

THE AFRICAN UNIVERSITIES' RESPONSE TO THE UNDERGRADUATE STUDENTS' NEED FOR INDEPENDENT LEARNING AND CRITICAL THINKING SKILLS

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Abstract

In this paper, the author challenges leaders, teachers and other stakeholders in institutions of higher learning in Africa to give the promotion of independent learning and critical thinking skills the seriousness that it deserves. Many students that join university do so with only "lower-order" learning abilities so that higher institutions of learning need to respond by stepping in specific measures to bridge this gap. Universities have to be prepared to equip students with "high-order" learning abilities that will guarantee independence, engender intellectual stimulation and encourage independent scholarship while at the same time preparing them for life-long learning and critical thinking that are the defining attributes of life in an information based society.

It challenges those universities that already have academic interventions for first-year students to interrogate the role being played by these structures with a goal to strengthening their core aims and missions. The role that universities can play to meet this very noble end is extrapolated against the current trends and realities within the teaching/learning environments of African universities. The paper proposes that African universities should adopt the "constructivist learning paradigm" which could guide our pedagogical choices if we are to develop learners with greater capacities for learning now and in the future. It ends by offering some recommendations.

Introduction

When students join higher education in both developed and developing countries, they do so without the independent learning and critical thinking skills required in order to cope with the academic challenges that go along with studying for a degree (Ackerman and Perkins 1989; Love 1991). Different reasons have been offered to explain this shortcoming. The most important among them is the fact that primary and secondary education in most education systems does not address itself to the learning demands that students will face upon enrolling at university (Wright 1982; Cashdan 1992; Love 1991). This problem is prevalent even when a country's education system has included the teaching of learning and thinking skills on the secondary school syllabus.

The inability of effectively coping with the challenges of studying for a degree affects both "O" and "A" level students. This unfortunately is the case in spite of the fact that many African universities do not provide intervention programmes for "A" level student due to the belief that only students without senior secondary education may require them. Current research has, however, documented a serious shortfall in higher-order thinking skills for all categories of students as well as adults (Ackerman and Perkins 1989). The major handicap with most teaching and learning in primary and secondary level is that it is too general in scope to be concerned with anything else other than for learners to pass national examinations.

This results in an over-dependence on rote-learning methods that are seen to be a major impediment to the development of independent learning habits and critical thinking skills for higher education (Love 1991; Paige and Kerre 1994). The teaching of "skills" is not seen as necessary and wherever it is deemed useful, it is ignored as it is seen to compete for the little time available for content subjects. As a result, many students have been found to be extremely

wanting in their ability to respond effectively to college academic texts (Cashdan 1989; Muchiri 1994; Conley 1992). Orndorff (1987) has concluded that the “inability for critical reading may be the single most important problem in post-secondary education” be they in developed or developing countries.

Studies carried out with university students in Australia has revealed that first-year undergraduate students have a fairly high level of insecurity related to their inability to handle academic work, to read as well as to handle writing assignments (Cooper 1998). This anxiety, that all new students face upon joining university anywhere in the world is symbolic of the significant academic transition for most university students and one that needs to be addressed through adequate academic guidance so that students can “develop independence and manage their workload, reading and writing” (McInnis and James 1995 cited in Cooper 1998). The authors have noted that these private activities tend to provoke greater anxiety than does the prospect of formal academic teaching through lectures, tutorials and seminars.

In the sections that follow, an attempt is made to look into the teaching/learning environments in African Universities. The main goal of this discussion is to stimulate us to think more about the emerging trends in the African higher education scene. The author hopes that the paper will call for a critical appraisal of the teaching and learning approaches we apply at the moment, which could lead to the adoption of innovative methodologies that will guarantee the promotion of independent learning and thinking skills among our learners.

Emerging Trends in University Learning Environments

Nothing creates the need for providing university students with academic learning support for independent study and critical thinking than the changing nature of higher education. In a recent conference by the Association of African Universities (AAU), it was lamented that current learning environments in African universities were posing serious threats to learning (Daily Nation 2001). A decade earlier AAU had concluded that these learning environments were “precarious” meaning that things seem to have moved from bad to worse (AAU Annual Report 1991).

The existence of large student populations, for example, has reduced the amount of contact time between students and lecturers, while at the same time encouraging over-dependence on traditional and yet ineffective teaching and learning methods. Many lecturers, unable to bear the economic realities of their poor remuneration have left in search of better opportunities mainly in the west, leaving behind them a thin, often inexperienced and demoralized staff. To meet the demands of studying for a degree, therefore, a student has to rely more on his/her independent study skills and probably those of his/her study mates.

Many universities in Africa are not effectively preparing their young learners with skills for handling the myriad complex learning tasks that confront them while in university or for learning in their days beyond graduation. Those that do so have prepared courses that target only students that went through four years of secondary education. In general, universities that have put in place interventions of one kind or other have not made any efforts to ensure that their students exploit the interventions to the full. This has led partly to the conclusion that our universities are releasing half-baked products into the market. A crippling deficit has, for instance been reported by The World Bank Taskforce on Higher Education in Developing Countries 2000, in which educators have been challenged to move “beyond rote learning to give students a deeper, more engaged and more meaningful exposure to the rich and varied world of intellectual pursuits” (Wambari 2001:39).

In keeping abreast with trends in the west but more particularly in an attempt to respond to various socio-economic realities of their nations many universities in Africa have changed enrolment patterns into many of their programmes. Distant learning as well as part-time enrolments are becoming the defining features of the today’s university educational experience (Magolda and Terenzini 1998; El- Kawas 1996). Many students with marginal scores as well as those from other disadvantaged backgrounds continue to join university especially to meet an ever-increasing demand for higher education. Many citizens are finding their ways into the university as mature students after several years of being away from any institutionalized learning experiences. In addition, some universities now admit foreign students from the region, the continent or from overseas. Entirely new programmes of study have been added to the scene and many times in the acute absence of human and physical resources to accommodate them. Without specific academic assistance targeting these students’ learning shortfalls, many learners are bound to

continue their studies using conservative and yet ineffective approaches in their response to the rich and diverse content in their disciplines of study.

Hand in hand with the aforementioned, African universities have not been left behind by modern innovations in information and communication technologies that give identity to the global village in which we now live. Any decision that goes in favour of ICT mediated teaching and learning has far reaching implications in terms of developing students' capabilities. Students obviously need training in information communication technologies and many universities are doing the best to enable learners to access computer information efficiently. But how are African universities equipping their students with the information processing tools that will allow them to critically interrogate and make sense out of the deluge of information that is a common denominator in defining learning as well as life in the societies of the 21st century?

The need to consider the teaching and learning implications of an information society ought to be explicitly examined by higher education in Africa. Without what many universities in the west refer to as "information literacy", the mere ability to operate a computer is not of much value to the budding university scholar. While the debate on information literacy is clearly on course in western universities and especially in the United Kingdom and America, where it calls for a cooperation of the academic, library and staff development colleagues, it has yet to gain footing in the discussions and publications on the continent (SCONUL, www.sconul.ac.uk).

Independent learning inevitably involves a student's ability to read and think critically no matter the source of the information. The challenges that students face in their academic transition, as well as the opportunities created through more effective learning beg for a commitment by universities to provide opportunities to socialize all new students in the complex discourse that defines each community of scholars in a given discipline. Academic learning support structures should assist all learners to upgrade their study skills by equipping them with a set of specific blueprints that they can creatively transfer while thinking about subject content in their various fields of study.

Once they are acquired, the same skills can be relied on in whatever subsequent occupation that students will choose upon leaving higher education. The need for training in study skills in western universities is recognized even by the most prestigious graduate and professional schools whereby "the field of learning and study skills, once relatively unknown is enjoying wide acceptance and legitimacy" (McWhorter 1988). Embedded in these blueprints is the student's ability to determine the need for information, to generate critical questions from subject content, to focus questions into inquiry, to trace relevant sources of information from library, the internet and other sources, to recognize an author's bias and intentions, to collate, synthesize and restructure complex ideas from complex texts.

To prepare students for these intricate intellectual activities that define the higher learning experience, universities must see the need "to reorganize the education system to meet the challenges of the twenty first century involving constant change and complexity. This means that our engagement as educators should be on learning rather than a teaching paradigm, on producing effective autonomous, powerful learners (Wambari 2001; Joyce and Marsha 1992). The current theoretical shift from the traditional teacher-centred model of teaching to a mode of teaching that focuses on learning processes should be every educator's beacon in his or her approach in preparing the products of higher education.

A Constructivist Learning Paradigm

Training students to respond effectively to information calls for a highly interactive learning environment. This approach marks a sharp departure from the teacher-dominated classrooms that have characterized much of teaching and learning for many years. For this to happen, there needs to be a revolution in the teaching/learning environments in our universities.

Conclusive evidence from years of research challenges all educators to teach all aspects of the curriculum by basing their pedagogical choices on the constructivist theory of learning. Constructivism is the "theory that knowledge is constructed rather than transmitted in a pure form" (Ring 1994). According to this theory, the learner does not just sit, listen to information from the teacher and merely attempt to record it in some form. Instead, the teacher tries to

make an information merchant out of his or her learner. He relinquishes his dominant talking role and allows learners to listen to one another, build on one another's ideas, challenge one another to provide reasons and evidence for unsupported opinions, detect one another's assumptions and evaluate them (Wambari 2001).

Such an approach ensures that learners are activated and involved in interrogating knowledge instead of being passive receivers of learning content. Doherty (1999) has rightly described information as "the essential commodity for survival" and that our intention in teaching should be to assist students become "independent and informed information consumers on their way to becoming lifelong learners" (SCONUL.[http:// www.sconul.ac.uk](http://www.sconul.ac.uk))

The constructivist learning paradigm compels the teacher to realize that he/she should not be students' major source of information and that there are multiple ways of handling the information that are determined, more than anything else, by the purpose to which information is to be committed. In playing his or her role, the teacher encourages learners towards independence or autonomy in looking for information from different sources, in evaluating and interpreting it and also in sorting it out and recording it for future use. How learners interpret information (that is how they construct meaning or make sense out of the information) will be affected by many factors. These include their prior knowledge in a topic, their personal experiences, the nature of the learning environment, their attitudes as well as their understanding or appreciation of the use to which new information is to be put (Conley, 1992). This paradigm has a proven ability not only in stimulating and maintaining students' interest, but also in helping the student to expand repertoires of strategies for acquiring skills that will assist him/her in educating himself/herself. That is in acquiring skills for life-long learning. The information processing strategies emphasized here underlie the ability by learners to employ their critical thinking faculties that have to be continuously demonstrated as the student actively engages in various learning tasks. It is probably clear to our reader by now that the development of information skills inherently demands particular types of teaching and learning models many of which are unfortunately not esteemed in many of today's classrooms. Wambari (2001:39), in his attack of traditional teaching methods has challenged African universities to rethink their duty to the student:

I examine prevailing methodology of teaching, principally the lecture method, otherwise known as didactic teaching, and assess its chance of enabling learners to become less authority dependent I point out the need to reorganize the education system to meet the challenges of the twenty-first century involving constant change and complexity by enabling learners to become open-minded, adaptable and creative. It urges the system to make possible conditions under which creativity and innovativeness can be enhanced. . . .

For the purpose of the twenty-first century, we need a pedagogical shift from didactic to engaged learning. Engaged learning sees to it that students' understanding of facts is not only enhanced but also that principles that underlie the facts are well grasped which enables a learner to explain information in terms of why things are the way they are as well as be able to use it to make quality judgements and for solving problems whenever they occur.

What Is the Focus of Service Courses?

The main thrust of service courses, whatever the model that is used, is to increase students' competence in the following skills: listening to academic lectures and taking effective notes, applying effective reading strategies to academic content, improving memory, applying critical thinking skills to course content, using the library and other sources to access needed information, and the ability to write effective academic essays using acceptable conventions stipulated by the discipline community of a chosen field.

The SCONUL position paper on information skills in higher education prepared by a team of educators in Britain has presented a synthesis of the skills that they feel universities should endeavour to develop in their learners. They are classified under "The seven headline skills" (SCONUL www.sconul.ac.uk. P.3). These are:

- The ability to recognize a need for information.
- The ability to distinguish ways in which the information "gap" may be addressed.
- The ability to construct strategies for locating information.
- The ability to locate and access information.

- The ability to compare and evaluate information obtained from different sources.
- The ability to organize, apply and communicate information to others in ways appropriate to the situation.
- The ability to synthesize and build upon existing information, contributing to the creation of new knowledge.

These “21st century skills” now seen as the “keystone to lifelong learning” have been grouped into three categories to cover 1) those that a student needs before accessing information 2) those required when accessing information and 3) those that are called upon after information has been extracted (www.ncrel.org/engage/skills). Embedded in these seven skills are both basic as well as advanced information skills which lead one “from being a competent user to the expert level of reflection and critical awareness of information as an intellectual resource”. Commenting on their information skills model, the SCONUL authors have made the important observation that a university student progresses from “novice to expert” with undergraduate students practicing the first four skills while postgraduate and research students aim towards the expert while aspiring to the seventh.

Learning Support Models In African Universities

There are two basic models that can be applied to the promotion of students’ learning skills are examined in the rest of this paper. These are the service department model and the skills-content integration model. How useful are the models? What alternative or complementary models can be proposed? What implications do they carry for teaching and learning across the curriculum? In the rest of this paper, we will examine answers to some of these questions.

The Service Department Model

A number of universities in Africa have established departments that offer their new undergraduate students a course of study in independent learning and critical thinking skills.

Universities that follow this model tend to target students in their first year of study with some universities devoting only a single semester to these skills. In 1990 for example, all public universities in Kenya (four at the time), with assistance from the Government of Kenya the British Council through funding from the Overseas Development Agency (ODA) established the Communication Skills Course (Bint, Burnett, Greenhalgh, and Robbins 1990). Today, as a result of this effort, each public university in Kenya has either a full-fledged department or unit whose key tenet is to orient first-year students in a number of advanced academic skills, which they are expected to transfer to their learning of subject content in their chosen disciplines both in the arts as well as the sciences.

Scholars and educators from institutions of higher learning where the service department model is applied have tended to apply the concept of “transferable skills” while referring to the broad spectrum of capabilities that are the focus of the service department. Some scholars have been more concerned with specificity and tended to look at them as skills that enable students to deal more competently with information, hence applying the terminology, “information skills”. Whatever terminology is applied and indeed many have been used% study skills, academic communication skills, learning skills, independent study skills, learning support skills, thinking skills% one thing that is clear, is that some universities in Africa now operate service departments that assist students to develop a specific set of key skills that they can apply or transfer to the various learning activities in their selected disciplines. This practice in which skills are taught separately from the content areas has received much criticism with Ackerman and Perkins (1989) in the frontline for the adoption of an integrative view.

By choosing to set up the departments, these initiators inadvertently set in motion the conventional practice in which learning and critical thinking skills are offered as separate knowledge that is often seen to have no relationship with subjects in the curriculum. At Kenyatta University, one is often dismayed to hear a history lecturer wondering why his/her second year students are not able to write good history essays yet there is a department in place that trains first year students in essay writing. What this teacher needs to appreciate is that good writing may not be achieved in history if he/she does not become the key agent for ensuring that skills introduced in the service department are transferred to the learning of history.

Inherent in the misconception about the relationship between the service department and the content department is the greatest weakness with the service department model. The history teacher is behaving like most subject teach-

ers. They are there to teach content not skills. In essence, the point being made here is that the service department model may not be sufficient on its own to the attainment of the key goal that is the focus of this paper. The service department does well to raise a critical consciousness on the need for developing effective learning habits and provides a general overview of what these habits are and how they can be promoted. After that, the subject lecturer is expected to see to it that effective habit development is integrated into the learning of subject content. This means that he/she adopts the use of the skills-integration model examined below. Let us now look at an alternative model, one that seeks to integrate the development of learning and thinking skills.

Skills-Content Integration Model

The skills-content integration model, which unfortunately, is not very widely applied in the African context, focuses on integrating the development of learning skills with the teaching of mainstream subjects such as mathematics, chemistry, geography or literature (Ackerman and Perkins 1989). In essence, this model adopts the view that every university lecturer should practice what (Joyce and Marsh 1992) refer to as “good teaching” in which each lecturer ought to conduct his/her lessons in a way that positively influences students’ ability “to mine information, make it their own and use it effectively”. Teaching learning and thinking skills across the curriculum is exactly what this model seeks to encourage. From a curriculum integration perspective, it makes obvious sense to try to build solid connections between the development of skills and the teaching of content, because the skills are essential to students in trying to unlock the content. There are many obstacles to systematic skills-content integration. These however, are beyond the scope of this paper to address. It is important, however, to note that there seems to be obvious competition between those who teach skills and those who teach content, with the teaching of skills being sidelined because it is seen as a time depleter. The bold proposals by Ackerman and Perkins (1989) on how institutions and educators can integrate skills development and content teaching are worth looking at. Other proponents of integration are the lecturers in the Psychology department of King Alfred’s College in the United Kingdom who “believe that academic skills are acquired gradually over three years [and that] their development requires that they be taught in context as a continuing process...” (<http://www.wkac.ac.uk/psychology>).

Adopting integration means that every university lecturer must be equipped with tools as well as an environment that can make possible a departure from conventional practice where teaching and learning activities have more to do with memorizing the answers than engaging students in their own explorations. The model definitely carries far reaching implications on how universities prepare their lecturers for their teaching role as well as how they reorganize their teaching and learning environments in order to accommodate new approaches to teaching and learning (Wambari 2001). Ackerman and Perkins (1989) warn that, “it is not foresight but extraordinary courage that will bring about desired results.”

In situations that combine both models, lecturers from the non-service disciplines act more like collaborators and supporters and the training they offer need not start from scratch. In other words, they take the responsibility of providing opportunities in which transfer or application of skills learnt in service departments can be realized. Their goal is to integrate thinking skills with instruction and assessment techniques and to see the classroom become a forum for interrogation of ideas, where students can make use of the best thinking they are capable of, to examine their own thinking and the thinking of others. Beyond higher-order skills and deeper content mastery, improvements ought to be realized in broader and subtler characteristics of the learner. Students are likely to become more autonomous and proactive in their conduct as thinkers and learners.

Recommendations and Conclusion

The above discussion challenges universities in Africa to rethink their roles in assisting students to become more independent learners. To hold the view that any category of students does not require their learning abilities enforced for the sake of higher education is to grossly underestimate the complexity of the process of higher education as an enterprise in knowledge creation. To respond effectively to the academic shortfalls that students bring to university will require only those university educators that are concerned enough to pursue it. And each one of us should be.

In most times, change never comes easily. I see our biggest enemy arising from a tendency to want to remain in the comfort zones of traditional methods as well as our blind tendency to support them.

The paper makes the following recommendations:

- All educators in higher education need to provide opportunities for all students where their thinking skills can be cultivated. This can be done through both explicit and implicit presentation of learning tasks in which instructors embed problem-solving, decision-making, reading, writing and other related skills.
- The particular skills that are to be taught need to be systematically well thought out and be informed by research on students' academic needs.
- The potential for integrating skill development and content learning in higher education needs to be discussed and opportunities for debate should be availed in all institutions of higher learning in Africa.
- There is a need for strong collaboration between staff in service departments and content staff and other learning support providers such as library staff and ICT specialists.
- Universities that already have support courses ought to strengthen them.
- Universities and other collaborating partners should support further studies to investigate the role of existing academic support programmes in Africa.

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