

THE EPISTEMOLOGICAL IMPLICATION OF THE BANKING MODEL OF EDUCATION AND THE NEED FOR PROBLEM-BASED MODEL OF LEARNING IN EDUCATIONAL SYSTEM

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Abstract

*For a long time now, education in Nigeria has been seen as an exercise in making sure that students absorbed necessary information, specific facts, data, theories, methods, formulae to write and pass examinations with good grades and secure white-collar jobs upon graduation. Examinations were like many other obstacles that must be overcome on the way to a decent job and a nice salary. Education was conceived as the transmission of knowledge from those who know (Lecturers) to those who did not, and students were supposed to acquire this knowledge by stocking their minds with this information; a model of education Paul Freire called "the banking model of education. For a while, this worked. Then, employer started complaining that many school graduates are not critical thinkers and problem solvers in spite of the many A's that they make in their results. They hardly think for themselves and appeared to lack initiative. With the fast-changing world where white collar jobs are hardly available, the only model of learning where both students and lecturers are seen as the co-creators of active learning in our institutions of learning is sacrosanct in order to shift away from the traditional notion where students are seen as consumers of knowledge to a student-centered model of learning. The aim of this paper is to show that this Student-Centered and Problem Based Learning is the most effective model of Education in our rapidly changing new world. This work employed the qualitative design where the materials used were sourced from books, journals and periodicals. The study adopted expository and evaluative method. The expository method was used in analyzing **the traditional banking model of education and its epistemic implication**. The evaluative approach was used as the vehicle for philosophical analysis to expose **the constraint of the banking model of education and the need for problem-based model of learning in our educational system.***

Keywords: Epistemology, Education, Student-centered learning, Problem-based learning, Active learning.

Introduction

The problem of improving performance of students with diverse needs and abilities has been the concern of many teachers throughout the history of modern education. Over the past decades, different models and forms of active learning have been proposed in order to increase student's engagement and deepen their understanding. Today's classrooms have more

challenges to teachers who are expected to reach out to all sub-groups of learners by ethnicity, socio-economic status, English language proficiency, etc. With limited contact time, teachers and schools alone seem to be held accountable for helping students meet established educational standards.¹

With the fast changing world with its legion of challenges, there is a dire need to develop an epistemology of active learning, a type of education that is Student-Centered and Problem-Based in nature. Here, students are seen as co-creators of knowledge and learning becomes part of a community through active engagement. It is the position of the author of this work that this student-centered and problem-solving based education is the best option compared to the Banking model of education,² looking at the fast changing world. The author examines the philosophy and objective of Nigerian Education and the epistemic nature of education after critiquing the traditional banking model of education on the grounds that it is outdated. He uses John Dewey's pragmatic model of education and Maria Montessori's model to buttress his point that a Student-Centered model of education is the best at the moment.

The Philosophy and Objectives of Nigerian Education

Historically speaking, Western or formal education started in Nigeria in 1842 — only at the primary level — by the Christian missionaries who managed the educational system according to their respective philosophies. The missionary organizations available then were the Chord missionary society, the Wesleyan Methodist, and the Catholic. Secondary education was established in 1859 and the first secondary school was CMS Grammar school, Lagos. The reason behind the delay of secondary schools was not well known. Though, there are insinuations that it was because the missionaries thought that secondary education can induce some critical thinking in people, which may not be helpful for their policies.³

After 73 years from the date of establishment of the first secondary school, the first higher educational institution was established in 1932. The first institution was the Yaba Higher College. The college was established in 1932, but commenced studies in 1934. In 1948, The University College Ibadan was established, starting with just 104 students. The number of universities rose from one to five in 1962. And by 970s and 1980s, an appreciable number of higher institutions was established.⁴

The National Policy on Education in Nigeria was launched in 1977. The orientation of the policy was geared towards self-realization aimed at achieving social, cultural, economic, political, scientific and technological development.

The current philosophy and objectives of education were formulated based on the systematic thought of the nature of man, the caliber of man to be produced through education, the type of society desired for him, the type of values cherished in the society such that the individual would cherish. Nigeria as a nation aims at building a free and democratic society, a just an

1 Robertson, L. "Toward an Epistemology of Active Learning in Higher Education and Its Promise", Misseyanni, A., Lytras, M., Papadopoulou, P. and Marouli, C. (Ed.) Active Learning Strategies in Higher Education, Emerald Publishing Limited, 2018.

2 Banking model of education is a term used by Paulo Freire to describe and critique the traditional education system. It was first used by Freire in his book: *Pedagogy of the Oppressed*. The name refers to the metaphor of students as containers into which educators must put knowledge. Freire argued that this model reinforces a lack of *critical thinking* and knowledge ownership in students.

3 Brief History of Education in Nigeria: <https://nigerianfinder.com/history-of-education-in-nigeria/> accessed on the 29th of December, 2019.

4 Brief History of Education in Nigeria: <https://nigerianfinder.com/history-of-education-in-nigeria/> accessed on the 29th of December, 2019.

egalitarian society, a united strong and self-reliant nation, a great and dynamic economy and a land of bright and full opportunities for all citizens (FEG 1981, revised). Based on these national objectives, the philosophy of Nigerian education has to be geared towards, self-realization, better human relationship, individual and national efficiency, effective citizenship, national consciousness, and national unity as well as social, cultural, economic, political scientific and technological progress.⁵

The aims and objectives of education to which this philosophy was linked are;

- i. The inculcation of national consciousness and national unity,
- ii. The inculcation of the right type of values and attitudes for the survival of the individual and the society,
- iii. The training of the mind in the understanding of the world around and
- iv. The acquisition of appropriate skills, abilities and competences both mental and physical as equipment for the individual to live in and contribute to the development of his society (FGN 1981 revised). The banking model of education was normally the first and traditional way of learning right from the beginning of formal education in Nigeria.⁶

Education and Epistemology

Formal education is epistemic in nature. It is epistemic because it has to do with knowledge acquisition. Epistemology is the branch of philosophy that examines the nature of knowledge, the processes through which we acquire knowledge, and the value of knowledge. Basically, epistemology deals with four key issues:

1. What is knowledge?
2. What are the best and most secure ways of acquiring knowledge?
3. What is the value of knowledge?
4. What is the scope/ limit of knowledge?

Detailed account of knowledge is often traced back to Plato's *Theaetetus* and *Meno*.⁷ Thus, epistemologically, the main objectives of education should be the following:

1. To teach students how to decide whether a particular piece of information counts as genuine knowledge or whether it is no more than the best guess we can come up with at the moment. (*What is knowledge?*)
2. To teach students how to determine whether a particular piece of information has been acquired in the proper ways, whether there are good reasons to think that it is correct or whether there are good reasons to think that it could be false after all, even though there is strong evidence for it. (*What are the best and most secure ways of acquiring*

5. Molagum, Evang H. "The Philosophy and Objectives of Nigerian Education is it Relates to Teacher Education." Being a Paper Presented at the National Conference organized by School of Education, Kwara State College of Education, Ilorin 1999.

6. Molagum, Evang H. "The Philosophy and Objectives of Nigerian Education is it Relates to Teacher Education." Being a Paper Presented at the National Conference organized by School of Education, Kwara State College of Education, Ilorin 1999.

7 Wong Yew Leong, "Epistemology and Education" in <https://www.encyclopedia.com/education/applied-and-social-sciences-magazines/epistemology-and-education> accessed on the 29th December, 2019.

knowledge?)

3. To teach students how to determine what the goal of inquiry is in a given situation and to evaluate whether a particular piece of information or knowledge is worth having. (*What is the value of knowledge?*)
4. To teach students to know the scope and limitation of knowledge. (*What is the scope/limit of knowledge?*)⁸

Essentially, this is the connection between education and epistemology. Let us take look at the Banking model of education and its implication in comparison with John Dewey's pragmatic model of education and Maria Montessori's model.

The Banking Model of Education and its Epistemic Implication

The term "banking model of education" was first used by Paulo Freire in his book: *The Pedagogy of the Oppressed* to describe and critique the traditional model of education. The name refers to the metaphor of students as containers into which educators must put knowledge. Freire argued that this model reinforces a lack of critical thinking and knowledge ownership in students, which in turn reinforces oppression, in contrast to Freire's understanding of knowledge as the result of a human, creative process.⁹

Freire describes this form of education as "fundamentally *narrative* in character" with the teacher as the subject (that is, the active participant) and the students as passive objects. Education is thus seen as a process of depositing knowledge into passive students. Teachers are the epistemological authority in this system; while students' pre-existing knowledge is ignored, aside from what is expected to be 'deposited' into them earlier. In our new world today, this traditional model of education is outdated.¹⁰

The Epistemic Implication of the Banking Model of Education

The epistemic implications of the banking model of education are legion. First, the model believes that the sole responsibility of a teacher is to teach or impart knowledge while that of the students are to receive what is being taught. Secondly, it is also believed that the teacher is a compendium of knowledge while the students are stark ignorant. This is like the Lockean experience and a *tabula-rasaic* mind interaction. Thirdly, the teacher is seen as a thinking being while the student is the seen as being that is thought about; fourthly, the teacher talks and the students listen- meekly; fifthly, the teacher plays a disciplinary role while the students are the ones that are disciplined. So, while the teacher is viewed as one who cannot go wrong, the students are seen as being intellectually and morally weak, and so, must be corrected accordingly following certain strict measures; the sixth is that the teacher chooses and enforce his choice, and the students comply; again, teacher acts and the students have illusions of acting through the actions of the teacher. That is to say that the students learn how to behave or act based on the actions and behaviors of the teacher; also, the teacher designs the nature and content of the programme while the students, who were not consulted, adapt to; and finally, the

8 Wong Yew Leong. "Epistemology and Education" in <https://www.encyclopedia.com/education/applied-and-social-sciences-magazines/epistemology-and-education> accessed on the 29th December, 2019.

9 Freire, Paulo. "The Banking Model of Education". In Provenzo, Eugene F. (ed.). *Critical issues in education: an anthology of readings*. Thousand Oaks, CA: Sage Publications. pp.105–117. ISBN 1412936551, 2006.

10 Freire, Paulo. *The Pedagogy of the Oppressed*. Brazil: Bloomsbury Academic, 1970 Pp. 73

teacher is the subject of the learning process, while the students are mere objects.¹¹

The above submissions show that the role of teachers is one of putting knowledge or fusing some attitudes into docile and passive objects called students. The teacher acts like a sculptor who picks clay to mould it into what he likes, following certain standards, which suits the society. The banking system of education could be traced from the Greek educational system, which also influenced their philosophical doctrines. For instance, the history of the educational system of the Spartan society shows that the sole aim of education was to produce warrior citizens. That is why at the age of seven, the only thing a child is taught is how to fight. Plato in his *Republic* and Aristotle in his *Politics* proposed that education was meant to train citizens to play the part for which they are best fitted. For both of them, the art of education is part of the supreme art of politics. Education helps to mould the citizens in a manner that would make them fit into the political arena of their society.¹²

In the final analysis, the banking system views the students as objects of assistance. It does not give the students the opportunity to dialogue with their teachers because teachers are often seen as the transmitters of knowledge, while the students are simply seen as the object in which knowledge is transmitted or deposited into, thereby turning the student into a passive object, which is acted upon by the teacher. It advocates for an indoctrination of a set knowledge, without allowing the learner to critically assess the kind of knowledge being deposited in them. In the banking education model, knowledge/education is seen as a gift given to the student by the teacher who considers the learner as marginal, ignorant and resource-less. Freire saw this as false generosity from the dominant group (oppressors) and a way of dominating and controlling the people (the oppressed) for their selfish benefits. This, according to Freire, makes the banking system a very dangerous model of education. It only makes the student a tool in the hands of the teacher.

The fundamental aim of education should be to develop the total wellbeing of an individual so that such individual would be able to advance its potentials for the advancement of its society. Since the banking system of education cages the individuals, demeans and stifles their capacity of advance their society, thereby reducing the individuals to mere receptors of ideas, Freire sees this sort of system as inimical to societal advancement.

Let us now turn to John Dewey's and Montessori's model of education which is more pragmatic and problem-solving. **John Dewey's Pragmatic Model of Education**

There are different models of education but for the purpose of this article, John Dewey's pragmatic model of education and Maria Montessori's model of education is imperative. John Dewey is remarkably known for his "progressive educational model". Progressive education is essentially a view of education that emphasizes the need to learn by doing. Dewey believed that human beings learn through a pragmatic approach. This places Dewey in the educational philosophy of pragmatism. Pragmatists believe that reality must be experienced. From Dewey's educational point of view, this means that students must interact with their environment in order to adapt and learn. Dewey felt the same idea was true for teachers and that

Freire, Paulo. "The Banking Model of Education". In Provenzo, Eugene F. (ed.). *Critical issues in education: an anthology of readings*. Thousand Oaks, CA: Sage Publications, 1998. 17-32.
 Cardinal I.C. Ihejirika "A Constructivist Appraisal Of Paulo Freire's Critique Of Banking System Of Education" In *European Journal of Educational and Developmental Psychology*, 2013, 2(1), 1-10.

teachers and students must learn together. His view of the classroom was deeply rooted in democratic ideals, which promoted equal voice among all participants in the learning experience.¹³

Dewey's pragmatic and democratic approach to schooling may not stand out so radical today, but in the early and mid-1900s, his view of education was in contradiction to much of the then-present system of schooling. Dewey's approach was truly *child-centered*. A child-centered approach to education places the emphasis of learning on the needs and interests of the child. In Dewey's view, children should be allowed to explore their environments. He believed in an inter-disciplinary curriculum, or a curriculum that focuses on connecting multiple subjects. The role of the teacher in this setting would be to serve more as a facilitator than an instructor. In Dewey's view, the teacher should observe the interest of the students, observe the directions they naturally take, and then serve as someone who helps develop problem-solving skills.

Traditionally, a teacher would stand in front of a group of students who are all sitting in rows. The teacher is usually the deliverer of information and the job of the students is usually to receive this information and regurgitate it during examination. In contrast, in a classroom based on the ideas of John Dewey, you may see a teacher deliver background content information, but you would also likely see students working in groups, with those groups exploring differing concepts within the content.¹⁴

Montessori Model of Education

Montessori is a model for education that is close to Dewey's model. Montessori's approach emphasizes active learning, cooperation, and learning in harmony with each child's unique pace of development. This model was developed by Maria Montessori (1870-1952), an Italian teacher and physician. Montessori's method is differentially applied according to where the child is situated in the planes of development as seen below:

Infancy (birth-6 years): This stage is characterized by the Absorbent Mind and Sensitive Periods. These two aspects work together and cause an unparalleled ability for learning. Learning is intense and enlightening. During the first three years infants learn through their senses, in what is called an unconscious Absorbent Mind. During the second three years children learn consciously through active hands on experience. Learning will take place when they are allowed to do things on their own.¹⁵

Childhood (6-12 years): This stage is characterized by stability, having acquired most of the basic skills the child needed. Children grow out of their Absorbent Mind, and learn through cognitive reasoning and imagination. Children are driven to understand the world around them, how things work, and why. This is the time to learn most factual information, as adolescence brings a decline in this learning drive. The sensitive period of this age group centers on social acceptance, and the development of a value system.

Adolescence (12-18 years): At this point, adolescents present a decline in energy, and do not want to be bombarded with learning information. Thus, learning should be connected to everyday living skills. Although Montessori never developed this stage into a practical learning system, she dreamed to create schools which were actually self-sustaining communities,

¹³ Sikandar, Aliya. "John Dewey and His Philosophy of Education" in Journal of Education and Educational Development Vol. 2 No. 2 (December 2015) Pp. 193 - 198

¹⁴ Sikandar, Aliya. "John Dewey and His Philosophy of Education" in Journal of Education and Educational Development Vol. 2 No. 2 (December 2015) Pp. 193 - 198.

¹⁵ Chloë, Marshall. "Montessori education: A Review of the Evidence Base" in npj Science of Learning (2017) 2:11; doi:10.1038/s41539-017-0012-7. Pp1-9.

where through working on activities, such as growing their own food, planning meals, building houses and designing clothing, learning would occur naturally. In this way, adolescents would come better prepared to adapt to the adult world, by becoming independent and learning to live in harmony with others.

Transition to adulthood (18-24 years): This stage is characterized by career exploration. If the individual acquired the necessary cognitive and social skills in the previous stages, he will be able to make exact and satisfying careers choices. Montessori teachers have quite a different role than those of classic educational methods. Here, the teacher is less prominent. The teacher is there to be an aid in the child's independent learning process. The teacher decides which learning materials will be available and how they will be organized. She then takes a step back, allows free exploration, and is there to give guidance and a helping hand. Simultaneously, she is an active observer, assessing when children have reached sensitive periods where new concepts may be introduced.¹⁶

The Challenges of the New World and the Need for Student-Centered Model of Education

Today, the world has changed but the model of education in this part of the world has not totally changed with it. Students spend years in an antiquated educational system, studying subject they may never use, preparing for a world that no longer exists. I tell you most solemnly, the most dangerous advice you can give a child today is the traditional advice: "go to school, listen to your lecturers, get good grades and look for a white collar job; a safe secure job and settle down." This is an old and a bad advice in our world where white collar jobs are not even there. Take a look at the number of graduates with distinctions but jobless on the streets. If you see what is happening in our country in contrast to what is happening in Europe, Asia and other civilized climes, you will be very worried and concerned as I am.

When parents or lecturers advice students to "go to school, study hard to get a good job, they often do that out of cultural habit. The concept of simply getting good grades and finding a good job is an old idea and it is a bad advice because if you want your child or student to have a financially secure future, they should not play by the old set of rules. It's just too risky in our current changing world. According to Paul Gamache:

Many universities attempt to help struggling students through 'remedial' skills instruction. Often, students find university studies difficult because they have an inappropriate conception of what learning is and they see knowledge as an external, objective 'body' of facts and learning as the passive absorption of these data. What these students need is an alternative epistemological view, one that enables them to see themselves as creators of 'personal knowledge', rather than as containers to be 'filled', and that allows them to develop personal learning techniques. Such a conceptual shift is a highly individual process that students must undertake and experience for themselves. More research on specific activities that will enable students to redefine knowledge and learning is needed.¹⁷

The idea of study hard, get good grades and get a white collar job has little effect in our new fast

16 Chloë, Marshall. "Montessori education: A Review of the Evidence Base" in *npj Science of Learning* (2017) 2:11; doi:10.1038/s41539-017-0012-7. Pp1-9.

17 Gamache, Paul. University Students as Creators of Personal Knowledge: An Alternative Epistemological view" in *Teaching in Higher Education*. Pp 277. DOI:10.1080/13562510220144789, 2002

changing digital world that is highly competitive. In fact to encourage students to be employees is to advise them to pay more than their fair share of taxes over a lifetime, with little or no promise of a good pension scheme in our world. Truth be told, most families work from January to mid- year for the government just to cover their taxes. Today, we are facing huge global and technological changes, greater than those ever faced before. Who knows what the future holds? But whatever happens, we have two fundamental choices: play it safe and smart by preparing, getting educated not only for paper qualifications sake, but by awakening your Children's financial genius and ability to cope in this competing world.

Look out again, one of the reasons the rich get richer, the poor get poorer and the middle class struggle in debt is because the subject of money is not taught in school and the majority of the graduates lack the initiatives to create wealth after graduating from school with distinction. Most of us learn about wealth from our parents. So what can a poor parent tell their children about money? Very little. Many subscribe to the old traditional thinking: "stay in school and study hard and get a secure job". Thus, many graduate with excellent grades and poor financial programming mind-set. This explains why some doctors, bankers, accountants who earned excellent grades in school may still struggle financially all of their lives. Our staggering national debt is due in large part to highly educated politicians and government officials making very careless financial decisions.

Wealth is one form of power. But what is more powerful is financial education. Money comes and goes but if you have the education about how it works you will gain power over it and build wealth. The reason positive thinking alone does not work is because most people pass through school and never learned how wealth works, so they spent their lives working for money.¹⁸

There is a serious need to shift away from traditional Students-consumer notion of education to a Problem-based Education where students are exposed not only for paper qualification but wisdom to financial intelligence in order to manage the little they can lay their hands on after graduating in our days where white jobs are very difficult to find. Problem-based learning (PBL) which is a student-centered pedagogy model of education where students learn about a subject through the experience remains the best approach of education.

This model is the same as Student-centered learning. Here, the tutor's aim is to build students' confidence when addressing problems, while also expanding the understanding of the students. This process is based on constructivism. PBL represents a paradigm shift from traditional teaching and learning which is more often lecture-based. The advantages of Problem-based learning (PBL) are legion. It is student-focused, which allows active learning, better understanding and retention of knowledge. It also helps to develop life skills that are applicable on many domains. More so, it can be used to enhance content knowledge while simultaneously fostering the development of communication, problem-solving, critical thinking and directed learning skills. Problem-based learning (PBL) may position students to optimally function using real-world experiences. By harnessing collective group intellect, differing perspectives may offer different perceptions and solutions to a problem.

[Kiyosaki](#) Robert, [Lechter](#) Sharon. *Rich Dad Poor Dad*. USA: Warner Books Ed, 2000. Pp 25

Conclusion

The earlier Nigeria begins to think about the Student-Centered model of Education the better for her fast growing population. As Lipman puts it, the focus of the educational process should not be on the acquisition of specific information and knowledge, but on the grasp of the relationships within and between the subjects under investigation. Genuine understanding occurs only when students are able to be thoughtful and reflective about the information and knowledge they have been presented with, and when they are sensitive to the goals of inquiry and are therefore able to be reasonable and judicious in their assessment of the processes and conclusions of inquiry. Introducing new subjects that are specifically designed to teach critical thinking, creative thinking and other process skills into our curriculum will be a step in the right direction, but the benefits will be limited if students are not also given the opportunity to use these skills in their content subjects, such as industrial physics, economics and history. Physics students should also be taught how to think like physicists, philosophy students should be taught how to think like philosophers, economics students like economists, history students like historians, and so on. Only in this way can we produce students who are able to be sensitive to what is problematic in any given situation and also think for themselves.

In the modern world, the skills and qualities that we associate with creativity and ingenuity are required to help us work more effectively together. Being able to come up with new ideas and solve everyday problems is also important for people on a personal level. It plays a critically important role in learning and personal development, as well as building self-esteem. As matter of fact, creative thinking not only enhances our ability to adapt to our environment and circumstances but also allows us to transform our environment and circumstances. Understanding, identifying, and nurturing creative potential is relevant in education if want to solve academic problems, personal challenges and find innovative solutions and alternatives for success in our fast-changing world.

Education is the pillar of development and determinant factor of technological, political and socio-economic growth and development of any nation. Therefore the government should provide adequate infrastructure such as electricity, pipe borne water; class room blocks/lecture halls in our schools. Our schools' laboratories, workshops, vocational and research centers should be adequately equipped with the necessary modern facilities.

Another way to improve our educational standard is through regular review of our schools' curricula to accommodate new topics. Topics bordering on entrepreneurial and computer skills should be included. Subjects that teach creativity and innovativeness should be introduced across the board in educational institutions, not forgetting adequate practicals to impact useful knowledge. The welfare of teachers is very sacrosanct. Teachers on their part should be disposed to open up and engage the students to a problem-based academic exercise, a model of learning where both students and lecturers are seen as the co creators of active learning. This epistemology of active learning will help the students to become more informed and useful in our highly competitive world today.¹⁹

18 Kiyosaki Robert, Lechter Sharon. Rich Dad Poor Dad. USA: Warner Books Ed, 2000. Pp 25

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