



Medical Curriculum And The Teaching Of Anatomy In Nigeria: A Thought For The 21st Century.

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ABSTRACT

The approach to the teaching of anatomy is changing in many institutions amidst the calls for the elimination of cadaver dissections as a teaching method. The usefulness of the traditional model of medical education also seems not to be adequate for the education of our 21st century medical scientists and practitioners as it produces more practitioners and less of groomed scientists. The level of social sophistication indicates a review of the curriculum so as to incorporate virtual reality into medical education and thus maintained the necessary "umbilical cord" between learning and practice. An integration of the traditional model which involves dissection and classroom teaching in a departmentally based manner and the systems based model which involves the teaching body realistic incorporation of virtual education seems to be the way out for the 21st century.

Keywords: Anatomy, Medical Education, Curriculum, Traditional Model, Systems Based model, Virtual Education.

The approach to the teaching of anatomy and medicine as a whole is changing in many institutions worldwide. This indicates that sooner or later the wind of change will reach Nigeria and we shall be forced to change from the traditional method of teaching anatomy via mainly by lectures and dissection.

It is my candid view that since Human anatomy forms part of the medical curriculum with the main aim of producing Medical Doctors, and change in the method of teaching anatomy to our 2nd and 3rd year medical students must reflect in the advantages it will impact on the final product - The Doctor.

Some questions must be asked before any change can be made.

- a. Will the change improve the final product?
- b. Will the change enhance student understanding of the subject?
- c. Is the Anatomy department becoming irrelevant in the scheme of things in the medical institutions?
- d. Is student interest waning?

If your answers to these questions indicate a need for a change, then the time has come for change. On the other hand if change will only benefit the teachers, then such change is not result oriented and is not indicated. Every change must be influenced by the benefit it bequits to the student and the final product.

Should there be change?

It appears that learning methods are changing. Events around us indicate that we should make a change before we are consumed by change. A few examples will suffice.

Most of the bodies for dissection today are gotten from executed armed robbers. Armed robbers are executed because of legislations change, the practice of execution might be abolished and the principal source of raw material will be cut off.

African practice attaches much importance to the dead and the connection that exists between the dead and the living. We are therefore not likely to be getting bodies donated to dissecting rooms. If we consider that in the U.K. today over 800 people a year donate their bodies to medical science (Lancet, 1977), we will realize that we are yet to begin. It is unlikely that good gesture of donating bodies will be acceptable in Nigeria. Even in the case of the Kennewick man, whose bones were found in July of 1996 in Kennewick, Washington, (Armand Minthorn, 1997). Scientists are arguing that the skeleton, one of the oldest found in the new world, cannot be ascribed to any existing tribe in America and therefore need not be repatriated for reburial. (Lancet, 1997).

In some medical schools, students are already learning anatomy from prosected specimen. As long as human and cultural sensitivities remain important parts of our life, we must expect that sooner than later, the newly dead might cease to be part of our raw materials for learning.

The Practice so far

Traditional method: The Universities in Nigeria have depended on the traditional method of teaching human anatomy and medicine, and that is

- (i) By specific lecture schedules covering about three hours in a week.
- (ii) Tutorials and group discussion (exists in schools where the teachers are committed).
- (iii) Dissections of cadavers covering about six hours in a week.

This pattern is followed for both gross anatomy and histology. It is departmentally based with little integration across disciplines. Attempt to introduce some changes in this pattern had always been rejected by traditionally produced Doctors who are manning the system; and even by the Nigerian Medical Council.

Till date this traditional learning model is the main stay of all medical schools in Nigeria. The usefulness of the traditional system is declining especially as scientific knowledge is growing quickly and tremendously. Many more laboratories and classrooms will have to be opened to accommodate the different disciplines. Students are required to memorize large volumes to pass exams and there is little or no attempt to relate facts taught to future clinical situations. This format seems not to be adequate for the education of our future medical scientists and practitioners. Our system produces practitioners and less of groomed scientists.

Other Models

- i). Problem-based model
- ii). Systems-oriented model

i). Problem-based model

As explained by Drake Richard, this is the strictest form. It is based on an adult learning model in which the student is involved in identifying learning objectives, selecting personal learning resources. Setting boundaries for individual study.

The goal of this model is to induce student to:

- Develop useful knowledge base
- Strong learning capabilities
- Effective problem solving skills that will be used in the clinical setting

The fear being expressed over this model is that some students might not be able to function well in self directed learning, and some will not be able to fill in existing knowledge gaps if left alone.

System-Oriented Learners

Here, anatomy is taught based on systems of the body with integration in so many disciplines. The level of integration may vary and the organization and presentation of material by the different disciplines may vary. The strength of this method is that it presents topics and material in a more logical fashion depending on the degree of integration, (Moore 1998).

Current Trend

It appears that most institutions are improving on their curriculum by addition methods that improve student understanding. Moreover, the improved methods are adopted at the institutions according to the concept of establishment and what is best fit for the type of medical students enrolled there.

As an anatomist, I recognize that there is a real threat to the act of dissection, in spite of the fact that most schools still practice it as an essential part of anatomy courses, (Moore 1998).

The calls to abolish dissection and embrace the computer are probably, because;

- Cost of maintaining cadavers and dissection facilities is becoming enormous.
- Cadavers are becoming scarce
- There is a mandate from the Association of American Medical Colleges (AAMC) to change the way medical students are trained.
- Gross anatomy teachers are beginning to get weary of the fact that they spend more time with students than other basic medical science teachers.
- The need for promotion and participation in funded research also indicates a reduction in contact time with students.

In spite of the persistent call against dissection, people have continued to make innovations that improve the system. Reeves et al, (2004) has asserted that there is improved dissection efficiency in the human gross anatomy laboratory by the integration of computers in modern technology. In an attempt to reduce psychological reactions on the first day of gross anatomy dissection Houwink et al (2004) now employs the help of 3 medical students in directing the first years.

Yet Forester et al (2004) are recommending the application of supplemental instruction programmes which they claim proved the learning of gross anatomy.

My thoughts

Curriculum reform aimed at improving learning must be part of any medical education

- NO new model of teaching can completely replace the act of dissection successfully, though it is true that in the Nigerian situation, cadavers are becoming scarce and might soon disappear.
- The traditional method of medical education is highly departmentalized; cooperation and integration should be worked out as it suits the institution and its students.
- Let us begin now to apply the use of computers so as to include virtual reality to medical education and provide 'electronic text books'.
- If reforms must take place when necessary, we must resist the urge to resist change for the sake of just maintaining the status quo.

I am in support of a review of the traditional model with a new virtual reality as a way forward for medical and Anatomy education in the 21st century.

REFERENCES

Aletta Howwink, Anil N. Kurup, Joshua P. Kollers et al (2004) Help of third-year medical students decreases first-year medial

students' negative psychological reactions on the first day of gross anatomy dissection. *Clinical Anatomy*, Vol. 17 (4): 328-333.

Armand Minthorn: Position paper: Human Remains should be reburied. LHP:/www.ucinet.com/umatrib.kennman.html.

Editorial comment. The body in question. *Lancet* Vol. 349 (9059) 1997.

Joseph P.Foster, Pamela P. Thomas, David L. Mc Whorter (2004) Effects of four supplemental instruction programs on students' learning of gross anatomy. *Clinical Anatomy*, Vol. 17 (4): 322-237.

Moore A.N. (1998) to dissect or not to dissect? *Anat. Rec. (New Anat.)* Vol. 253 (1): pp. 8-9.

Richard L. Drake(1998) Anatomy Education in a changing medical curriculum, *Anat. Rec. (New Anat.)* 253: 28-31.

Aletta Howwink, Anil N. Durup, Joshua P. Kollers, et al (2004) Help of third-year medical students decreases first-year medical students' negative psychological reactions on the first day of gross anatomy dissection. *Clinical Anatomy*, Vol. 17 (4): 328-333.

Rustin E. Reeves, Aschenbrenner J.E, Wordinger R.J., et al. Improved dissection efficiency in the human gross anatomy lab. By the integration of computers and modern technology, *Clinical Anatomy*, Vol. 17 (4): 337-344, 2004.