer separated his response into two categories as well – within the nature of the question itself. He first agreed to the notion of a link between socioeconomic problems and lack of Umunthu in the Malawian society arguing that the lack of economic opportunities for many Malawians has resulted in an element of individualism cropping up in the social fabric. This was then narrowed

down to governance where he observed that modern forms have limited compatibility with indigenous forms of governance. Using security as an example, the lecturer noted that modern forms of governance give responsibility to the police to provide security to communities and society, which became a problem because performance of the police services have been unsatisfactory due to limited funding and poor working conditions of police personnel. He further argued that any threat to the material possessions can be very disturbing. He made reference to increased cases of mob justice across the country where once ‘alleged’ criminals are caught, people execute their own forms of justice because they have lost faith in the formal security provided by the state. “All these elements erode the spirit of Umunthu.”

### **Capitalism: the antithesis of Umunthu**

The affirmative responses on the link between socioeconomic problems and the absence of Umunthu in the society brought up a conversation on the deep-rootedness of capitalist values that are in some ways detrimental to progress in the Malawian society, and therefore consolidating the need for integration of Umunthu values into the curriculum. Capitalist values, as explained by some of the respondents, antagonize the very basis of an indigenous Malawian society’s existence through Umunthu.

One lecturer revealed that in a study he conducted in 2004, when he asked teachers whether Umunthu could be linked to education, they pointed out that Malawi’s education system was graduating people who were well educated, but had little Umunthu. They gave examples of educated people who were not considerate of others; who wanted everything for themselves; who had no social manners and no morality. He then made reference to the looting of public funds that came into the limelight in Malawi in 2013 as an example of what the teachers meant in their assessment. Such plunder continues to date despite the country’s high positions being held by highly educated men and women. Although education cannot be entirely blamed for the problems as argued by another respondent, there is a supposition that educated people are well-placed to determine the future of a society. As such, when the politics and economy of the society goes wrong, it is entirely right to blame the educated.

The problem with the Malawian society is that it has through its systems wholesomely embraced the western concept of capitalism which appears to be antagonizing the core of how Malawians traditionally understand the notion of existence. This is as enshrined in the Umunthu philosophy in which a human being considers himself as existing through the existence of others. As such, love,

collective responsibility, reciprocity, empathy and respect for each other's rights are ideally the basic principles of life. This is manifested in its simplest forms in life in the countryside. Whenever there is a social event, a whole village – sometimes more than one – gathers to help out.

As one of the lecturers further argued, capitalism and market economies see individuals as competitors who must fight for limited resources and gain advantage over one another. In so doing, people set aside values of the collective common good and mutual benefit for individual rather than communal gain and solidarity. In the process, the poor are seen as being responsible for their own poverty, and the wealthy are seen as rightful beneficiaries of their hard work, wit and enterprise. This erodes the society's values of responsibility for one another, and deepens inequalities between individuals and groups.

From a larger perspective, these problems arise out of global capitalism where liberal economic theories dominate. Western ideals inform the core of the Malawian society today (Wyse, 2008). By extension, education systems serve the interests of the powerful countries – those at the centre: which is why we see a focus of our Social Studies curriculum on these countries' cultures on the pretext of globalization or westernization. This also forms the backbone of the Southern and the Reconstructionist theories which all try to explain the world as it is today in terms of power and knowledge production between the Global North and the Global South.

### **The integration of Umunthu as a necessary step**

Existence of the socioeconomic problems with linkage to Umunthu's absence and invasion of capitalist values into the society which are also largely reflected in the school system can be countered through a reformed curriculum. One critical aspect of the reform, in line with propositions of a decolonized curriculum, is setting up of Umunthu as its guiding principle. This is with the purpose of restoring dignity, respect, empathy, communitarianism, unity and creating a national identity for Malawi. All these are very important in attempting to build an education system that produces citizens who are relevant for the development of Malawi and the restoration of its space as an African nation on the global stage.

For this reason, the study also engaged the participants on whether the integration of Umunthu values into the Social Studies curriculum is relevant. If the answer to the question on whether there is a link between Umunthu's absence and the socioeconomic challenges in the society was affirmative – which turned out to be the case, then an analysis of the appropriateness of Umunthu's possible

integration into the Social Studies curriculum as a form of both citizenship and moral education from the people's perspective is equally worth pursuing.

In response to whether the integration would be ideal, the respondent who made reference to having worked on Umunthu before returned to the responses he generated from a similar question in his own 2004 study. He made important observations, making reference to the 2013 infamous massive looting and plunder of public funds by Malawian government officials. He then made another reference to the first Tanzanian president who spearheaded reforms in education immediately after independence:

Julius Nyerere pointed out that the purpose of education was national self-reliance as well as national liberation. One was educated so one could pass on to future generations the values that advance society. He lamented that the Eurocentric school curriculum teaches people to be self-centred and not to care about their communities nor about the environment. He argued that education needed to teach people about their responsibility to their community and nation so as to make life better for everyone.

With this, the respondent agreed that it is possible to teach Umunthu in the curriculum by setting it as a guiding philosophy towards making fairness, ethics, morality, social justice, human dignity and collective well-being the goals of education. He concluded by affirming that making the values prominent in teaching and learning helps put Umunthu at the centre of the education system, and can teach students to see the purpose of education as being for the greater good.

Another respondent expressed reservations about incorporation of Umunthu values into the curriculum. Although he believed that the concept of Umunthu could be linked to the values in human rights, he was conscious of the fact that values are best transmitted through the 'hidden curriculum', subtle experiences, and unwritten codes of conduct. He also argued that by formalizing and subjecting them [the values] to Western type of education by inclusion in the curriculum, they would become subject to quantifiable indicators to justify their inclusion in curricula.

All parents who participated in this study also agreed to the integration of Umunthu as an undergirding philosophy, claiming its appropriateness was evident from the fact that most crimes being committed in Malawi are perpetrated by the educated elites. Some parents bemoaned tendencies of exploitation by both government officials and some sections working in the civil society in general and



non-governmental organizations that are detrimental to the Malawian society. Their strong support for inclusion of Umunthu in the Social Studies curriculum appeared to emanate from frustration at the character that has been demonstrated overtime by the educated elite. For example, one of the parents (from Balaka) said the inclusion of Umunthu values in the curriculum would provide a foundation of growth in both the intellectual and spiritual sense. As such, this would provide a basis for learning for Malawians.

The teachers interviewed for this study were equally highly optimistic of the integration of the Umunthu values into the curriculum. The Balaka teacher said integration of the concepts would be the easiest because of its Africanness. The other teacher from Lilongwe felt its (Umunthu) inclusion would lead to the elimination of avarice in the society where “for example, we get to see different cases right now of corruption. If there is no Umunthu, it is about enriching themselves. If there is a certain kid out there, he is failing to go to school because there is somebody who wants to have two million or two billion [Malawi Kwacha] in his account. That means there is no [spirit of] togetherness within that individual.” Another teacher felt incorporation of the philosophy into the curriculum was long overdue because the society was already grappling with human vices. “There are several cases of moral decay e.g. corruption, arrogance, impudence, selfishness, intolerance, disrespect, greed, sexual immorality, and cheating during examinations. Incorporating Umunthu into the Social Studies curriculum surely would help to address some of these human vices.” He further argued that a deliberate incorporation of the concept of Umunthu into the curriculum would in the long run translate into a better Malawi where citizens would avoid certain human vices.

Similarly, all the students who were interviewed were positive about integration of Umunthu values into the Social Studies curriculum. They also argued that this would be made possible through a careful integration of the relevant values into various topics that are offered in the syllabi. One of the students (from Zomba) even registered concerns over the loss of cultural and indigenous values that are African in nature which he suggested would be reclaimed with the integration, hence approving of its appropriateness.

### **Feasibility**

The study views feasibility of setting Umunthu values as undergirding the Social Studies curriculum through two main lenses. First, it is through the compatibility of the values with processes of indigenization, which have long been campaigned for by activists of decolonization of education. The second is through

understanding the concept as a unifying principle. This is because of its relatability to other societies in the Global South, which gives relevance to Social Studies as a school subject with Umunthu as the underlying philosophy.

### **Indigenization**

What the incorporation of Umunthu into the curriculum suggests is that the problems of capitalism and Eurocentrism can be partially resolved through indigenization. This is also in the same line with the argument against vices perpetrated by the educated elite in the society as noted in the sentiments from some categories of participants in this study. The integration of Umunthu values would easily be compatible with the scope and themes of the Social Studies curriculum because of its nature as a vehicle for both moral and citizenship education. Such integration would be easier because, as the teacher from Balaka noted, “we are all Africans so when we include the Umunthu values in the curriculum I don’t think there will be any problem.” The underlying point here hinges on the relevance and relatability of the concept to teachers, students and the society in which they operate. This is in line with an argument made by the teacher from Zomba that the integration would be successful “because it will just be a reminder of everything students learn in their communities especially from their parents.”

In relation to the scope and themes of the curriculum, there are many topics in which Umunthu values can be integrated in both the primary and secondary school syllabi. A teacher from Blantyre noted that there are concepts that are already related to Umunthu such as peaceful co-existence, cultural diversity and human rights. The concept of human rights in relation to Umunthu was also raised by one of the lecturers who suggested that it could be linked to the values in human rights although he found the concept [of human rights] to be reductionist. Another respondent also argued that the aspects of Umunthu can already be identified in certain aspects of the current curriculum suggesting that what was needed was “to clarify such values in some topics or have a separate sourcebook for Umunthu philosophy.”

The notion of integration of Umunthu as an indigenous philosophy is corroborated by propositions of the Reconstructionist Theory where contemporary education is considered effective if it integrates values and strengths of indigenous culture with the knowledge and skills required by new conditions of modern life (Woolman, 2001). A curriculum that contains these two facets in a balanced manner becomes meaningful to the local society while at the same time remaining relevant and appealing to globalization. This results in a society that is responsible

for its own knowledge production – and therefore able to solve local problems through locally discovered means. This contributes to the larger perspective of the Southern Theory by Connell (2007) which argues for countries in the Global South to be responsible for their own knowledge production. As Professor Augustine Musopole argued in our email exchanges on the topic in September, 2018, “our education should be rooted within our worldview and cultural values which we need to discover, retrieve and redefine in the light of modern challenges.”

### **Umunthu as a unifying philosophy**

One important aspect of Umunthu that needs highlighting as justification for inclusion into the Social Studies curriculum is its status as a unifying philosophy. Throughout the interviews and in the data the researcher examined, there was a consensus into the elements that were understood as forming Umunthu. First, the concept of humanness as associated with the philosophy was recurrent in the definitions given by various sections. This was observed right from the start, in the search for a textbook definition, that authors like Tutu (1999), Sharra (2007), Mlambe (2016) and Musopole (2018) point to Umunthu as a concept that dwells on a general ability to rely on each other, reciprocity, meaning of existence through belonging to a social grouping and several other aspects that point to existence being defined through belongingness.

The understanding of the concept by all categories of the participants as humanness and the lack of contradictions despite diversity of the data sources also points to the universality of the concept across various social and professional levels. As such, drawing inspiration from the Southern Theory, integrating a concept that the people are already familiar with into the curriculum – in the long run decolonizing it – seems to be a feasible idea for reforms.

The concept of Umunthu appears not to only unify the Malawian society in terms of its understanding and practice. While it looks inherent and comes out clearer in the Malawian [mostly rural] setting, it equally exists in other societies remote from Malawi and Africa. Professor Musopole brought to my attention the existence of near-similar elements in Confucianism in ancient China. Dr. Steve Sharra also made a similar observation in our exchanges, noting that the concept was not restricted to Africa only. “The Hindi people of India have the term ‘so hum’, which also means ‘You are, therefore I am.’ This is according to Satish Kumar who wrote a book by that very title”. Evidently, this is a concept that is recurring in the Global South (India, China and Africa) – and therefore creates a strong basis for consideration of Umunthu as a unifying philosophy in decolonizing the curriculum.

### **A Successful integration**

For a successful integration of the philosophy, the focus has to be on targeting topics that have already been identified as purposefully transmitting African cultural values and traditions. The existing content has to be tailored in such a way that it reflects important elements of the philosophy. A combination of the curriculum and Umunthu as a guiding philosophy therefore must, among others, contain these three important components: core principles of Umunthu; a syllabus that helps forge a national identity; and one that promotes education for Malawians.

### **Core principles of Umunthu**

The African indigenous values that are up for inclusion into the various aspects are not thematically problematic in the sense that they would only be making the moral and citizenship values transmitted through the Social Studies curriculum more relatable and therefore relevant to students and the society at large. The teachers that were interviewed for this study proposed several interrelated principles of Umunthu that can directly be incorporated into the various topics, or could be used to create individual topics on Umunthu. These included, among others: respect, compassion, gentleness, generosity, peaceful co-existence, harmony, patriotism, humility, and humanness. These, when examined closely, are the same principles that have been put forward by various scholars as forming the core of Umunthu, and therefore necessitating education that is modelled on the philosophy.

### **Forging a national identity**

A totality of the Umunthu principles would, most importantly, help in the creation of a front for forging a national identity for Malawians through the revised curriculum. This implies inclusion into the curriculum of content that helps create a common national identity for Malawians. As Bray, Clarke and Stephens (1986) argue, education has the ability to promote nation-building through two frameworks of integration: horizontal and vertical. Horizontal integration is achieved through four avenues: language, quotas, national service schemes in which national identification is strongly emphasized, and reduction of regional imbalances. Similarly, Wyse (2008) also observes that there are particular debates which focus on the Social Studies subjects and the process of national identity formation (Tlou & Kabwila 2000).

Social Studies in Malawi is the core of both citizenship and moral education. Wyse (2008) cites Adeyinka (2000) who notes that citizenship education, as a part

of Social Studies, is intended to educate children on the knowledge that is essential for good citizenship, the skills required and the attitude and values needed for them to function adequately in their local communities, nations and the broader world community. In learning how to become a good citizen of the nation, students also learn the Geography and History of their nation. History is particularly one way in which the 'nation' comes to understand itself (Tormey, 1995, p. 316; Diop, 1974). As Goh and Gopinathan (2005, cited in Wyse, 2008) argue, Social Studies curricula are designed to instil a sense of national identity.

The curriculum for Social Studies therefore has a bigger impact on what kind of citizens the country produces. In a time where countries of the periphery are battered left right and centre by globalization, westernization and 'modernization', survival with an own identity that is instrumental in our own space as Malawians is a necessity. This can partly be achieved through this prioritization of indigenous knowledge contained in Umunthu.

It is imperative to understand that success of the integration of Umunthu into the Social Studies curriculum is a path towards an Africanized curriculum which in the long run will help in the reconstruction of our own identity as Malawians. As Musopole (2018) argues, we are currently lacking in terms of a national identity. Throughout the interviews, some respondents often put Malawian culture and traditions in the same bowl as western concepts when asked on the question of Malawian versus western culture in the curriculum. For example, in arguing that the curriculum reflects more of Malawian culture, a Mulanje teacher cited topics such as the civil society, labour laws in Malawi, population and resources, taxation, government as well a law and order among others.

But matters of the civil society, labour laws, taxation (as it is now), the government (its systems) and the notions of law and order are all elements that are highly influenced by Westernization. This is also acknowledged by Wyse (2008) who states that Malawi's Social Studies curriculum has incorporated some Western influences in an attempt to make them a part of Malawian national identity for what is perceived to be beneficial to the Malawian society and nation. This is proof that the need for creation of a national identity, where we are able to identify with precision what is Malawian and what is not, is long overdue.

The need for creation of a national identity through Umunthu originates from the history of colonial and neo-colonial dominion that Malawi has been subjected to. This has had a negative impact on the country's culture, traditions, and other important political systems as well as education. Almost every aspect of life in the country is influenced directly and indirectly by the Western elements. As such, the influence on local cultures, traditions, and indigenous knowledge through

imperial dominance must be undone. This is the argument by Connell (2007) with the Southern Theory in which she criticizes the Northern Theory as presenting itself as universal while embedding the perspectives and problems of the metropolitan society only. This ignores the reality of the diversity existing outside the metropolis – the periphery.

### **Education for Malawians**

Incorporation of Umunthu as an undergirding philosophy of the curriculum is a progressive step towards education that is meant for Malawians – education that helps to solve the local challenges through a relatable local philosophy. As such, the integration also implies inclusion of, as Julius Nyerere had Education for Self-Reliance, education for Malawians. The data generated for this study already points towards an agreement with the proposed integration.

One of the teachers from Balaka argued that the integration would be a very good initiative for students noting that with Umunthu as the guiding philosophy, students would acquire values in the school system such as responsibility, tolerance, kindness, and reciprocity. The significance of the integration, it must be reiterated, emanates from the value that is attached to education in the country. The school has almost become an antagonist of the informal education offered in the society. As such, as the country steps up its efforts in providing education to all its citizens, it is pertinent to ensure that this education carries with it the indigenous values that are helpful for a positive African society that is not entirely lost to concepts of globalization.

As most of the respondents in the study noted, Malawi has degenerated into a society where individualism, theft, plunder of public resources and several capitalistic tendencies have become the norm. Wyse (2008) also notes that with the ever-increasing Western influence, the demarcation between Malawian identity and Western identity has become more fluid than ever. With Social Studies as the main subject in the school system where moral and citizenship education can be successfully inculcated, it is not surprising that almost all the participants in this study agree with the proposition of integrating the values so that its curriculum carries with it such Malawianness. This is also in line with the Southern Theory, where we can notice that integration of Umunthu as education for Malawians supports the notion of localizing knowledge production. As one of the lecturers interviewed noted, the gap that exists by the absence of Umunthu values in the education system is being filled by other kinds of values, which are destroying the nation [Malawi] and the world.

It is out of the worries on the degeneration of the Malawian society that respondents in this study believe setting Umunthu as a guiding philosophy of the Social Studies curriculum would be a right step. The idea remains centred on knowledge production from the very same local context where the problems are affecting the people. The difference is with such knowledge production, the solutions will be locally generated. This is in opposition to the suppositions of knowledge from the Global North being considered as universal when in fact its theories have their origins in phenomena that is rooted in the very Global North, and therefore mostly irrelevant and unrelated to countries in the Global South such as Malawi.

### **Implementation**

A successful implementation of any curriculum and its reforms depends on collaborative efforts from relevant stakeholders in the field of education. In Malawi, this requires equal efforts at various levels such as the Ministry of Education and the various institutes under it such as the Malawi Institute of Education, the education divisions, district education managers, the schools and the teachers. However, the role of teachers in the implementation is especially critical as teachers are at the frontline of any curriculum implementation and have a moral and social obligation of preparing future citizens (Mhlauli, 2010).

In the same way that the current curriculum proposes participatory teaching methods in preparation for students to mature into good citizens, similar approaches would be used with an emphasis on practical aspects of the philosophy. As a respondent from Mulanje argued, the purpose is to inculcate the principles so that Umunthu manifests itself in the students in their daily endeavours in the society. The focus must be on internalization of the concepts.

However, although the understanding of Umunthu may appear homogenous in this study, its applicability to the curriculum still requires training of teachers to avoid encountering challenges during implementation. The actual reforms also require a close engagement with teachers and the other relevant stakeholders right from the start. As one of the teachers interviewed noted, the Ministry of Education mostly operates on a top-down approach where teachers are not involved in the development stages of important reforms. This negatively affects the actual implementation process as with lack of in-service training, it is mostly left to the teachers with regards to how best to implement the curriculum.

## **Conclusion**

To sum up, the paper has presented a case for the possibility of integrating Umunthu into the Social Studies curriculum as an undergirding philosophy. In constructing the argument, the study found that the philosophy of Umunthu is understood in an almost homogenous manner by Malawians. This was noted through data collected from interviews as well as analysis of available literature on the subject. All definitions linked Umunthu to values that relate to humanness and the existence of the self as defined through interdependence with the other. Further, the findings also pointed to several problems in the Malawian society that would require the integration of Umunthu indigenous values as part of the solution. Primary data corroborated secondary data in demonstrating how Eurocentric elements of global capitalism and the politics of dominance have crippled the Malawian society. Capitalism was found to manifest itself in several vices such as corruption, egoism, avarice and several other problems that were described by some of the participants as eroding the principles of Umunthu that have for a long time been the cornerstones of the Malawian society. This was understood within the frameworks of the Reconstructionist and Southern theories.

## **Conflict of interest**

The author declares that there is no conflict of interest related to this paper.



## References

- Abaunza, M. M. (2013). *Ubuntu's potential for further development in the South African education system*. (Master's Thesis). Washington, D.C: Georgetown University.
- Bray, M., Clarke, P. B., & Stephens, D. (1986). *Education and society in Africa*. London: Edward Arnold Ltd.
- Chandra, R. (2014). Role of education in rural development. *MNIT Conference Paper* (pp. 1-13). Allahab: Dept of Humanities & Social science.
- Connell, R. (2007). *Southern theory: The global dynamics of knowledge in social sciences*. Crows Nest (Australia): Allen and Unwin.
- Diop, C. A. (1974). *The African origin of civilization: Myth or reality*. Chicago: L. Hill.
- Grange, L. (2011). The philosophy of Ubuntu and education in South Africa. In W. Veugelers (Ed.), *Education and Humanism. Moral Development and Citizenship Education* (pp. 67-78). Sense Publishers.
- Hapanyengwi-Chemhuru, O., & Shizha, E. (2012). Unhu/Ubuntu and education for reconciliation in Zimbabwe. *Journal of Contemporary Issues in Education*, 7(2), 16-27.
- Lefa, B. (2015). The African philosophy of Ubuntu in South African education. *Journal of Science Education*, 4-15.
- Mbhele, N. (2015). *Ubuntu and school leadership: Perspectives of teachers from two schools at Umbumbulu Circuit*. University of KwaZulu-Natal, School of Education. University of KwaZulu-Natal.
- Merry, M. S. (2018). Can schools teach citizenship? *Discourse: Studies in the cultural politics of education*, 1-15.
- Mhlauli, M. B. (2010). *Social studies teachers' perceptions and practices of educating citizens in a democracy in upper classes in primary schools in Botswana*. The Ohio State University, The Graduate Programme. Retrieved from: [https://etd.ohiolink.edu/!etd.send\\_file?accession=osu1291140441](https://etd.ohiolink.edu/!etd.send_file?accession=osu1291140441).
- Mlambe, C. C. (2016). *Kubwenzeretsa Umunthu* (2nd ed.). Blantyre: Manchichi.
- MoEST (2013). *Syllabus for social studies form 1 and 2*. Malawi, Zomba: Malawi Institute of Education.
- Musopole, A. (1994). *Being human in Africa: Toward an African christian Anthropology*. New York: Peter Lang.
- Musopole, A. (2017). uMunthu and the decolonising of education in Malawi. *Journal of Development and Communication Studies*, 2(5), 1-21.

- Musopole, A. (2018). *Ubuntu, Umunthu Utu: Introduction to an African philosophy*. Malawi, Mzuzu: Unpublished.
- Presidential Commission (1999). *Report of the presidential commission of inquiry into education and training*. Harare: Government Printers.
- Quaynor, L. (2015). Researching citizenship education in Africa: Considerations from Ghana and Liberia. *Research in Comparative and International Education*, 10(1), 1-15.
- Rwelamila, P. D., Talukhaba, A. A., & Ngowi, A. B. (1999). Tracing the African project failure syndrome: the significance of 'ubuntu'. *Engineering Construction and Architectural Management*, 6(4), 335-346.
- Sharra, S. (2007). *Teaching lives: Autobiography, uMunthu, peace studies and social justice education in Malawi*. East Lansing: Michigan State University.
- Sharra, S. (2009). Towards an African peace epistemology: Teacher autobiography and Umunthu in Malawian education. In D. Caracciolo, & A. M. Mungai (Eds.), *In the spirit of Ubuntu* (pp. 24-37). Boston: Sense Publishers.
- Sibanda, P. (2014). The dimensions of 'Hunhu/Ubuntu' (Humanism in the African sense): The Zimbabwean Conception. *IOSR Journal of Engineering (IOSRJEN)*, 4(1), 26-29.
- Sigauke, A. T. (2016). Ubuntu/Hunhu in post-colonial education policies in Southern Africa: A response to connell's Southern Theory and the role of indigenous African knowledges in the Social Sciences. *Postcolonial Directions in Education*, 5(1), 27-53.
- Swanson, D. M. (2009). Where have all the fishes gone? Living Ubuntu as an ethics of research and pedagogical engagement. In D. Caracciolo, & A. M. Mungai (Eds.), *In the Spirit of Ubuntu* (pp. 3-22). Boston: Sense Publishers.
- Tormey, R. (2006). The construction of national identity through primary school history: The Irish case. *British Journal of Sociology of Education*, 27(3), 311-324.
- Tutu, D. (1999). *No future without forgiveness*. New York: Doubleday.
- Woolman, D. (2001). Educational reconstruction and post-colonial curriculum development: A comparative study of four African countries. *International Education Journal*, 2(5), 27-46.
- Wyse, J. L. (2008). *Teachers' perceptions of the construction of national identity through the primary school social studies program in Malawi*. Retrieved on May 12, 2019 from <https://vtechworks.lib.vt.edu/handle/10919/32867>