THE NEED OF CURRICULA INNOVATION AND DEVELOPMENT FOR A FEASIBLE MODEL LEADING TO PEACEFUL SHIFT BETWEEN INTERMEDIATE AND HIGH EDUCATION IN MOZAMBIQUE – A CRITICAL ANALYSIS

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ABSTRACT

One of the phenomena that used to be troublesome in the country for the last years, are the difficulties that students find at the transition from the intermediate education to the high education and, naturally, to the labour market. There are several presuppositions pointing to the weaknesses of the previous education systems, namely, the primary education, the basic education and the intermediate education. The consequence is a poor quality of students at the Universities. Some authors go further saying that the situation is worsened by the existence of diversity and mismatch of the curricula the failure of permanent update of the curricula including the National Education System itself. In a period that the modifications of science and technology are faster than ever, this study is intended to: i) perform a curricula analysis available now in the National Education System; analyse the Laws and supplements and their correlation then; ii) discuss the training quality of the students trained by the basic and intermediate subsystems of education and their transition to the high Education plus the investigation unity as well as the labour market and iii) to challenge the education to a new model based on a curricula modification in different subsystems of Education linking their interdependence with much emphasis on the quality in order to fit nowadays reality, which is the characteristic of a globalized society.

KEYWORDS: NES, Automatic Transition and Curricula

1. INTRODUCTION

Education, above all, the high education, is an essential pillar for development of any Country and Mozambique is not an exception. The Constitution of the Republic of Mozambique consecrates the education as a right and must of each citizen. (Ussene, 2011). In the same line of thought, Pires Fernandes and Formosinho (1991:187- 188) attributes the
education the purposes of “instruct, stimulate and socialize the trainees” in other words, “it aims to the acquisition of some knowledge, instruction, poised development of the student’s personality and the internalization of some moral conduct in order to socialize” (id. p.188). In this manner, it can be said that the extension on how some of these qualities are obtained, rely much on the ways of the education transmission. That’s why some political Education designed such as: Introduction of free education and scholarships, aims to support and foster citizens of the whole Country. These are considered as the tools to fight the poverty. In order to have this Education producing the desired effects, it is important to pay attention to how the teaching contents are designed, transmitted and accepted. To that end, it is crucial to pay close attention to the syllabus and teaching methods, mainly its influence on the quality of the transmission process and knowledge assimilation during the preparation of students who enrol themselves for high education.

1.1 Statement of the Problem and Objectives
The failure of students in the learning process, affects negatively the student itself, affects the country, the teachers even the teaching institution itself, and consequently the State. The posed question is: What is the origin of this problem? It is difficult to come to an agreement because the interests and perspectives of the people involved are divergent. Actually, there is a number of varied factors that are responsible for the poor schooling performance. Selimane & Casali (2013) addresses about curricular integration and they locate the source of the problem being the consistency of theoretical plans in which the curricular reformation in Mozambique is based including the competence teaching. They are two principles in which, according to the curricular plan for secondary general education –PCESG (Moçambique/MEC/INDE, 2007, p.16) General Secondary Education is developed. Does the problem that the newcomers from secondary school face at Universities is the mismatch of the teaching methods and their curricular models?

In the report of synthesis about curricula analysis and innovation of education for all in sub-Saharan Africa, it is mentioned into the curricula shift strategy: “why” and “how”. In this strategy they emphasize that the curricula shift is not itself an objective, but their improvement, something that should be always be done bearing in mind the needs of the student and the evolution of the society. Accordingly, the curricula innovation or improvement should be seen as a continuous double process: political and technical. In this extent, some questions could be raised: (a) in which way should we think over a curricula
characteristics and parameters to ensure the smooth accomplishment of the learning objectives and the development of required competences through the disciplines even the learning domains? (OBIE-UNESCO, 2006); (b) How to fit a curriculum according to the demand and the needs of a certain context? These two questions lead us to design the following objectives: i) Consider carefully the high education institutions in Mozambique; ii) examine the available curricular models and in use at intermediate level in general; iii) examine the available curricular models and in use at high education; iv) Draw conclusions about the curricula model that is more suitable, which, at the same time, allows for an articulation between intermediate education and high education. Apart from that, it ensures a learning process that conciliate the theory and practice for the labour market.

1.2 Motivation
In view of Masetto, quoted in (Pereira, Mercuri&Bagnato, 2010) an innovation is an alteration conscientiously promote, aimed to improve both from the implementation as well as the results of the educational results; a Senge (1996) quoted in (Pereira, Mercuri&Bagnato, 2010) also calls attention to a fundamental attitude in any innovation, emphasizing the willingness to learn, to change concepts and ideals. Then, this encourages us to perform the curricular innovation for representing something important to be discussed and relevant due to the increasing evolution of the education sciences department. At other hand, since the curricular revision needs to be studied thoroughly in special the curricula that has their focus, the connection between the school learning and professional, in an organized and acceptable way in an ongoing globalized society.

CONTEXT – AND APPROACHES OF EDUCATION IN MOZAMBIQUE
2.1 Education in Mozambique
In order to understand better the higher education in Mozambique, we propose ourselves to talk about several educational subsystems of education in Mozambique.
Starting with the General Secondary Education, this has two stages. The first one corresponds to grade 8, 9 and 10. The second one corresponds to grade 11 and 12. Grade 12 is the one that allows students to the High Education. As a way of giving an answer to a great demand of people who look for vacancies at secondary education, these levels of education functions in daily and night shifts. The night shift was designed for older students with more than 15 years
old. Apart from these two shifts, the MINED introduced Distance General Secondary Education with limited expansion.

In addition to the education mentioned previously, it was also created the Professional Technical Education and High Education.

According to the LAW No 27/2009, OF SEPTEMBER 29th The High Education is a subsystem of National Education System and comprises different kinds of Education and learning provided by teaching institutions after grade 12. They are allowed by the qualified authorities to establish themselves as high education institutions. To accomplish this, there are specific requirements to be satisfied. High Education can also be defined as a collective people obtaining public or private legal title, with judicial personality, having scientific and pedagogic autonomy, administrative, disciplinary, financial and patrimonial, and they are classified according to the vocation or the type of property and financing. We can find them in two kinds of properties: Public and private properties. The public ones are those which rely much on the Budget of the State and they are supervised by the State, while the private education institution are those belonging to collective people, private or mixed, having the main source of private income. They can be classified in profitable and non-profitable and have the denomination of association, foundation, commercial society or cooperative.

2.2 Education Institutions in Mozambique

2.2.1 Types of institutions
The high education institutions and their structures, according to their vocation, are classified in:

a) Universities, they are institutions that owns the human and material capacity for teaching, scientific investigation and expansion to several domains of knowledge, providing rhetoric and academic training, authorized to confer degrees and academic diplomas;

b) High Education: They are specialized institutions attached or not attached to a university, devoted to training and research in sciences and technology domain or professions, as well as the expansion. They are authorized to confer degrees and academic diplomas.

c) High Schools: They are high education institutions attached or not attached to a university, to a high institution or to an academy, devoted to teach in a specific branch of knowledge and the expansion. They are authorized to degrees and academic diplomas.

d) High Polytechnic Institutions: They are high education institution attached or not attached to a university, which offers general studies or a professional training. They are authorized to confer certificates and all academic degrees except of the PhD. They attribute post-graduate degrees polytechnic institutions that are attached.
e) Academies: They are high education institutions devoted to specific education areas namely, the arts, the literature, technical skills such as military and police. Specialized training and business, authorized to confer degrees and academic diplomas.

f) Faculties: They are primary academic unities of a university or an high institute engaged in teaching, investigation, extension and learning in a specific branch of knowledge, including the inclusion of several academic departments and the provision of education that leads to obtain of a degree or a diploma.

According to MED (2012) up to 2010 in Mozambique there were 17 public education institutions and 19, totaling 36, but nowadays it is said that Mozambique possess 45 high education institutions that offers training in several specialities as it can be seen in the Graphic 1, distributed according to the gender and the scientific areas of domain.

Graphic 1: Students’ distribution enrolled by scientific area and gender
Source: MED (2012)

3. METHODOLOGY

3.1 Types of Research
The type of research to be carried out will be the Bibliographic Research, because it aims to draw conclusions from written materials about the implementation of several phenomena and, for this case, it will be about many experiences of School Curriculum implementation. The bibliographic research or secondary sources comprise the all bibliography already available on the study topic. Concerning the type of the sources to be used, they will be the books released, articles and supplements of the state well mentioned in the bibliography section. (Marconi & Lakatos, 2012).

3.2 Approach
Concerning the approach in this article, it will be used the qualitative approach due to the nature of the study, for the fact that, according to (Araújo & Silvestre, 2012) defend that the purpose of qualitative approach consists in obtaining detailed descriptions of a reality that permits the interpretation on a situation or context.

3.3 Data Collection Techniques
For data collection or to obtain information that enable to build the theories that will describe the differences and experiences of several curricula implementation, we will use the
documental analysis, which according to Raupp & Beuren (2003) quoted in (Beltrão & Nogueira, 2011), emphasize it as a “way” or “collection procedure”; and they emphasize this technique because it presents and has getting much relevance nowadays, mainly if we consider how fast the data production has increasing, the variety of registration aids, the speed of date circulation even the possibilities of access to the multiple frames of documents in so called information era.

4. THEORIZING AND CONCEPTS

4.1 The concept of Innovation

According to Hernandez quoted in (Arruda & Caetano, 2012) there are several theories and conceptions about the concept of innovation and he defines it as “[...] any new aspect for a person within a system”, and he also looks to this concepts as the action of changing, to bring in something new that runs about, in a balanced way within a specific time, being individual or collective way. According to Fullan (2001) quoted in Garcia (2009) reveals that there are three possibilities of innovation at educational field: Those related to the utilization of new materials, that has to do with the curricula and those related with the technologies (Arruda & Caetano, 2012). The first sections of innovation related to the education emerged in USA, and, from that, the teaching of sciences acquired much relevance becoming a matter of reformations and changes.

4.2 The Concept of Curriculum

The concept of curriculum must be understood as a flowing process in which some stages can exist or not exist, even overlap it. For that reason, the timely changes must not be forcefully excluded from the fixed transformation processes for the educational improvement. In this case, the success of a changing process for innovation in curriculum levels relies much on the personal and institutional leadership, as well as the reasonable distribution of the tasks among the several actors, BIE-UNESCO (2006).

We have seen previously that the educational system integrates several teaching modalities since that USSENE in his doctorate dissertation defends that Mozambican schools should want to develop in their students, in the several subsystems and curricula, an effective preparation for the labour market, taking into account the vocational decision, with a view to suitable preparation of the students according to the present reality. It is important that the curricula be designed in way that allows exploring the competence and stimulating the young
people within the teaching and learning process in order to know how to do and insert them in the labour market with competence. In this context we propose ourselves to do an analysis of how some curricula are developed. Santos (2003) says that it is considered as curriculum, what the school should allow its students to learn because this learning will be helpful to them as people and citizens. Additionally, in the same work, he emphasizes some factors that must be taken into account in the curricular development process as the case of:

- The set of problem of cultural and social diversity of the students in nowadays societies can constitute a crucial issue for discussions, since this aspect is considered the central focus of change which is seen between the School and society relation;
- Also, because the curriculum is a substantive action material of the School and its institutional justification.

4.3 Types of curriculum and learning methods

There are varieties of curricular models and their way of approach, in other words, the methods of spreading them. Our intention will be of examining some for better perception in order to achieve a conclusion on which of them fits better for the proposed objectives in the article, for peaceful transition between intermediate and high education, as well as the labour market.

4.3.1 Competence Curriculum Based

This type of curricular approach, commonly named competence, is centred in social role to be done by the professional being trained, in other words, it is focused on the knowledge acquisition, in turn, it is more centred in the processes than the results. Being the case, first, the results are defined then the necessary processes to achieve them. The focus is given to what must be learnt by the student and not on what should be taught. The organization and flow of what is learnt relies on a hierarchical relation established between the teacher and the learner, something that the curriculum itself advocates that it is important when the contents are determined. (Dos Santos, 2010).

Selimane & Casali (2013) Draw conclusion that the education model based on competences tends to disregard the competences resulting from the day-to-day social relations of individuals, using the know how to do process associated with the productive world and it regulates a specialized knowledge. It is a model in which the School subjects and the
knowledge come to be centred with the competences, the abilities and technologies to be acquired by the students.

4.3.2 Curriculum centred on reference subjects
This type of curriculum supports an integration, which should value the individual subjects and their interconnections. This has the following consequence: When this interconnection is defended, there is a need to consider the ways of interconnects them from the problems and common topics found in the reference subjects.
Alice cited in Selimane & Casali (2013) argues that when the model of subject reference is analysed, this type of subjects are involved in a submission of a scientific specialized field, which does not contribute meaningfully for a critical perspective of education since that the knowledge of this field is not discussed according to the educational purposes.
A curriculum focused on Competences mixes and integrates general knowledge, professionals, life and work experiences that usually are explored separately. With this integration, someone who is adult, for instance, will be able to be prepared to permanent changes that used to happen in nowadays with the professional activities where he or she can perform different occupations at the same company or at the other as well as when unemployed including self-employment, etc.
The High Education based on the curriculum Competence gives an opportunity to the student to bear in mind of the professional uncertainties that has been the milestone of XXI century since we live permanently in uncertainty, the professional of present time need to be decided from uncertainty and act with urgency (Burnier, 2002).

4.3.3 Curriculum Based on the Results
In the curriculum based on knowledge acquisition, which is the source for the most curricula traditionally used now in the Country, the emphasis is put on the processes. The course and the training are defined through the exposition of specific contents in determined period of time. It is centred on the teacher, who defines the contents, the organization and the flow of the learner. (Dos Santos, 2010).
4.3.4 Network Curriculum

In view of Marlene Damázio (2007) network of Knowledge Curriculum joins the education through a theory that takes into account the knowledge produced by us, human beings and shaped in connections ways or “within us”.

The discussion about network curriculum was emphasized in 90th decade and Menezes & Araujo (2007) agree that the concept of network is applied in the field of curriculum for the training of teachers and it is discussed with the purpose of overcoming focusing on certain subjects in the school fields. This group works with day-to-day situations such as time knowledge compass. In each of these contexts, those involved draw their day-to-day knowledge from several networks that they belong.

In these circumstances, a proposal of curriculum in knowledge network is based on a complex system, which means that it comprises several parts of interdependent things, linked themselves as members of a whole. This is a complex unit in which connected actions that unifies thought are integrated. This curriculum was designed using a method and it is being used by high education equips with an epistemology view of Edgar Morin, Deleuze and Guatarri, in the paradigmatic view of the complexity including of the rhizomes. (Damazio, 2007)

4.4 Learning Models

4.4.1 Pedagogic Model and Curricular Model

The pedagogic model is a coherent set of references in which the work of trainer is based, plus the pedagogic relation. It is not a guide, prescription book neither handbook but practices to be followed. This model is mentioned within Infancy Education. It is its ranking whereby the educational goals and its following consequences is expressed or defined (Oliveira-Formosinho, 2003:7; 2007:34).


The formal difference is observed from the following aspect: The curricular model is concerned with pedagogic movement processes while the Pedagogic model is the process guide, based on certain education philosophy, which can be of sociological, psychological or other movements.

4.4.2 Learning Based on Problems

According to Gomes (2009), the Learning Based on Problems (LBP) conception has been highlighted as a methodological propose that can respond to the needs of a curricular change
of the courses of the world scenery, mainly in practical courses such as medicine. According to this author in the LBP, the training occurs through problem resolution structured by the teachers so that the students, little by little, build the necessary knowledge useful to solve real problems in the future. What is needed mainly is to impart the student, the conditions for developing the technical, cognitive, behaviour, which can be applied to study and learn. In this model, in which the educative process focus is student centred, what is stimulated is the self-training capacity, reinforced by active search of information. As conclusion, the author refers to the positive results of the courses with LBP, stating that the graduates felt more prepared.

4.5 Universities challenges to achieve quality through suitable curricula

The quality can be achieved with a set of associated factors, namely, the institutions, programs and the teacher staff. Gadotti (2013), refers in his study that the quality of education must be faced in a serious way, because it is formed by many parts interconnected, interdependent and interactive: What occurs in one affects others. What the author means is that, it is necessary that the Education high institutions pay close attention to the aspects of quality under the risk of affecting the final product, which are, the students. He emphasizes also that the qualification of the teacher and other factors, as contents and the training courses methodology.

5. CONCLUSIONS AND RECOMENDATIONS

5.1 Curricular Innovation

According to Fullan and Pomfrett (1977) apud Hernadez et al., (2000:28), any type of curricular innovation can have five dimensions related to the change:

- In the curriculum contents, it is sequentially the materials to be used;
- In the formal organization and the physical environment in which the education is developed (conditions that integrate the users of an innovation);
- In the functions and relationship of the involved users of innovation, which is view of many authors it is one of aspects that presents more complexity.
- In the knowledge and comprehension that the users of innovation have of different aspect of the same issue (justification, values, objectives and strategies to employ them, etc).

Finally, it is necessary to refer to the topic of internalization of the change. The need that people evaluate in a positive way and engage themselves with their practice comes with high
relevance in sense that without it, other aspects would be irrelevant and could produce an innovation, which should not produce any change. In this way, the curricular innovation can be created by a lecturer, a group of lecturers, by a pedagogical team, by an institution, by students, by a researcher. (Pereira, Mercuri & Bagnato, 2010).

One of the most common errors at the reformation concreteness or curricular innovations is to create the strategies of evaluation only at the end of the process instead of bringing in and developing it during the all way of the process. So it is important to ensure a strong link between the view of curricular change and the strategies of “monitoring feedback” and evaluation, with the aim of ensure that the changes can produce good results within the all process of change (BIE-UNESCO, 2006).

Selimane & Casali (2013) addresses the curricular integration and locate the source of this through the consequence of the proposed theories in which the Mozambican curricular reformulation is based, and mention the education through competences, implemented according to the curricular plan of general secondary education –PCESG (Moçambique/MEC/INDE, 2007:16). By this, we can conclude that since in intermediate education is proposed the competence education and there is no an ideal model that allows a transition from intermediate to the high one due to some high education institutions prefer an education focused on know how to do, in other words, a model based on competence.

A Curriculum based on Competences, according to Burnier (2002), demands re-organization of the education institutions in order to engage themselves in the training in behalf of their trainers, expanding their field of cultural experiences, providing time and space for designing and collective evaluation, for the development of integrated activities, for the experience share including the academic research and field’s research.

To make this effective in a producing way, a curricular approach based on Competence, the high education institutions need to make available a basic support need so that the teachers can work with quality in their tasks having a equipped and updated library. Have also laboratories with wide spaces including a suitable infra-structure, a reduced number of students for each class, a link between the market and the institution for the development or researches, exchanges and make them in touch with professionals. Experience exchange with other institutions and provide good environment in the organization.

LêBoterf (1997) summarises five items that the professionalism should consist in perform the qualities and the competences which are: Know how to act react with appropriateness; know
how to match the resources and gather them in a context; know how to transfer; know how to learn and learn while learning; know how to engage oneself.

As we could perceive, in the present time, the dynamic has changed from a curricular scientific model, aimed to satisfy the industry in view of Taylor, to the construction of a Curriculum post-industrial, where the companies search more for autonomous labourers, creative, innovators, able to adapt themselves to the sudden changes and use knowledge not in a rigid logic, but in an adapted way to the contexts (Sousa, 2004).

Nowadays, the information is being much more available for the society in a wide scale and unrestricted. That is why a curriculum by competence allows the student to use the received information to select, criticize, compare and design new concepts from the available ones. Knowledge is dynamic, changeable and approximately accurate. Then the education institutions need to contribute for the renewal and creation of meaningful and relevant knowledge. Gouveia (2005) points out that characteristics such as flexibility, variation, differentiation, globalization, internationalization and integration, are concepts that must be indigenized while learning and be acquired during the attendance at the high education institutions.

The curricula of High Education courses need to establish their competences so that in the future, they can define the contents to be approached, which means, in view of Perrenoud (1999), build a competence means to learn to identify and find the suitable knowledge”.

The most curricular proposes for High Education are found listed in a education centred on informative context whereby students must assimilate the facts, concepts and behaviour procedures in subjects as true sources of contents; a learning by assimilation and contents merely informative.

The High Education need to find new ways of teaching and learning, with the objective of making it more effective and above all, pleasant, since learning need to have a flavour, tasty, pleasure. The main prototype nowadays is the reductionist education, behaviourist whereby the student react to the stimuli and at the end he/she does an evaluation to pass, even if did not learn. We are now in a tension zone, always questioning about the Instituted and the Institutor and how to overcome this zone? One of the possible ways should be an approach in the curricular organization aimed to competences.

Nowadays education tries to approach and reinforce the imperfections of students always calling to attention to the negative points, becoming difficult to reinforce what positive thing the student possess.
5.2 Results of Proposed Innovation
The curricular model based on competences, the proposed can in clear way generate the following results:

a) On the students
- More practicable and less theoretical;
- Presence in laboratories and seminaries;
- More integration and relationship between students and trainers.

b) On the Teachers
- Sound curriculum, more practicable and less theoretical;
- Requires to go with it in the laboratories, Seminaries and Workshop;
- More integration and relationship between students and trainers;
- Users’ comprehension.

c) On the institutions
- More rehearsals and practices;
- Require an reasonable environment – laboratories and instruments;
- Finally, it is necessary to point out the topic of internationalization of the change.

5.3 Recommendations
The recommendations we found relevant are: Once consolidated a frame of competences more useful to overcome the struggle against poverty, it is necessary to examine the modalities for an integration of these in the education and continue developing them in several curricular subsystems in a way that they shall be well understood and well accepted in the midst of the community (BIE-UNESCO, 2006).

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