Decolonising technology in digitizing indigenous games

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ABSTRACT

This paper aimed to conserve and digitise indigenous games, making them accessible online, in order to harmonise cultural traditions with modernity. The majority of contemporary youth are exposed to Western entertainment that contradicts African values and traditions. Certain games have had a detrimental impact on society, leading young people to engage in acts of violence, sexual promiscuity, and even self-harm. African youth in pre-colonial times acquired moral principles through instruction from communal elders, who imparted these lessons through the use of moral games. This study contends that the process of digitization can be employed in conjunction with conventional means of knowledge dissemination and conservation to address the void in a societal context where cultural customs are diminishing. The significance of elders, relationships, and the corpus remains paramount.

The study aimed to find an Afro-centric approach to digitise traditional games for educational entertainment. The study centred on the Sankofa and Diffusion of Innovation theories. The study employed qualitative case study research methodology to achieve its objective. Information was collected through a document survey. The data underwent thematic analysis. The paper investigated decolonial approaches to safeguard games via social media, applications, and websites. The study concluded that qualitative methodologies are necessary for determining the optimal and economically efficient technologies. Additionally, it emphasised that decolonization necessitates the establishment of alternative knowledge systems to challenge the dominance of Western and Eurocentric epistemology.

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INTRODUCTION

Despite Africa’s rich history of indigenous games, a number of these games have gone extinct without having been documented in most historical and anthropological accounts of the indigenous people of Africa. Tufekčić (2016: 37) is even blunter by highlighting that ‘Traditional Children’s games (have) disappeared from the life of a modern child at large and today are unknown to children. They are not part of the everyday natural environment of a modern child any longer. One can even talk about disappearance of many elements of children’s sub-cultures in connection with games and playing that traditionally shaped the world of childhood and youth.

The preceding view does not paint a pleasant picture since indigenous games impact on a number of pertinent issues such as African identity, cultural diversity and accessibility of resources (Sport and Recreation South Africa (SRSA), 2018). It therefore stands to reason that such knowledge should be preserved and transmissible to restore some lost elements in the physical and movement identity of African children. Mawere (2012) cites the World Bank (1998) that some key steps in transmitting indigenous knowledge.

Some IKs may be embedded in a mix of technologies or in cultural values, rendering them unrecognisable at first glance to the external observer (technical and social analyses may, therefore, be required to identify indigenous knowledge). It is important that they are recognised and identified. This involves an assessment of IK’s significance and relevance (to solving problems), reliability (i.e., not being an accidental occurrence), functionality (how well does it work?), effectiveness and transferability. The significance of indigenous games in developing common health and social issues should be spotlighted. Additionally, it must be ascertained that these games can be played in other contexts as well.

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Recording and documentation is a major challenge because of the implicit and inferred nature of IK (it is typically exchanged through personal communication from master to apprentice, from parent to child, etc.). In some cases, modern tools could be used, while in other circumstances it may be appropriate to rely on more traditional methods (e.g., taped narration, drawings). These aspects require documentation for preservation and posterity.

Storage is not limited to text document or electronic format; it could include tapes, films and through storytelling. Such storage enables accessibility to users and players if they have access to the devices. This step goes beyond merely conveying the knowledge to the recipient. It also entails the testing of the knowledge in the new environment. Pilots are the most appropriate approach in this step.

Dissemination to a wider community adds the developmental dimension to the exchange of knowledge and could promote a wider and deeper ripple impact of the knowledge transfer. The dissemination of knowledge on indigenous games can promote participation among children as they gain more exposure to how and why the games are played.

In line with the thrust and orientation of this study, if ever there are to be technological adoptions involved in preserving and promoting indigenous knowledge-based activities such as indigenous games, there should be respect for African culture, and not a perpetuation of pejorative and negative stereotypes. That is, digitisation should not only preserve indigenous culture, but should possibly create new pathways for the development of indigenous ideas in contemporary and emerging technology while retaining the integrity and spirit of indigeneity (Robbins, 2010). To that end, one of the emerging fields and key perspective which warrants scholarly mention in this study is decolonisation.

**Literature review**

**Theoretical and Conceptual Background**

The main theories guiding the study are the Sankofa theory and the Diffusion of Innovations theory. The Sankofa theory provides the basis upon which African people should go back to their indigenous forms of knowledge and apply them in their current contexts to forge a sustainable developmental path ahead (Dei, 2012). In this study context, the dominant notion is that indigenous games are disappearing, but it is upon African scholars and communities to revive these games to benefit the current and future generations as propounded by Sankofaism. The Diffusion of Innovations theory is used to explain how technologies penetrate various contextual spaces. The Diffusions of Innovations Theory is adaptable to various contexts, hence its adoption in this study (Rogers, 2003). The digitisation of indigenous games is an innovation that potentially breeds a hybrid system of knowledge, with potential for cultural conflicts, clashes and sensitivities which must be negotiated through the Africanisation of the technological expressions which are sought to preserve and convey African indigenous games.

**The Decolonisation Discourse and Indigenous Games**

Before the advent of colonialism, children’s participation in physical activities in Africa was engrained and embedded in the fabric of its diverse ethnic communities (Amusa & Toriola, 2010). Such indigenous education consisted of traditions and folklore as well as knowledge that were tied to tribal ceremonies and orally handed down across generations. Traditional education revered physical prowess and strength. Games united communities in activities such as harvest festivals and wedding ceremonies (Chepyator-Thomson, 2014). Such physical activities were the hallmark of recreational movement expression among African children (Mwisukha, Rintaugu, Kamenju & Mwangi, 2014). Through colonialism, an advancement of the colonialist enterprise of purported civilising Black children through the missionary school’s system threw out most indigenous recreational and artistic physical activity pursuits (Munchick, 2017). African indigenous games were de-legitimated without any significant attempts to incorporate them in the curriculum while colonially inspired activities continued to flourish up to now (Shehu, 2004). Mawere (2012:30) argues:

‘The protracted slavery and colonial relationship between Africa and Europe resulted in the dehumanisation of the African people and perpetuated socio-economic, racial and cultural stereotypes about Africa and the [indigenous] African people. Even today such stereotypes, misrepresentations, and prejudices against African and the [indigenous] African people have continued to be circulated and recycled by many Eurocentric scholars and African protégées.

Despite the prolonged colonial enterprise to eradicate African systems of knowing, Ndlovu-Gatsheni (2020) notes that indigenous knowledges were merely subdud, but not necessarily or completely exterminated, hence the quest to revive such knowledges through the decolonisation framework. Decolonisation is about the unlearning, deconstructing and dismantling the hegemonic culture of dehumanisation brought about through the systemic oppression of colonisation (Odora-Hoppers, 2017). This unlearning involves the mind, personality, social actions, education settings (teaching and learning), curriculum and research practices (Chukwuere, 2017). This culture of dehumanisation through colonisation did not only result in the decimation of African indigenous political and economic systems, but also attempted to annihilate Africa’s ways of knowing. Ndlovu-Gatsheni (2020) deploys the term ‘epistemicide’ to describe this phenomenon of killing African epistemologies (knowledges), an addition to the litany of so many evils that colonialism brought about such as genocide.

Western systems of knowledge production have earned notoriety in the decolonial discourse for being repressive towards the populations of the Global South. The Global South refers broadly to the regions of Latin America, Asia, Oceania and Africa. The
terms is ensconced among its other cousins such as “Third World” and “Periphery,” to denote regions outside Europe and North America and they are mostly characterised by low-income and more significantly, cultural marginalisation (Geyser, 2018; Dados & Connell, 2012). Culture is the way of life of a people and it consists of norms, beliefs, taboos and overall social and therefore there can be no people without a culture. An assault to a people’s culture by eternal forces therefore poses an existential threat which is aptly captured in Chinua Achebe’s Things fall apart. Does the white man understand our custom about land? How can he when does not even our tongue? But he says our customs are bad; and our own brothers who have taken up his religion also say that our customs are bad. How do you think we can fight when our brothers have turned against us? The white man is very clever. He came quietly and peaceably with his religion. We were amused at his foolishness and allowed him to stay. Now he has won our brothers, and our clan can no longer act like one. He has put a knife on the things that held us together and we have fallen apart.’ (Achebe, 1958: 152).

The decolonisation process therefore requires the creation of alternative knowledge systems to counter the epistemological hegemony of western and Eurocentric ways of knowing. Geyser (2018) notes that the making of games is inherently a form of knowledge production, and this stance is stressed in de-colonial theory. The aim is not to entirely oust Westernised and Eurocentric worldviews but rather to position Africa at the centre of defining and shaping its own discourses and praxes (Mbembe, 2015). The emphasis on foregrounding African thought and philosophy is not necessarily mere advocacy for a return to a romanticised pre-colonial past to rediscover old knowledge practices. The main trajectory centres around engaging with concepts rooted in Africa while considering present and future situations and contexts (Oelofsen, 2015). In further clarifying the ways in how the decolonisation of knowledge systems can unravel, Chilisa (2012) and (Laenui, 2009) outline five stages of phases which characterise the process of decolonisation. These are rediscovery and recovery, mourning, dreaming, commitment and action.

Rediscovery and recovery

This is when colonised people rediscover and recover their own history, culture and identity. Various causes or reasons may bring people to a place of discovery and recovery. These could include curiosity, desperation, escape or fate (Laenui, 2009; Chilisa, 2012).

Mourning

Mourning involves lamenting the continued assault on the world’s colonised and oppressed peoples’ identities and social realities. The process of mourning is considered crucial to the process of healing and denotes reminiscing on the on-going attack on indigenous people. This stage can take an indeterminate amount of time if there appears to be no alternative course of action (Laenui, 2006; Chilisa, 2012).

Dreaming

This stage is when indigenous histories, worldviews and knowledge systems are invoked to theorise and imagine alternative knowledge systems. Dreaming calls forth histories of the colonised to envision alternate possibilities. Among other interventions, this involves a commitment to recognise the voices of the colonised in bringing curriculum change through research driven interventions. It is considered the most crucial phase for decolonisation as it involves the full exploration of a range of possibilities through debates and consultation. It allows indigenous people to express their hopes and full aspirations (Laenui, 2006; Chilisa, 2012).

Commitment

This is when people find their voice and demonstrate the commitment to include the voices of the colonised. In this process, people combine their voices to forge a combined course of action which expresses the will of the indigenous people (Laenui, 2006; Chilisa, 2012).

Action

This is when dreams and commitments translate into strategies for social transformation. This action should arise from a logical outworking of the commitment of the people. It is a pro-active step taken upon the consensus of the people (Laenui, 2006; Chilisa, 2012).

The preceding steps can also be applicable in bringing back indigenous games and their digitisation process. However, any commitment and action require safeguards so that the end-product reflects a truly decolonised epistemic system. Ndlovu-Gatsheni (2020) deploys what he coined as the ten Ds of the de-colonial turn in explaining the process of de-constructing colonial knowledge or epistemic systems. They comprise of decanonisation, deimperialisation, depatriachisation, deracialisation, dedisciplining, dep provincialisation, debourgeoisement, decorporatisation, democratisation and dehierarchisation.

The Intersection Between Education and Indigenous Games

Before the advent of colonialism, indigenous games were transmitted through informal ways of learning. Such informal learning was woven into the cultural fabric of society and occurred outside institutional and organised school systems such as we have today. Instead, it was derived from grandparents, parents, friends and peers through the processes of socialisation. Informal education is learning which occurs outside institutional school systems wherein knowledge is derived incidentally through daily influences from family and friends (Farahani, Mirzamohamadi & Noroozi, 2014). Socialisation is a learning process which involves the acquisition
and internalisation of norms and values by individuals as they interact and interrelate with others in society (Coakley & Pike, 2014). Socialisation from family members and peers has been crucial in influencing on children’s physical activity participation as it shaped the immediate context that children were exposed to, thus influencing their identities and physical activity options (Thurston, 2011). It can thus be argued that before the colonial period, children’s indigenous games thrived in Africa.

In colonial South Africa, the domination of European learning systems resulted in Western and European oriented physical activities having precedence over indigenous physical activities. Schools served as outposts of colonial indoctrination with physical activity resources being iniquitously allocated to perpetuate racial and classist education systems (Chepyator-Thomson, 2014). Most of the schooling for non-Whites occurred in missionary schools and rode on the belief that European culture was superior to all native customs. It is upon these customs that the physical activity life of indigenous people was embedded. By advancing the colonialist enterprise of purportedly civilising Black children, missionary schools threw out most indigenous recreational and artistic physical activity options (Munchick, 2017). Local indigenous games were meanwhile de-legitimated without any significant attempts to incorporate them in the curriculum while colonially inspired activities continued to flourish (Shehu, 2004). In South Africa, activities with Dutch, German, British and Swedish influences were popular in schools. Among Black schools, activities which comprised of militarised drill were used as a form of physical activity to enforce social control and promote wholehearted compliance among Black learners (Cleophas, 2015).

The gaining of South Africa’s independence in 1994 raised initial hopes that the curriculum would pave way for a more democratised educational framework which would reflect the decolonised state. However, curricular reform comprised of many false starts and experimental policies which reduced physical activity in the curriculum (Stroebel, Hay & Bloemhoff, 2017). In the current learning situation, indigenous games are notionally provided for in the National Curriculum Statement (NCS) Grade R – 12. This curriculum comprises of Curriculum and Assessment Policy Statements (CAPS) for each school subject (Department of Basic Education, 2011). The main learning area in which traditional games feature is Life Skills and Life Orientation. Life Skills is taught from Grade R to 6 while Life Orientation is taught from Grade 7 to 12. The two learning areas’ concept and philosophy are the same despite the differences in name. Life Skills and Life Orientation a basically comprise of an aggregation of various sub-components such as Creative Arts, Physical Education as well as Personal and Social Well Being. The main sub-area in which indigenous games are offered is physical education (PE). Roux (2017) calls for the reinforcement of the PE curriculum with indigenous games a constituent. These can foster a positive self-concept among learners within the context of their own cultural heritage. However, the extent to which indigenous activities are harnessed for PE lessons by rural schools is not fully ascertained.

The development of the learner’s gross and fine motor skills and perceptual development is fundamental through PE. Physical and motor development is integral to the holistic development of learners. It makes a significant contribution to learners’ social, personal and emotional development. Play, movement, games and sport contribute to developing positive attitudes and values. This area focuses on perceptual and loco-motor development, rhythm, balance and laterality. The focus in the Foundation Phase is on games and some activities that will form the basis of participating in sports later on. Physical growth, development, recreation and play are emphasised. The immediate and most conspicuous challenge however is that PE, and by extension indigenous games, have some of the least amount of time in the curriculum. In the Foundation Phase, PE is allocated 2 hours per week while in the Intermediate it is allocated 1 hour per week (Department of Basic Education, 2011). This is hardly enough for learners to engage in significantly high amounts of traditional games due to other competing physical activities. Other potential factors could be the willingness and amounts of traditional games due to other competing physical activities. Other potential factors could be the willingness and skills of teachers to include indigenous games in their teaching. Mawere (2012) criticizes the unbalanced relationship between Western children’s games and African children’s games in terms of the value accredited to them even in African institutions such as primary schools. The question that arises in the context of this work is: Can digitisation then play a role in the improved delivery of indigenous games in schools?

<table>
<thead>
<tr>
<th>Subject</th>
<th>Hours</th>
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<tbody>
<tr>
<td>Home language</td>
<td>6</td>
</tr>
<tr>
<td>First additional language</td>
<td>5</td>
</tr>
<tr>
<td>Mathematics</td>
<td>6</td>
</tr>
<tr>
<td>Natural sciences and technology</td>
<td>3.5</td>
</tr>
<tr>
<td>Social sciences</td>
<td>3</td>
</tr>
</tbody>
</table>

### Life Skills
- Creative Arts                  | (1.5) |
- Physical Education             | (2)   |
- Personal and Social Well-being | (1.5) |

**Total** 27.5

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**Table 1: Weekly subject time allocation in the CAPS Foundation Phase**

377
Table 2: Weekly Subject Time Allocation in the CAPS Intermediate Phase

<table>
<thead>
<tr>
<th>Subject</th>
<th>Hours</th>
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<tbody>
<tr>
<td>Home language</td>
<td>6</td>
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<td>Natural sciences and technology</td>
<td>3.5</td>
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<tr>
<td>Social sciences</td>
<td>3</td>
</tr>
<tr>
<td>Life Skills</td>
<td>4</td>
</tr>
<tr>
<td>• Creative Arts</td>
<td>(1,5)</td>
</tr>
<tr>
<td>• Physical Education</td>
<td>(1)</td>
</tr>
<tr>
<td>• Personal and Social Well-being</td>
<td>(1,5)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>27.5</strong></td>
</tr>
</tbody>
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**Decolonial Implications for Teaching indigenous Games in a School Context**

As highlighted earlier, one of the key discussion points on indigenous games is the decolonisation and Africanisation of the curriculum. This section provides a possible framework within which indigenous games can be included in the curriculum. Digitisation can offer both indigenous and non-indigenous teachers and learners’ visual representations and simulations of how to implement various indigenous games especially through such learning areas as Physical Education within existing pedagogic frameworks (Chukwuere, 2017). There might be no consensus on the systematic and contextual application in integrating these games but using existing pedagogical frameworks in schools can be a key starting point. The main developmental outcomes of learning processes in schools involve the psychomotor, affective and cognitive development in children. The psychomotor domain involves the physical and motor skills necessary to execute physical tasks. The affective domain involves fostering the mastery of emotions, developing good attitudes, and establishing healthy social relationships. The cognitive domain entails the intellectual grasping of concepts, tactics, and the improvement of memory (Cleland-Donnelly, Mueller & Gallahue, 2017). The possible challenge which arises is that Africa has lots of cultures even within small geographic spaces, so implementing a uniform culturally responsive pedagogic structure on indigenous games can be untenable. What is possible is to however implement a pedagogical strategy and curricular framework that leaves room for flexibility to accommodate different cultural expressions (Ejuu, 2015). According to (Nsamenang, 2013), indigenous games can be used as education activities to assign sequential cultural tasks in a child’s learning developmental process. African pedagogies are typically participative and interactive, and these can be embedded in existing educational ideas to transfer holistic life skills to the next generation (Ejuu, 2019).

**The indigenous games digitisation specifications and components**

Audio-visual documentation, digital and multimedia resources from the areas of information and communication technologies (ICT) are very important in providing useful tools for recording and collecting information about expressions of intangible heritage such as indigenous games (Alivizatou-Barakou et al., 2017). Karavia and Georgopoulos (2013) present a succinct framework for digitising intangible heritage. The methods and equipment should be able to:

i. Totally capture of all the elements which constitute the intangible heritage form.

ii. Produce data that is appropriate for unseen future use considering that intangible heritage is in danger of disappearance or degradation and that the general concern for such heritage nowadays seems small.

iii. Being appropriate for analysis and collection of the necessary metadata (Karavia & Georgopoulos, 2013).

In addition, the archival format should:

i. Offer lossless compression, which allows the file to be rebuilt in its original format, without any loss of data.

ii. Be an open standard. An open standard is a specification whose description is freely available. An open standard archival format has best chances of being intelligible and understandable in the future.

iii. Be transparent. A transparent file can be accessed without recourse to special algorithms. Be supported by multiple vendors. Such file formats have higher chances of being accessible in the future. The archival formats should satisfy the specifications the stated specifications order to ensure the long-term access and preservation of digital recordings (Karavia & Georgopoulos, 2013).

Finally, the analysis scheme for each of the intangible heritage domains should:

i. Identify the underlying human creativity, sentiment and spirit hidden in every intangible cultural heritage form.

ii. Extract and codify them in a computer readable format to be processed.
iii. Be cross-cultural. The analysis scheme should be able to describe and analyse every possible form of a specific intangible cultural heritage domain for every culture in the world (Karavia & Georgopoulos, 2013).

Arora (2009) observes that digital preservation is cost intensive continuous. It is critical, therefore, for any digitisation project or digital resource development project that we take up should have components for digital preservation built into it. The failure to address the digital preservation problems and strategies may result in loss of valuable digital data and may contribute to cultural and intellectual loss resulting in steep costs for recovery, that is, if the recovery is at all possible. Preuss (2016:2-3) highlights some key components for digitisation and these are:

i. Content Specification - Apart from selecting or identifying which aspects of heritage should be digitised, content specification also focuses on determining if the original content can be digitized without being damaged or destroyed. It also focuses determining on legal limitations apply to the digitalization or digital presentation, publication, and use

ii. Digital Cataloguing - Digital cataloguing refers to the creation of information about the digital content. This descriptive information is called metadata and includes, among other things, information about content, context and technical aspects.

iii. Digitising - Digitising refers to the creation of digital representations and forms to represent the original object (e.g., image, text or audio files).

iv. Digital Presentation - Digital presentation refers to the provision of access to digital content. Depending on the digital content, different tools for digital presentation are needed. For example, a multimedia player may be needed for audio and video files.

v. Digital Backup - Digital backup is realized by securing the online database with adequate infrastructure and security mechanisms such as server capacity, bandwidth or backup.

vi. Digital Preservation - Digital preservation refers to the preservation of the significant properties of digital objects for the foreseeable future. It includes on-going measures to ensure technical and organizational endurance.

Implications for digitisation in the African context

The digitisation of cultural heritage such as indigenous games is a relatively new field of research which is won to present unique opportunities and challenges in an African context (Ognjanovic et al., 2019). Africa in general and rural South Africa is characterized by oral tradition, the humanistic philosophy of Ubuntu and closely knit social relationships (Van Stam, 2012). While digitisation is acknowledged to be the long-term solution for the survival, preservation, access and dissemination of cultural heritage, it should not replace the authenticity of that heritage in its original form (Fanea-Ivanovici, 2018). Consideration should be considered that indigenous knowledge should be not abstracted or lose its holistic oral and corpus form of medium as well as its connection to social context (Nakata & Langton, 2006). Apart from concerns to maintain the cultural integrity of indigenous games in the process of digitising, fundamental needs such as shelter, food, health, and education can trump some interest in ICT adoption. The digital devices and services that may be required for targeted end users may be unaffordable for many (Schelenz & Schopp, 2018).

Africanising the digitising of indigenous games

In the African context, the potential dissemination of foreign values through technology as a symbol of modernisation and progress is a sensitive are which might be interpreted as a new form of colonialism. For a start, most digital platforms and pathways prioritise the English language as a primary medium of expression. For the digitisation of indigenous games to make headway, it must consider the Africans’ way of life, and how the African child is raised and developed (Schelenz & Schopp, 2018).

Methodology

Documentary study: secondary and archival sources

Generally, qualitative research methodologies rely on observation and interviewing in data collection. This is done at the expense of archival documentary (De Vos et al., 2010). Document study is the study of existing documents, either to understand their substantive content or to illuminate deeper meanings which may be revealed by style and coverage (Ritchie & Lewis, 2003). Sources are classified on either a primary and secondary basis. Primary sources are original documents such as memos, reports, minutes of meetings, invoices and receipts, among others. Secondary sources consist of material derived from someone else as the original source (De Vos et al., 2010). Primary sources, by being original, have more weight than secondary sources in terms of information reliability. This implies that they are more reliable than secondary sources. Secondary sources are someone else’s interpretation of primary sources. They should therefore be thoroughly scrutinised for accuracy (De Vos et al., 2010). That is, chances are high that secondary sources may contain misleading information, may be subjective or biased towards that author’s beliefs or views. Secondary source documents relevant to this study were studied to collect data and to complement data collected from interviews. The credibility of a document as evidence hinges on the truth and accuracy of its reference and how widely it represents the phenomenon the researcher is investigating (Jupp, 2006). This means that a secondary source document’s validity as a reliable source that should be used for data collection lies more in how far and widely it engages with literature regarding the phenomena being studied. As this study engaged secondary source documents, questions of why, how and whose interest that document serves, were uppermost to collect valid, in-
Discussions and Findings

In the African context, the potential dissemination of foreign values through technology as a symbol of modernisation and progress is a sensitive area which might be interpreted as a new form of colonialism. For a start, most digital platforms and pathways prioritise the English language as a primary medium of expression. For the digitisation of indigenous games to make headway, it must consider the Africans’ way of life, and how the African child is raised and developed (Schelenz & Schopp, 2018). Tufekčić (2016) observes that:

‘Children’s games in the traditional culture were an important area of education and socialisation that were realised through the development of autonomy, creativity, freedom, responsibility, spontaneity, and activity. Through these, children developed their own children’s specific “moral code” that was not primarily imposed by adults, unlike many modern games that are designed by adults, where the structure, rules and all other characteristics, and often exclusively, are resulting images of the world that adults have rather than children. During the process children were specific innovators because games encouraged development of intellect, emotion and will but also stimulated creative activities and amateurism. All of this is emphasised in the traditional toys themselves. The most significant characteristic of traditional children’s toys is that children made them on their own, or with the help of adults that, most of all, reflected in the support of development of active characteristics of will and character of a child, and from different materials from their own environment (wood, soil, stone, water, plants and other handy materials from everyday life). In that child’s activity, creativity and spontaneity developed in a natural way.’

Van Stam (2012) argues that to overcome the digitisation challenges in Africa, focus should be on social innovation in which technology is spearheaded by Africans and for Africans so that it inherently involves Afro-centric characteristics of Ubuntu and relationships in its expression. Robbins (2010) argues that seeing one's own indigenous culture represented in new technology can create a sense of ownership through which new pathways for developing new indigenous ideas can be created (Robbins, 2010). Schelenz Schopp (2018) observes that when technology has been developed elsewhere, it is not a neutral instrument, but it comes value-laden with communication ethos and practices relevant to a foreign audience but problematic in the African context. The input of local communities and indigenous stakeholders from which the indigenous games are developed is vital to ensuring that the digitisation process is culturally sensitive and does not caricature, bastardise or desecrate the norms and customs that Africans hold dearly. The balancing act can be achieved by not denigrating existing social orders when implementing digitisation. Investment in digitisation should not be at a technological level only, but it must also be on a relational level wherein the knowledge of the context and culture is appreciated (Van Stam, 2012). The communities that practise intangible cultural heritage such as indigenous games are better placed than anyone else to identify and safeguard it (UNESCO, 2003).

This is summed up clearly by Economou (2015, p. 216) who opines that:

‘Intangible heritage digitisation programs, like all heritage digitisation programs, are creating digital resources which are the building blocks of research, learning, management, cultural tourism, and the general understanding and appreciation of heritage. These digital resources are often used to create interpretative and “entertainment” applications related to heritage. However, it is not the tools or the digital assets themselves which are causing concerns, but rather the use that these are being put to. Who is producing them and towards what means? In what way are these being used and by whom? These are broader issues related to digital heritage that need to be carefully examined. In order for heritage organisations and custodians to maintain contact with diverse audiences and ensure that heritage remains relevant in a rapidly changing world, it is necessary to examine openly the questions that digital heritage brings up and invite user communities to participate in this continuous process of reinterpretation and mutual exchange.’

This study, therefore, agrees and borrows from views by Hunter (2005) that for effective digitisation of children’s indigenous games and the following must be put into consideration:

i. There has to be a determination of the best process for selecting and prioritising indigenous games to be digitised. Consultation and input from the community elders and indigenous stakeholders is essential.

ii. There has to be a qualitative and quantitative determination for identifying the best or most successful technologies in terms of benefits and cost-effectiveness. Issues of relevance, usability and children’s benefits should be considered. Additionally, there should be mechanisms for user feedback.

iii. There should be ways to identify practices and system components which are successful, those that appear to have failed and those that could be improved through.

iv. Barriers to success (technological, social, economic, etc.) should be identified as well as ways to overcome them.
Robbins (2010) also highlights some key points in digitising games and they are summarised as follows:

i. Digital technology should be developed according to the modes and habits of different Indigenous cultures. This includes developing strategies to enable Indigenous people to utilize digital technology, creating digital toolsets that allow modification and customization for Indigenous content, and exploring the development of technology according to the goals and ways of thinking of Indigenous Peoples. As such, cultural preservation is not merely about documenting existing modes of expression. It involves finding ways for indigenous forms to play a role in emerging technology and contemporary modes of cultural expression. Van Stam (2012) in support of this view notes that the current technology hubs that are springing up in Africa are an encouraging development towards Africans producing technological packages whose configuration is relatable to the spirit and original intent of the indigenous games.

ii. Digital culture projects must ensure that preservation does not simply mean ossification but must involve a meaningful and dynamic exploration and development of the ideas, goals, effects, and outputs of that cultural tradition.

A classical 3 phase strategy by Robbins (2010) for digital preservation entails:

i. Straightforward documentation: involving the creation of videos, animations, tutorials, booklets, and interactive websites that outline the histories, narratives, uses, roles and step-by-step instructions of the games. The primary goal of this phase is to ensure baseline, snapshot preservation of the traditions.

ii. Translation into emerging technology and contemporary cultural modes of expression: In this phase, the games are presented according to the habits of today’s children in mobile phones, Facebook apps and blogs involving discussions of how to create apps that allow multiple users and interactions so that the games are socially and culturally mediated.

iii. Applying the principles to develop new technologies: Digital technology has been created largely within a Western paradigm. The software and concepts of much contemporary digital technology has come from Western countries and sometimes from Asia. African, customs, traditions and cultures something to offer to the concepts that produce digital technology. The goals and precepts of African traditions can inform digital technological developments to present an Afrocentric experience.

Digitisation and the role of schools

Schools can provide strategic centres for children’s development. Children spend much of their time at school, meaning that including indigenous games in the curriculum provides opportunities and exposes children to learning them. Digitisation can produce materials for non-Indigenous educators to impart knowledge of indigenous games in learners (Resta, 2011). Successful digitisation requires a multi-stakeholder approach and funding from both state and non-state actors. Ministries of Basic Education, Sport and Recreation, Arts and Culture and Information Technology can produce a framework within which digital technology is used in schools to promote the learning of indigenous games within an Afrocentric framework. Mawere (2015, p. 67) observes that:

‘Indigenous knowledge, including intangible heritage, can contribute immensely to the learning process of the African people as long as value and a modicum of respect are accorded to them. In fact, the relevance of indigenous knowledge and intangible heritage to the learning process of the African child cannot be underestimated. Yet, the full realisation of indigenous knowledge can only be recognised if it is fully implemented in education curricula and if its importance is popularised… Therefore, if indigenous knowledge fails to find full recognition within and real integration into curricula and the mainstream knowledge discourse, the lofty pan-African ideals of collective self-reliance, self-sustaining development, and economic growth will remain an unrealised dream.’

In the context of indigenous games, the role of scholarship is to therefore provide intellectual support through formulation of models within which this can be possible. Effective participation in indigenous games and their preservation can contribute to some key outcomes of the Sustainable Development Goals. Models on the digitisation of children’s indigenous games are rare in the South African context.

Effective digitisation will require a multidisciplinary intellectual and technical invasion of technological spaces by Africans. The digitisation of indigenous games is fairly a new phenomenon in South Africa and warrants academic exploration. Schools, cultural experts, information technology specialists and recreation specialists are vital in helping create the bridge between African culture and modern trends to preserve, promote and disseminate children’s indigenous games within an Afrocentric framework. The key variable that can actualise this dream is to foster promote development in African rural contexts to lower the wide digital divide as well as incorporate cultural experts, knowledge holders and community elders in developing culturally sensitive, culturally responsive and culturally centred digitisation programmes.

Conclusion

This study recommends that there should be decolonisation framework that requires the creation of alternative knowledge systems to counter the epistemological hegemony of western and Eurocentric ways of knowing. The emphasis on foregrounding African thought and philosophy is not necessarily mere advocacy for a return to a romanticised pre-colonial past to rediscover old knowledge practices. The main trajectory centres around engaging with concepts rooted in Africa while considering present and future situations and contexts.
Institutions of learning, basic and higher should address the digital inequality in marginalised communities wherein there is a socio-economic gap between those with and without access to digital technology. This gap also includes awareness, adoption, knowledge, skill and ability to develop and use digital technology.

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References


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