

Session 7

Gloria Emeagwali: Challenging hegemonic discourse across the curriculum with particular reference to Africa

I would like to focus on the implementation in the curriculum of specific modules that challenge the dominator's vision and interpretation of Africa's knowledge systems.

First of all, I want to make a few comments about the curriculum and some of the approaches, then I will list two approaches to implementing change and finally, time permitting I will discuss 5 modules, focussing on medicine, mathematics, food processing, metallurgy and building technology. All these are in the context of African science and technology and African indigenous knowledge systems. I will conclude with some reflections on the reasons and inspiration for such a project, the kind of stereotypes, illogical propositions and so on, which, by implication, also have similar interconnections I would imagine with S.Asia and S.E. Asia as well.

First, a few words about the curriculum. The curriculum may be viewed as an academic plan, a map, or sequence of steps and the implementation may be done in the context of a teacher-centered approach or conversely as student-centered model. The teacher centered model basically sees knowledge as an independent body of facts and that students will be assessed by occasional exams and objective tests, etc.

The other model of approach is the more critically engaged model where the focus is socially oriented, students are encouraged to challenge existing relations of domination in the context of transformative epistemology and the curriculum is viewed as an instrument of empowerment, for consciousness raising and the development of awareness. Of course, the development of social awareness becomes part of the mission of the curriculum and curriculum planning.

We have got to keep this in mind since Multiversity intends to intervene in terms of curriculum construction. So we have to choose and decide whether we want the 1st model or the 2nd to influence and infuse our programmes and projects.

Developing the mind and the intellect in the context of rigorous intellectual activity and community oriented research are the key objectives of the second model. Evaluation and assessment are more concerned with looking at attitudes, social consciousness activity and skills associated with that. We have a problem oriented approach implied in terms of the 2nd model and the structure of knowledge is not all about logic alone but it is about social consciousness.

For Africa, Asia, & native America, orally transmitted information as well as written documentation is considered as a document in itself and we validate this aspect of knowledge and of knowledge gathering. We cannot continue to dismiss and trivialize or even criminalize as was done in the past, in the colonial period, local knowledge. I say criminalize, because it was a criminal offense in the colonial period to produce local

texts, it was a criminal offense also to practice certain aspects of ones spiritual belief systems and you could be thrown in jail for that. We have seen some progress in that area in the post colonial era, but even so it is still very passive in some parts of the continent. Remember we are dealing with 56 countries, the product of about 7 different colonial powers plus their long ancient 3000/4000 years of active engagement, and what we have seen in the 20th century going into the 21st, is an attempt to recapture and regain the independence that was there before.

The contours of the various disciplines must be redefined in the context of a holistic model of knowledge and as I talk about medicine and the other modules, this has to be constantly borne in mind. The rationalistic, mechanistic, cerebral, disjunctive model will have to be seen as the product of a particular group of scholars at a particular point in time but definitely not as a universalistic, all-encompassing model for all regions at all times as the eurocentrics tried to do - to universalize a particularistic form of knowledge.

Let me now make some statements about the different modules which we can introduce in the curriculum. This has actually been introduced in some areas. For eg. S.Africa, as well as Zimbabwe have made some progress in terms of what I call African medical traditions. Note the change from ATM (African traditional medicine) to AMT (African medical traditions). It also be simply called African medicine too.

AMT has been largely holistic and has attempted to go beyond the boundaries of the physical body into the spiritual. This contrasts with biomedicine which views the body mechanistically in terms of individual body parts and is essentially derived from the germ theory of disease. AMT can be categorized as mind-body medicine. With more research deployed in the field of AMT we'd be able to do some fine tuning and recognize the distinctions. People have already started to do this. I can think of Abayaumisofoura who has a very interesting text done in the '80s on medical plants and traditional medicine in Africa. If we are looking for an excerpt from a text which we can include in the collective readings I would really suggest that this is one of the real great works.

It has to be noted that common principles and procedures have been utilized in AMT such as hydrotherapy, heat therapy, spinal manipulation, quarantine, bone setting and surgery. We have also the phenomena of the use of incantations and other devices of psychotherapeutic dimensions. In one of my publications on science and technology in Africa, there is a discussion about the use of incantations. It is now recognized that there is an effect of the mind on the body and if you have certain kinds of environmental changes that can really affect the speed of recovery. Africans have known this for quite a long time.

Western-based pharmaceutical companies in fact send agents into different parts of Africa, in the middle of the night, because they don't want to acknowledge it in many cases. They tap the information, document the information and then of course you get the same information in some other format. However, there is one pharmaceutical company that I really appreciate. It's a California based company called Shiman Pharmaceuticals. Shiman Pharmaceutical Company is one of the first companies to admit that they have

been working with African medical sources and its experts and that between 1994 and 1998 they collaborated with 58 practitioners from 42 districts in Guinea and identified 145 plant species useful for treatment of type 2 diabetes. It is the only pharmaceutical company that I have seen that has acknowledged the interaction with the Africans and the fruitful research - fruitful so far, from their point of view because I am not sure yet that the practitioners stand to benefit in the long term, but that will probably happen too.

The naming of major and detailed knowledge of neuro-anatomy and neurological symptoms emerged in some areas including ancient N E Africa. There is a tendency to focus only on Egypt but Egypt, Libia and Ethiopia would be core areas in terms of the ancient N.E.African context. In fact, they interacted with each other over a long period. In any case we have evidence of the use of pills, enemas, suppositories, infusions and so on for dispensing prescriptions and also experimental medicines in various parts of the continent in terms of surgery, orthopaedics etc.

Even today, there are areas in Nigeria where people run out of the conventional hospital to go to the local orthopaedic experts because the conventional western medicine tends to go for amputation whereas the local practitioners do not have amputation in their vocabulary in terms of orthopedic care. I am not trying to say these are totally rosy pictures. You have gains, you have losses, you have in between, but we have to recognize those areas of excellence and try to find a way to standardize this or to look at the big picture. We have to also note that in terms of psychiatry the World Health Organization actually identified local psychiatric care as being quite laudable.

There are some basic assumptions of the ATPs or AMTs in African medical traditions. One, the assumption is that plants emit radiation and have unique energy patterns that only psychic eyes of very powerful photographic systems could capture. Peerelian? photography has actually identified this phenomena e.g. broken limbs, amputated limbs, energy areas still remain in the old region but the practitioners apply this to plants in their own perceptions. The idea is that night collections of plants - I am making some basic assumptions in terms of botanical research and efficacy - may be more effective and than those during the day. Distinctions are made between the dead dry leaves, the green vines and what not, in terms of their preparations.

Disease causation is viewed as coming from physical, psychological, astral and spiritual causes. Astral is linked with radiation from cosmic agents such as the sun, moon and so on but its built into their system. Hydrotherapy – steaming, sauna, hot bath, hot cloth treatment and so on are seen as effective and also are heat therapy, spinal manipulation, massage, psychotherapy. It is important to note that plants are used as anesthetics to deaden parts of the body and facilitate surgical action as analgesics or pain killers, as antidotes to counteract some other negative effects or other chemicals. They use plants to get rid of worms, antibiotics, in dermatological preparation and in decoctions and fusions and tizann. So we have to note in such a module for the curriculum that the African medical tradition has a systematic body of ideas on propositions about the world and health.

Take Aids. We don't know if Aids was created in somebody's laboratory. There are some who say it doesn't exist and there are various theories which we have to be aware of. However the S.Africans say that African potato has been useful in building up the immune system. This is not to say that all is bright and beautiful and we don't have health care problems. I am saying that AMT and the practitioners have been quite active. AMT research is based on the data gathering exercise which the practitioners themselves over long periods have accumulated. In the case of pharmaceutical companies it is the folk who are not trained in the Western tradition who have been able to identify the active ingredients or the efficacy of these different plants in terms of the treatment of different diseases, not so much the Western trained people.

I cannot get through all the five modules but I'll take the area of metallurgy, where we also have some interesting information to put into that module. In the African continent there have been various types of metal products - gold, tin, silver, iron and steel are the main candidates. The Sudanic empires of West Africa emerge in the context of various commercial roots and activities involving the gold trade. Gold was the basis of the economies of Ghana, Malia and Songhai. On the other hand, we have in the case of N.E Ethiopia & Lubia, a major gold situation. As a matter of fact the Egyptians gain most of their gold from Lubians. In Southern Africa we have the Monomotapa. So there is a mining tradition which has involved in different parts of the continent. But if you read some of the standard text books (the generalized texts, not the specialized monographs) you wouldn't think so. Because they tend to pretend that nothing happened, nobody did any metal making or at best there is just a short paragraph.

The principles common involve excavation and identification and they developed in different parts of the continents especially Nigeria. Researchers have recognized ways by which they identified ore and separated ore from the non ore bearing rocks, smelting by the use of bellows and heating furnaces in a specific way. We do know now based on the work of some scholars that steel production took place a millennium before the present one going back to ancient period especially in the context of Tanzania.

It is vital to pay attention to that because this information has been written out of the text and when you compare this with other regions you also do have some tendency to undermine and not pay attention to this aspect of economic and technological development because after all, the mining culture would generate economic activities. I actually came across information suggesting trade between Sofala and the Swaheli city states and India in certain periods. This is where the research would be interesting because we would like to know what were the commodities imported in exchange for the iron and what was happening in this specific time in the India that would interact with this kind of situation.

We have such texts for eg. Bacienda, a Nigerian researcher who has done a lot of archaeological work. His work on Nigeria's indigenous technology published in 1992 is a significant work in metal technology. Charles Finch has done some referencing too. We have to bring such works to the forefront in the context of studies looking at history of science and technology as well as indigenous knowledge systems.

In the case of building technology, we have various constructions of various dimensions, shapes and types emerging, various concepts and techniques, decorative principles and specific raw material preferences emerging. The concept of the arch, the dome, the use of columns and aisles will be integrated in construction. Some areas would do so more than others and I think this would be tied up with the building material available e.g. in the Sahelian region we are talking about largely the adobe architecture which would vary from what we would see elsewhere. The underground walls and passages and Errochian churches of ancient Ethiopia, parallel the other kinds of structures in the North East.

Not many people recognize or know that there were about 200 pyramids in Lobia, i.e. present day Sudan, and less than that in Egypt. The text books don't even mention that. And there are more pyramids in Lobia than in Egypt. I am not trying to make a competition between the two. But, the research is so lopsided. Luckily, some of them are still there in the case of Lobia and in the case of Egypt as well.

In the case of Ethiopia we have a slightly different construction model. We tend to see more of the sculptured temple or church context here. Permanent scaffolding is something we see a lot of in the Sahelian region, in areas such as Mali, the principle of the evaporative cooling would be integrated into building activity. I have been inside some of the structures with this kind of technology and recognized it had a cooling effect and would therefore make air-conditioning and not as vital as it is until they began to use some other building materials in the more contemporary period.

The ruins from all the cities such as Kano and Zazao in Nigeria and the other city states of Huusalan for e.g. would complement discussion or focusing on the rock sculpture the churches of Melibela in Ethiopia. And of course I can't leave out Zimbabwe structures. These are all part of the history of building technology in the continent. How many people recognize that you have one of the world's largest fortifications in the area of Benin in Nigeria? The researcher, a reputed scientist actually considers that it is probably took more material and lever power than many other structures including the Great Wall of China. In any case the role of archaeologist and the scholar material culture must be stressed here.

Stolen items are many. Would you believe that they actually stole, a whole big obelisk and carried it away to the Plaza in Rome? That is the reality. They actually cut one of the Ethiopian obelisks of great significance and shipped it off to Italy, kept it there and they are yet to return it. If you go to the New York Central Park there you will see the stolen artifacts proudly displayed there. Everyone knows that if you take out all the artifacts from India, China and Africa, the British Museum would just have to close down.

So, what can we include in terms of suggested readings because in our module we will mention some of the basic trends, basic principles and so on and have suggested readings. We have a few reasonable texts on African civilizations. We also have a lot of Nigerian authors. However, many of them still write in that eurocentric methodology and we are still trying to get that ghost out of our system. With time we will have to re-conceptualize

some of the information. The list would also include some of the works by people like Balachi who looked at engineering and pre-colonial Nigeria and of course three of my books look at this area.

To conclude, we can definitely make a difference and cope with the various myths and stereotypes deployed in these various texts, many of which are contradictory and illogical. As researchers in the different regions, we have to read those books again and see how illogical they are. They say one thing in the first line and by the third line they contradict themselves. If you really follow the discussion, you will find that they talk about a hermetically sealed Egypt, barricaded from the barbarians so to speak, and then in the next line they say something else. Therefore we have to introduce systematic consistent discussions in terms of the various aspects of work.

DISCUSSION

Syed Arabi (IIUM) : I would like to give some idea of the way the social science curricula is designed in Malaysia. First, the programme must be approved by the Ministry for Higher Education. En route you pass through the Senate, who are very conscious that the course content must have input of local scholars. They examine the texts or references of local scholars that are cited. Every two years the curricula must be evaluated and scholars from abroad are invited to comment on our curricula. They make recommendations which are given directly to the Vice Chancellor or Rector. One very important aspect is that the whole exercise is measured with reference to its purpose. So the programme must disclose what is the end result or the kind of educated student that it expects to produce, against which the efficacy of the programme can be measured. Finally, the curriculum must also be acceptable to other universities because we are in the academic fraternity. I would like to know the practice in other countries.

Evelyn Hong: I am concerned about the gender dimension. We need to realize that all indigenous knowledge systems are gendered. Women have their own constructs in agriculture or health and their own understanding of species of plants which men may not be aware of and which are therefore outside the ambit of the knowledge of men. In other words, they have their own interpretation of their world. So how do you deal with this gendered indigenous knowledge system, generating and transmitting systems in itself? Is enough space kept when you talk of curriculum building or the indigenisation process?

Norma: I wish to enquire whether the community is consulted prior to a decision taken by the university on the aspects of research proposed to be done and, does the community contribute to ideas and suggestions of what aspects they would like researched. If we talk of a moral obligation that the university has to the community and that knowledge generated must be for them, then surely they should be consulted prior to the research. In other words, is the agenda set by them? Second, have you identified innovative methods of evaluating students? If students are creative in their research do you have methods of evaluation which can do justice to their creativity.

Gloria : The traditional methods of evaluation still exist but we propose to introduce log entries from community-based projects, evaluation of questionnaires constructed for the community based research, oral presentations, group interviews etc. As regards who sets the agenda, the agenda is generally set by the professor although to some extent, the students also may suggest ideas. But I accept both the suggestions that the agenda should be in tune with what the community wants researched, and also that we must have innovative methods of evaluation. The gender dimension is important. I take this as an indirect warning and suggestion that one has always to be alert.

As regards designing of curricula, Nigeria has a system of external examiners. However, the tricky part is how to assess the curricula in a manner that it is not taken as a direct criticism of a particular instructor. Despite that, the system is a useful one. We have to make sure the curricula changes that we have in mind would actually inspire people within and outside the university. I think even the Eurocentric scholars could be brought around eventually to realize that the process of decolonisation must continue. About getting the project passed through several levels of bureaucracy, it only means that we have to invite members of the bureaucracy too at conferences like this. If we do that the possibility of having these policies adopted would be greater. It may not be smooth sailing but one can certainly be optimistic.

Ashis: In 2001, for the first time in USA, the average American spent more money on non-modern forms of medicine and since then this trend continues. This has happened despite the fact that in the US the medical insurance companies do not reimburse costs if you go to non-modern systems of medicine. Three fourths of the non-modern systems of medicine used in the US are of Asian origin. Similarly, in Australia about 60 % of the people turn to traditional healing systems. However, some years ago when I mentioned to a Chinese doctor that the American Medical Association had published a paper enumerating the situations in which acupuncture is effective, he was furious and replied that the Americans are always the first to support such superstitions in order to sabotage China's modernization. Similarly when I mentioned to a medical doctor in India who is sympathetic to traditional medicine systems, that according to a survey done in India, about 80% of Indians still go to traditional healing systems, he too was furious and insisted that it could not be more than 40%. So we have a different kind of job on our hands. Before trying to convince the Westerners, we have to convince our compatriots.

Secondly, you mentioned a pharmaceutical company which took a sympathetic view of African traditional medical systems. Unfortunately in the case of India we have to include the entire pantheon of the global pharmaceutical companies who are interested in Indian traditional medicines. But this has had disastrous consequences on traditional medical systems themselves. In some states, the traditional herbs have become almost inaccessible to the traditional healers. Three fourths of all traditional herbs in the state of Himachal Pradesh are said to have vanished because, in the name of collecting samples, these research centres also entice these very poor people who supply to the traditional healers the ingredients to bring the herbs to the laboratories instead. There they are used not only for experimentation but also for turning into alkaloids and drugs. So we are

caught in a double bind. So, much before our colleagues get convinced about what you are saying there are other giants who are not only convinced but have acted upon it.

Gloria: I am not surprised that even in our post-colonial era, the intellectual world has been afflicted with Western trained scholars who have actually failed to catch up with the new mood for change and the imperative for change. I agree that for every one person trained in Western tradition who is willing to change there will probably be about 99 who would not. That does not mean that we have to abandon our confidence that if we work on it in terms of community activity and dissemination of information, we would get to them eventually. I am not pessimistic. Because once you can de-orientate the mind, and that is not impossible, much can be achieved. Let's face it, there has always been conflict and rivalry between the Western medical folk and those who have been using indigenous systems. It's a turf war and there are many Western medical practitioners who feel that by accepting the validity or indigenous methodologies they have lowered themselves. Still this is not something that will prevail indefinitely. I think that these Eurocentrics are bound to come around eventually. They will do so from a different point of view but in the meantime, you can work on the others, who have genuine interest in changing.

As for the pharmaceuticals, I am not trying to suggest that the pharmaceuticals are working in the interest of the Africans. I only wanted to give credit to at least one company that identified that research was being done. The biggest fear that I have is with regard to patents. A time may come, and it probably already has, when traditional practitioners and researchers may not be able to even have control over their own resources because of these pharmaceuticals.

Vimbai: The statistics that Gloria has given are exactly the same in Zimbabwe. But in Zimbabwe we have the Zimbabwe African National Traditions Association registered with the Ministry of Education. The law is that all research that is done must be registered. Outsiders who come to study African medical practices have got to be accredited. It is also part of preservation of the ecological system that one cannot sell or give away any herbs without approval. You cannot take anything out of the country. Even spiritual healing cannot be practiced without accreditation.

As regards gender, there is a difference between gender in the society and gender at the workplace. We have a Ministry precisely focusing on that – the Ministry of Gender, Youth Development and Employment Creation, because there are certain areas of our economy where there may be discriminations. The corporate world can play havoc with culture so we have a Ministry which looks at that as well. So, having control mechanisms in whatever we do is very important.

About research, there is a book called, 'Survival Strategies in Rural Zimbabwe' that was published under the guidance of the Department of Rural Development. We went to the community, we sat down with them and we asked what do they want us to suggest to the government as policy and how do they see development. That was a pilot project and the book was our report. When we released the book, we brought the same community to the launch and they evaluated our work and assessed whether our findings were correct. The

proceeds of the sale of that book also go to the same community. As regards evaluation of students it is part of academic regulations now for students to go to the community. The written exam is 70%, continuous assessment is 10%. There is also the research project where the students have to go to the community and after talking to them, present the results of the research to the whole class. Marks are set aside for presentation. When the final marks are received, it is an evaluation not only of the book knowledge of the student but also whether he/she is able to communicate.

Gloria: The implication of what Vimbai is saying is that the state must intervene necessarily, and for this to be effective we need to coordinate also with bureaucrats, administrators and so on, who would pass legislation accordingly. This is not to say that until this is done, we fold our hands. I am only saying this is a model situation but we have to remember there are 56 countries in Africa with various tendencies, conditions, and so on, although there are several things in common as well depending on what one is looking for.

Vinay: I want to offer one cryptic comment on the gender dimension. There are a large number of feminists who are very resistant to this entire discussion on indigenous knowledge systems because they see them as much more patriarchal than modern knowledge systems. This is not my submission, this is theirs.

Radha: It seems imperative that local /indigenous knowledge has actually come from the commons. How do we keep it in the commons rather than locking it even in universities? When we come to the gender issue, even in indigenous knowledge there appear to be two forms. One is the formalized system, for example Ayurveda, which could be considered patriarchal and the other is the non-formal systems, the real traditional systems, which exist within communities and within homes and which have been in the custody of women who have been evolving that knowledge, developing it and preserving it. That knowledge has been empowering women, in the most demeaning situations. How do we make sure that we don't take that knowledge away from them? I am including not just the knowledge but its capacity to empower.

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