

# Indigenous Knowledge and the African Curriculum: A Case Study at the University of KwaZulu-Natal

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Men make their own history, but they do not make it as they please; they do not make it under self-selected circumstances, but under circumstances existing already, given and transmitted from the past (Karl Marx - *The 18<sup>th</sup> Brumair of Louis Bonaparte*)

## Introduction

Colonialism and the plundering of Africa not only devastated the moral and social well-being of inhabitants in the continent, but also resulted in the destruction, replacement and indiscriminate theft of local knowledge systems perpetuating a vicious cycle of oppression. In the 21<sup>st</sup> century Africa appears to be gaining a new sense of vitality in response to global pressures and demands. Initiatives such as Nepad and the African Renaissance aim to reverse the continents plight by providing new zest to alternative forms of development. Central to this quest for paradigms to move ahead with Africa's development agenda, is an inward examination and strengthening of its existing local knowledge capacity in informing and promoting development that is cost effective, readily accessible and reliable. It is in this

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context, that the role of African universities is intrinsic in the reformulation and adaptation of their curriculum with a IKS focus so that development challenges are met in the continent.

The article examines Indigenous Knowledge Systems (IKS) in an African context and their importance for the Human Sciences and Humanities curriculum with special reference to the University of KwaZulu-Natal (UKZN).

Following the literature review, an empirical study of 143 Social Science and Humanities students at level two and three were systematically selected from the Westville campus which sets the parameter for a position that strongly advocates the innovative gradual inclusion of IKS and especially African IKS in the Human Science Curriculum at the new University and beyond.

## **Definitions and Literature Review: Towards a New Conceptual Understanding of AIKS**

The section will attempt to identify existing conceptualisations of IKS, which will not be exhaustive, given the limitations of space available. In conclusion, an attempt will be made to re-conceptualise the phenomenon so that a wider philosophical, sociological and anthropological debate can be opened.

Like any concept in the process of material life is transformed into reality and action, IKS has its own identity that needs to be explored scientifically, both in theoretical terms and in terms of its functions and outcomes. Hence the concept *per se* presents a serious challenge to both theoreticians and practitioners. Western thinkers such as Lakatos and Kuhn have debated for years the conceptual dynamics of knowledge through the creation of a number of constructs associated with issues of rationality, objectivity and subjectivity, as well as to some extent their material repercussions, although due to the nature of their philosophical context the latter element was not as meticulously tackled as the philosophical underpinnings of the phenomenon. Through debate and exchange of ideas, new theoretical constructs were created that led to a more holistic understanding of the foundations and dynamics of knowledge and its material connotations. It needs to be emphasised that what is one of the

crucial basis of the present paper is the belief that one of the foundations and understanding of IKS and especially in the African context is the relentless effort on the part of theoreticians and practitioners to eliminate the ideological dominance of colonial and neo-colonial thoughts and theories. This will ultimately lead to the development and articulation of a progressive African based knowledge discourse that will be based on the absorption of the historical experience of the continent and its people. This process, while not necessarily rejecting the progressive and community and class-based lessons evident in sections of Western knowledge literature, African and African-based progressive thinkers will be tapping on the historical experiences and processes in Africa, as well as their rich intellectual traditions. Thus the development of the theoretical and practical foundations and development of AIKS will be based on a relentless effort to re-invent African creativity and productivity at all levels of society with emphasis on communal endeavours, while theoretically eliminating colonial and neo-colonial distortions, exploitation, and imbalances.

Several years ago, a prominent African scientist had this to say in defining AIKS:

IKS refer to intricate knowledge systems acquired over generations by communities as they interact with the environment .It encompasses technology, social, economic, philosophical learning and governance systems. Dr.Katherine Odora-Hoppers, one of the country's foremost advocates of IKS, describes it as not just about woven baskets and handicraft for tourists per se. It is about excavating the technologies such as looms, textiles, jewellery and brass work manufacture. (It is about) exploring indigenous technological knowledge in agriculture; fishing, forest resource exploitation, atmospheric management techniques, knowledge transmission systems, architecture, medicine, pharmacology, and recasting the potentialities they represent in the context of democratic participation for community, national and global development in real time (Seepe 2001).

The above definition, that certainly ignores the key parameter of the dialectical unity of the theoretical foundations of IKS with practice in all

fronts and fields mentioned, pinpoints to the fact that the phenomenon is more or less community based and it thus has both local and continental connotations in the African context. The above definition does not reflect its dynamic nature and the processes of experimentation and adaptation. It does not address the key issues of production and productivity and its effects on human and natural resources management and dynamics.

C.A. Odora Hoppers (no date:2) herself, in a discussion paper dealing with the indigenous knowledge systems and their integrated nature stresses the empirical dichotomy of the 'collective' that characterises the bases of African and other 'Third World' societies from the 'individual' basis associated with 'Intellectual Property Rights', the short-term profit motive, the role of Trans National Corporations (TNCs), and the World Trade Organisation (WTO), which is described as the global trade 'police'.

IKS is seen as an integral part of knowledge, which is described as a universal heritage and a universal resource (Odora Hoppers no date: 2). In the same context, IKS has been seen as both 'a national heritage' and a 'national resource' which should be protected, promoted, developed and where appropriate, conserved (Odora Hoppers no date:3).

Odora Hoppers (no date:3-7) poses a 'series of key questions in relation to IKS and its practical validity within its societal context:

- The question of knowledge generation and legitimisation processes, especially in relation to the research generated in research and academic institutions.
- Its relation to the economic and social survival of local communities especially associated with their socio-cultural empowerment.
- The exploration of the interface between epistemology, diversity and democracy.
- Its critical evaluation and validation especially in respect of living research work.
- The direct interrogation of the historical, scientific and colonial discourses evident in their evolution.
- The realisation of the fundamental intolerance of modern science towards the legitimacy of folk and ethnic knowledges, as a direct effect of colonialism and a particular ideological mindset.

- The utilisation of IKS in order to move the frontiers of discourse and understanding in the sciences as a whole, that will consequently open new moral and cognitive spaces within which constructive dialogue and engagement for sustainable development can begin.

The author, who is considered as one of the most articulate and knowledgeable exponents of the study of IKS calls for a holistic knowledge framework for societal development through the operationalisation of empowerment within the African context. This needs to be done with degrees of flexibility and a continuous dissemination of knowledge throughout society and its institutions.

While she identifies several key ingredients of an emerging sense of disaffection, the author calls for a Strategic Project Purpose process that will ultimately contribute to the emancipation, development integration and protection of IKS by fostering a process of dialogue and social research that will lead to development and growth of communities and society at large (Odora Hoppers no date: 9-11). In this process there needs to be serious integration and cooperation between various stakeholders, entities and institutions, which in the process would adopt a 'Network Frame' with a number of specific objectives associated with

- Documentation,
- Integration of programmes,
- International networking initiatives,
- Analysis of sectoral policy provisions,
- Intellectual property rights provisions,
- Research and documentation of major shifts in the field, and
- Policy development processes (Odora Hoppers no date: 11-13).

These elements and initiatives can only be understood within the context of strategies that need to be adopted in achieving the research and empowerment objectives of the processes at play as a part of a 'critical emancipatory pedagogy' (Odora Hoppers no date: 12-14).

Odora Hoppers's contribution 'marries' in many ways the 'theoretical' with the 'practical' components of IKS, a standpoint that is shared by the researchers. The conceptualisation and deep understanding of

IKS cannot take place outside the ambit of social and productive relationships. Thus two examples one on the individual and one on the collective level need to be articulated in order to fully understand the vitality between theory and practice.

It has been reported that IKS were instrumental in the success of the Kenyan agricultural cooperative movement that is considered as a pioneer in agricultural development in the continent. It has a number of cooperative societies including transport and housing, but it is the agricultural cooperatives that have been hailed as a serious success. They have been described as the basis of agricultural development and growth in the country, with emphasis on small-scale agricultural production. So successful have been these cooperatives that much of the export production in the country has been generated through it, while sustainable job creation has been achieved in the rural areas. According to research produced in the country small-scale agricultural production has far overtaken large-scale production and has gone through a major revolution (*City Press Business* 2005:6).

The much-celebrated commercial success of traditional healer Elliot Ndlovu in the KwaZulu-Natal Midlands underpins the significance of IKS in terms of individual success at a practical level. Ndlovu in partnership with other businesspersons have launched a cosmetics company by utilising his intimate knowledge of indigenous plants and herbs and their utilisation for healing purposes. Ndlovu supplies the raw materials that are commercially packaged by a Johannesburg-based company. He uses seven levels of healing and each colour has its own product range. One of the key materials used is the *Artemisia Afra*, which is commonly used for respiratory problems as is the herb *Leonotis Leonorus* that is used for gels, cologne, protective clays, lotions and creams (*Business Report* 2005: 1).

The Knowledge and Learning Center of the African Region of the World Bank, released an important report entitled 'Indigenous Knowledge for Development: A Framework For Action' (World Bank 1998). It was released in the context of the development efforts of the organisation in assisting poor communities throughout the continent to fight poverty and malnutrition (World Bank 1998:1).

IKS is described as a unique phenomenon in every society and agriculture, health and 'other fields' are described as practical examples of its applications. These applications provide the basis for problem solving

strategies for poor communities, especially the poor. Its sharing and implementation is seen as an integral part of the bank's assistance programmes (World Bank 1998:1).

Exchange of information between communities in regard to IKS is seen as instrumental in the implementation of IKS through the creation of databases throughout the continent, and the facilitation of exchange of IK amongst developing country communities (World Bank 1998:2). In this process the application of IK in the development process and the building of partnerships is a foundation of its success (World Bank 1998:3).

Several practical examples throughout Africa are identified in order to pinpoint the significance of the IKS in the continent, including the treatment of cattle ticks by the Fulani, soil and land classifications in Nigeria, the artisans' steel making technology in Somalia the communal use and allocation of land by the Washambaa in Tanzania etc (World Bank 1998:4f).

It is assumed that indigenous practices can generally adapt in response to gradual changes in the social and natural environments as they are embedded in popular cultures for hundreds of years. This means that their disappearance would ultimately have a negative effect on the efforts of communities and governments to move forward to societal development and growth (World Bank 1998:6-7).

The framework of action adopted by the WB includes ideas for disseminating information, facilitating exchange of IK amongst development communities, applying IK in the developmental processes and building of partnerships amongst role-players and stakeholders involved in these initiatives. The detailed diagrams associated with this framework identify the key elements related to the various steps of the process (World Bank 1998:11f).

It is interesting that one of the main ingredients described as instrumental in the success of such a plan is the role of information and communication technology such as the utilisation of local indigenous languages, telecenters and electronic networking, as well as the relevant government's initiatives in terms of introducing and implementing social and public policy measures that will make IK as a part of the developmental process a success. One needs to engage the World Bank approach to the utilisation of IK as a developmental axis at various levels.

The level of theoretical debate in the document and the understanding of knowledge in general and IK in particular do not demand a critique or assessment, as it is non-existent. However this reality can be understood in the context of the document, which has been presumably prepared by WB consultants as a 'developmental tool' or a 'train a trainer exercise'. However a neo-liberal theoretical framework underpins the various implementing developmental options described in the document. The philosophical basis that does not exist in the text is in fact more than obvious in the practical setting up proposed by the document.

Even if we accept, however, that the latter was the case, it is indeed difficult to comprehend the generalities that are a fundamental characteristic of the document, as it is evident that some of the suggestions, recommendations and ideas included cannot be applied to material conditions facing large numbers of underdeveloped and developing societies throughout the world (items such as data base creation, the establishment of telecenters and electronic networking are impossible to be implemented in such societies given the material realities they face).

Despite the fact that there have been suggestions that the WB policies and implementation aid strategies have been directed in the last few years towards the eradication of poverty, disease and generally some development, its historical role in Africa as a serious destabilising factor in the continent cannot be forgotten. Inevitably, then, it can be understood that key implementing agencies such as governments, NGOs and CBOs and communities in general can be seen as viewing such frameworks with a sense of suspicion and reluctance.

It can be understood then that the most crucial element of a theoretical understanding of IK cannot be seen outside its practical connotations and effects. Subsequently our treatise will be based on a new, all inclusive reformist conceptual definition of African and global IKS that will be rooted on the following realities and parameters:

- A re-union with the past.
- Self actualisation of the whole society with special emphasis on the historically disadvantaged social groups, the working class, the poor, the rural masses, youth, the elderly, women, the differently able and the terminally ill.

- Return to the past, reshaping of the present and the re-invention of the future.
- Rediscovering of collective social identities through the self-actualisation of the individual within the collective will.
- The identification of indigenous knowledge as a socially and collectively based activity that could be initiated by individuals, but can only become an integral part of societal engine of historical and future achievement only when it is transformed into collective knowledge.
- It can only flourish through political, ideological, emotional, moral and collective commitment.
- It can be only implemented through a process of continuous unification between the past, the present and the future.
- It is the epitome of the transformation of self-transformation into societal transformation.
- It can only be realised through the relentless engagement with existing material realities through the historical understanding of historical values and traditions.
- It is the realization of practical wisdom that transcends artificial ethnic and national divisions.
- Actualisation of knowledge is an activity-driven process shaped by:
  - Collective decision-making,
  - Sharing of information,
  - Collective planning, and
  - Collective action (Mantzaris 2004; Mantzaris 2004a).

In short, such a conceptual understanding of IKS is based on both a philosophical and sociological understanding of the *negation* of the positivist logic, while on the other hand it encompasses certain elements of Geertz's ethnology, where the interpretation of cultures need to be revisited in relation to their dialectical, community, and class-based dynamics (Geertz 1973; Mantzaris 2004; 2004a).

Having articulated in general terms some theoretical and practical parameters of IKS, let us briefly examine the steps undertaken by the South African government in relation to them.

## **The State's Initiative in Promoting AIKS**

It took ten years into South Africa's democracy for the government to adopt the IKS policy for the country, which was unveiled in November 2004 (Department of Science and Technology 2004:1). Of course there was a debate on the issue that procrastinated the adoption of such important policies that are seen as the foundation of the new visions associated with NEPAD and the African Renaissance.

The policy outlined the commitment of the government and the various ministries, departments and stakeholders in implementing the policies through the recognition, promotion, development, protection and affirmation of IKS (DST 2004:6).

The document pinpoints the various facets of IKS in South Africa and the African continent through a sketchy historical exploration of the phenomenon and calls for:

- The enactment of further legislation enhancing IKS,
- The establishment of an IKS Fund, that will support institutions assisting indigenous and local communities at various levels, and
- A 'formal system to record IK' (DST 2004:10-11)

When these conditions are met, it is envisaged that IKS will inevitably become an integral part of the country's and the economy's efforts to become an equal partner with the world in the context of globalisation. It is assumed that IK has been one of the fundamental tenets of NEPAD and the African Renaissance, and it has described as a key 'continental imperative' (DST 2004:13).

The document identifies the Departments of Health, Trade and Industry and Science and Technology as the lead axes in terms of the implementation, research and exploration associated with AIKS as well as their positioning within the realm of the various market related copyright and 'formal recordal systems' within the context of globalisation (such as Information Transfer Systems, Material Transfer Agreements etc) (DST 2004:16).

The integration of IKS in Education and the National Qualifications Framework is of particular importance as it relates the lifelong educational imperatives of key legislative frameworks with the dynamic nature of IKS

audits and their future contribution to the education syllabi and curricula. It is assumed thus, that the transformation of the education syllabi to a 'problem solving' impetus would add a further dimension to the central recognition of IK (DST 2004:17).

It is envisaged that the integration of IKS in the national system of innovation in South Africa will be based on the particularities of the continental and international historical experiences of developing and developed countries such as Japan, India, Singapore and South Korea (DST 2004:18). This is indeed a group of highly diversified societies that has been chosen by the authors of such an important document as examples of IKS as well as historical experiences, levels of development and growth, inequality patterns and institutions of political democracy.

In this context there will be national research and developmental strategies adopted with the synergic help of the private sector and 'other major stakeholders such as traditional leaders and women' (DST 2004: 18-20).

The IKS governance and administration will be based on the promulgation and implementation of further legislation, the accreditation of IKS holders, a number of advisory committees, the creation of a National Office and the building of relationships of the IKS with other structures. In this cycle, research institutions and the IKS of South Africa Trust are destined to play an increasingly important role (DST 2004: 22-24).

## **Methodology**

A systematic sample of 143 respondents was selected from two cohorts of level two and three social science students at the Westville Campus of the University of KwaZulu Natal. Semi-structured questionnaires containing items on respondents understanding and perception of IKS was administered to respondents. The questionnaire comprised qualitative and quantitative questions testing respondent's basic knowledge on IKS.

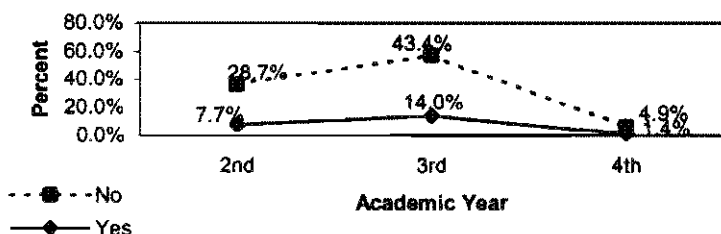
## **Results**

In the study group 67.1% of the respondents were females compared to males 32.9 percent. More than half of the respondents (57.3%) were third year students whilst just over a third (36.7%) was in their second academic year. Only 6.3 percent of the respondents were in their fourth year of study.

Almost eighty percent (79.1%) of the respondents were between the ages 18 – 22 years compared to 21 percent who were above 23 years. More than three quarters (78.3%) of the respondents were Zulu speaking, followed by Xhosa (4.9%) and Sotho (2.8%). The remaining respondents (14%) did not speak any one of these indigenous languages. It becomes clear from this finding that the vast majority of respondents communicate in their indigenous language

Although respondents are exposed to a variety of indigenous languages when one examines their exposure to IKS, the findings become intriguing. Graph 1 demonstrates respondent's exposure to IKS by academic year of study.

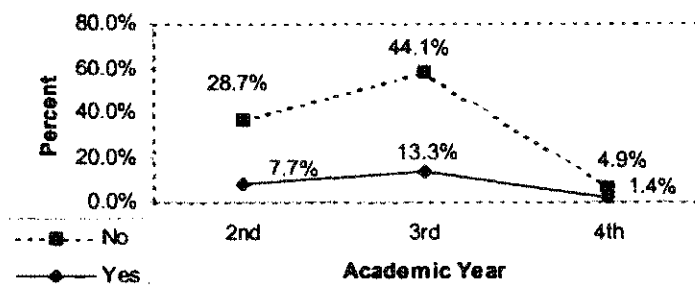
Graph 1 Academic Year of Study and Respondents Exposure to IKS



From Graph 1 it will be noted that respondent's exposure to IKS was significantly low in all academic years. Cumulatively less than a quarter (23.1%) of the respondents had some exposure to IKS for the different academic year. Interestingly, when one compares respondent's exposure to their knowledge about IKS, there appears to be no major difference in patterns. The findings in Graph 2 confirm that there is no difference between respondent's exposure to and knowledge about IKS.

The lack of knowledge on IKS is further confirmed by the respondent's response to factual questions in the survey. Only 7.7% of the respondents were aware that there are approximately 200 000 - 250 000 traditional healers in the country whilst only 14.0% confirmed that at least 81 - 90% of the South African population use traditional healers and

**Graph 2 Year of Study and Knowledge of IKS**



medicine. These findings strongly suggest that the present generations of Black South Africans are out of depth about their culture and traditional practices in their community. Guided by the level of awareness about traditional practices and cultures one need not go beyond the bounds of tertiary institutions to appreciate the demise of IKS in the wider South African society.

Although the study establishes a serious lack of awareness amongst respondents about IKS, there is overwhelming support for learning instructions through an indigenous African language at all levels. Table 1 illustrates respondent's perception on being educated through the medium of an indigenous language.

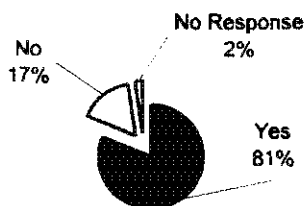
**Table 1 Respondents' perception on being educated through an indigenous language**

|                                  |       |
|----------------------------------|-------|
| Very Important                   | 56.6% |
| Important                        | 24.5% |
| Not very important               | 5.6%  |
| Not important at all             | 0.7%  |
| Prefer to be educated in English | 4.2%  |
| Don't Know                       | 6.3%  |
| No Response                      | 2.1%  |

It will be noted from Table 1; cumulatively 81.1% of the respondents perceive education through a medium of indigenous language to be both important (24.5%) and very important (56.6%). Interestingly, similar perceptions were elicited on whether all South Africans irrespective of history, social status or culture to know and speak at least an indigenous language.

Notwithstanding the fact that respondents have previously not been exposed to IKS and lack basic knowledge in this field, an overwhelming need exists for them to acquire such insight through formal training at a tertiary education level. Graph three demonstrates the needs of respondents to acquaint themselves with IKS through a formal course

**Graph 3 Respondents perception towards pursuing a course in IKS**



It will be noted from Graph 3 that 81% of the respondents have indicated that they will pursue a course in AIKS at the university if such is on offer. This finding suggests a strong need to acquaint students on the broad academic field of AIKS through formal instructions. In the field of humanities and social sciences, this should be relatively easy to introduce, but on the contrary it is most surprising to note from the respondents ignorance, that this is non-existent.

## **Discussion: The Importance and Structure of the Curriculum in UKZN**

The glaring ignorance on the part of students, the majority Africans, regarding IKS as evident in the above empirical study, as well as the fundamental importance of both conceptual, theoretical and methodological challenges set by the quest for development and progress in Africa, make the introduction of IKS into the curriculum of UKZN an urgent priority. This because of its mission and vision the university has pledged its commitment to the continent of Africa and to academic and research excellence.

Such an introduction cannot be done in a vacuum, it needs to be thoroughly debated and discussed in intellectual and other forums.

It is evident that different disciplines need to approach such introduction through their own structural constraints and probabilities. An academic plan needs to adopt the various and diversified models in terms of:

- Content,
- Learning resources,
- Teaching methods and models,
- Theoretical grounding patterns,
- Empirical manifestations
- Learning strategies, and
- Approaches (Mantzaris 2004).

The proposed introduction to the curriculum will first tackle the possible positioning of IKS into the Curriculum, based on the two key prospectuses upon which the present merged system exists and operates in the Humanities and Social Sciences, the Westville Campus 2004 Faculty of Humanities Syllabus and the newly established 2005 Faculty of Humanities, Development and Social Sciences Syllabus (Faculty of Humanities 2004; Faculty of Humanities, Development and Social Sciences 2005).

This has been done for comparative purposes and takes into account the new structural changes that have taken place at the University due to the introduction of Colleges, Faculties and Schools.

| 2004 Curriculum at the former University of Durban-Westville with a perfect fit of IKS  | 2005 merged UKZN curriculum with prospects for the introduction of IKS  |
|---|---|
| <p>School of Governance/ Philosophy Stream/ Module SGP 216S 'Theories of Knowledge'</p> <p>School of Governance/ SGP 218S 'Post-colonial Philosophy'.</p> <p>School of Governance/ SGP 313S 'African Philosophy'.</p> <p>Programme in Cultural and Heritage Tourism CHT 207S/ Heritage Tourism and Contemporary Belief Systems.</p> <p>CTH 307S Art, Craft and Public Monuments.</p> <p>CTH 306S Indigenous Rock Art and Heritage Tourism.</p> <p>CHT 308S Oral Heritage.</p> <p>CHT 403S Tourism, Cultural Heritage and Policy.</p> <p>School of Social sciences and Development Studies/ SDS 207S Making and Heritage of the Black Diaspora.</p> <p>SDS 222S African Legacy and African Renaissance.</p> <p>SDS305S Patterns of Civilisation, Politics and Development in Asia.</p> <p>SDS 322S Community Development.</p> <p>SDS 308S Witchcraft, Ritual and Symbolic Action.</p> <p>SDS 405S History and Ethnography of Southern Africa.</p> <p>SDS 408S Medicine and Society.</p> <p>SDS 418S The Politics of Kinship in Africa.</p> <p>SDS 504S Culture and Conservation.</p> | <p>Classics / Classical Civilisation. At the moment it includes only Greek and Latin components .</p> <p>Community Development.</p> <p>Introduction to Community development.</p> <p>Community Economic Development.</p> <p>Issues in Community Development.</p> <p>Introduction to Cultural Tourism.</p> <p>Ethics Studies (Philosophy 102).</p> <p>Historical Studies (Africa in Crisis).</p> <p>All indigenous African languages courses, both in their complete and as a bridging major.</p> <p>Philosophy (Being and knowing).</p> <p>All courses in the Bachelor of Community and Development Studies (incorporating the Diploma in Community Development).</p> |

- Conversations, presentations, discussions, debates, questions and answers and direct communication between all participants will be the basis of the process,
- Lectures and tutorials will be run simultaneously,
- Concepts dialogue will be the first hurdle to be overcome.
- A good number of written assignments need to be a basic form of communication between the teacher and those taught,
- Feed back on the assignments need to take place at tutorials, and
- Student evaluation of the course is of paramount importance. These need to take place in the forms of both discussion and evaluation questionnaires.

## **Conclusion**

This paper highlights the important developmental role of IKS both in the African and South African context. Although proponents of Nepad and the African Renaissance on the need for IKS have placed much emphasis, its actual development and integration into mainstream teaching curriculum especially at a higher education level is far from developed. In the case of South Africa national policy on IKS recognizes its relative place in development discourses but its implementation both at school and tertiary educational level has not gained full vitality. This is evident from the findings of the case study of the UKZN, which provides alarming insight into the lack of knowledge amongst undergraduate social science and humanities students on IKS. The introduction of IKS into higher education curriculum should not be perceived as a daunting task. The curriculum analysis of the social science and humanities disciplines highlights the ease with which IKS can be introduced or adapted into the mainstream curriculum or even expanded. If African universities are to take the challenges posed by 'Afrocentric' imperatives in higher education, then transformation in the existing curricula at all levels needs to be pursued with greater vigor. Universities are the epicenter for the production and dissemination of all knowledge systems and particularly in the African context, should take a lead in breaking away from Euro centric pedagogical mindsets in promoting the wealth of information buried in the dark parts of the continent.

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