UNIVERSITE DE YAOUNDE I
THE UNIVERSITY OF YAOUNDE I

CENTRE DE RECHERCHE ET DE FORMATION DOCTORALE EN SCIENCES HUMAINES, SOCIALES ET EDUCATIVES

UNITÉ DE RECHERCHE ET DE FORMATION DOCTORALE EN SCIENCES DE L'EDUCATION ET DE L'INGENIERIE EDUCATIVE

FACULTÉ DES SCIENCES DE L'EDUCATION

DÉPARTEMENT DES ENSEIGNEMENTS FONDAMENTAUX EN EDUCATION
.....

POSTGRADUATE CENTRE OF RESEARCH AND FORMATION IN SOCIAL AND EDUCATIONAL SCIENCES

DOCTORAL UNIT OF RESEARCH AND FORMATION IN SCIENCE OF EDUCATION AND OF EDUCATIONAL ENGINEERING

FACULTY OF EDUCATION

DEPARTMENT OF FUNDAMENTAL STUDIES IN EDUCATION
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THE TEACHING-LEARNING PROCESS FOR GRADUATE DEGREE PROGRAMMES OF LMD SYSTEM AND THE PRODUCTIVITY OF GRADUATES IN THE CONTEXT OF CAMEROON HIGHER EDUCATION: THE CASE OF THE UNIVERSITY OF YAOUNDÉ I

A Dissertation defended on the 9th of July 2024 in partial fulfilment of the requirements for the award of a Masters' Degree in Education

Specialty: Sociology and Anthropology of Education

By

Gabriel ANATOGU

Bachelor's Degree in Philosophy

Matriculate 20V3049

JURY

Qualities	Names and grades		University
President:	**Pr. EYENGA ONANA Pierre Suzanne,**	**MC**	**UYI**
Reporter:	**Pr. NNA NTIMBAN Albert,**	**MC**	**UYI**
Examiner:	**Dr APONGNDE Pasker,**	**CC**	**UYI**

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To My Mother, Theresa Anataogu

ACKNOWLEDGEMENTS

I will like to thank greatly the head of the Department of Enseignements Fondamentaux en Education (EFE) of the University of Yaoundé I, Pr. Eyenga Onana Pierre Suzanne. It is his intellectual coordination and organisation that set the scientific ground under which I was scientifically equipped. Also, to my supervisor Pr. Nna Ntimban Albert who did everything possible to see that this work goes smoothly. He furnished me with knowledge that elevated my research spirit. His availability and kindness all long this work is that which only a father can offer. He sacrificed everything possible just to read and correct this work till the end. I am very grateful for his guidance and orientations, criticism and suggestions and encouragements which helped to shape the structure of this master piece.

My special thanks to all the lecturers of the department: Dr Awondo Patrick, Dr Mapto Kengne Valese, Dr Apongnde Pasker, Dr Aka'a Raphael, Dr Melo Amshetu, Dr Wakeu Aime, Dr Biolo Dimitry and a host of others who are not mentioned here. I am very grateful for their qualities, voluntariness, and scientific orientations that helped in moulding me intellectually and in the building of this scientific research in education.

An overwhelming gratitude to Mr Akem Aristide Tanyi-Jong for his assistance and provision of some necessary research materials. Also, to all my class mates, especially Miss Tita Sama Ladifatu, Mrs Digue Guemo Nadege Flore, and Mrs Fru Boma, for their team spirit, support and provision of pertinent documents that greatly contributed to the realisation of this work.

My heartfelt acknowledgement and appreciation to all those who supported me both materially and morally, especially my Elder brothers Mr Vitus Chibuzor Anataogu and Mr Jude James Anataogu and my junior brother Mr Uchenna James Anataogu. Equally, to my brothers and sisters in Christ Mr John Abunaw, Mr Paul Akoni and Mrs Mariatu Lamya.

In case of any error or mistake in this work, I assume it to be my fault.

LIST OF ABBREVIATIONS, ACRONYMS AND SYMBOLS

1. ABBREVIATIONS

BAC.	Baccalauréat
Char.	Characteristics
Com.	Computer
Dep.	Department
Elect.	Electrical
Ph.D.	Doctor of Philosophy
Pop.	Population
Sam.	Sample
Telecom.	Telecommunication

2. ACRONYMS

ADEA:	Association for the Development of Education in Africa
AEFALSH:	Association des Etudiants du Faculté des Arts, Lettres et Sciences Humaines
CAMES:	Conseil Africain et Malgache pour l'Enseignement Supérieur
CEMAC:	Communauté Economique et Monétaire de l'Afrique Centrale
CUSS:	Centre Universitaire des Sciences de la Santé
DEA:	Diplôme d'Études Approfondies
DEUG:	Diplôme d'Etudes Universitaires Générales
EACEA:	Education, Audio-visual and Cultural Executive Agency
EHEA:	European Higher Education Area
EMIA:	L'Ecole Militaire Interarmes
ENAM:	Ecole National d'Administration et de Magistrature
ENSP:	L'Ecole Nationale Supérieure Polytechnique
ESIB:	European Student Information Bureau
ESIJY:	Ecole Supérieure Internationale de Journalisme de Yaoundé
FALSH:	Faculté des Arts, Lettres et Sciences Humains
MINEDUB:	Ministère de l'Education de Base
MINEFOP:	Ministère de l'Emploi et de la Formation Professionnelle
MINESEC:	Ministère des Enseignements Secondaires
MINESUP:	Ministère de l'Enseignement Supérieur
NAEP:	National Assessment of Educational Progress
REESAO:	Le Réseau pour l'Excellence de l'Enseignement Supérieur en Afrique de l'Ouest
SES:	Socio-Economic Status
SOSUCAM:	Société Sucrière du Cameroun
STEM:	Science, Technology, Engineering and Mathematics
UNESCO :	United Nations Educational, Scientific and Cultural Organization
UNICEF:	United Nation Children's Emergency Fund

3. SYMBOLS

AU:	African Union
BP:	Bologna Process
C:	General-purpose Programming Language
C++:	High-level, General-purpose Programming Language

CA:	Continue Assessment
CC	Chargé de Cours
CTL:	Class Teaching-Learning
DSCE:	Document Stratégie pour le Croissante et l'Emploi
EC:	Educational Community
ECTS:	European Credit Transfer and Accumulation System
ENS:	Ecole National Supérieur
EPT:	Education Pour Tous
EU:	European Union
G.C.E:	General Certificate of Education
GDP:	Gross Domestic Product
GPA:	Grade Point Average
HCTL:	Hours of Class Teaching-Learning
HDL:	Hardware Description Language
HE:	Higher Education
HND:	Higher National Diploma
IAE:	Institut de l'Administration des Entreprises
ICT:	Information and Communications Technology
INJS:	Institut National de la Jeunesse et des Sports
IR:	International Relations
INS:	Institut National des Statistiques
IT:	Information Technology
LMD:	Licence, Master, Doctorat
MC	Maître de Conférences
NGO:	Non-Governmental Organization
NM	Number of Months
OECD	Organisation for Economic Cooperation and Development
OTU:	Optional Teaching Units
PVR:	Procès-Verbal Récapitulatif
QA:	Quality Assurance
SCLTE:	Student-Centred Learning and Teaching Ecosystem
TD:	Travaux Diriger
TLP	Teaching-Learning Process
TP:	Travaux Pratique
TU:	Teaching Unit
UNDP:	United Nation Development Programme
UK:	United Kingdom
URFD:	Unités de Recherche et de Formation Doctorale
U.S:	United States
USA:	United States of America
UYI	University of Yaoundé I
VHDL:	VHSIC Hardware Description Language
VHSIC	Very High Speed Integrated Circuits

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ABSTRACT

This research work is aimed at discovering the reason why LMD teaching-learning process, in the context of Cameroon higher education, is not meeting up with the envisaged visions and expectations of producing productive graduates capable of enhancing sustainable growth and development in the country since its adoption in 2007. To achieve this research, we use the theory of Competence, educational effectiveness and ineffectiveness and the referential framework on LMD system. The study use a mixed research method and four data collection techniques, which are documentary research, interviews, observation and questionnaires to collect data from students, lecturers and administrators in two departments of the University of Yaoundé I. Stratified random sampling and Yaro Yamane's formula were used to determine the samples and the sampled size. Population size was 1515, the sampled population was 235 and Accessible Population was 177. The option of Fundamental or Classical structure of research presentation in Human and Social sciences and Content, descriptive and comparative analysis were used to present this work. In confirmation with our hypothesis, our findings show that the problem is resulting from the higher education system, the adoption process of the LMD system as a selective reform, the implementation and the teaching-learning process of the LMD system. This portrays that the implementation and processes of the teaching-learning of LMD system in the University of Yaoundé I, are ineffective and cannot produce the envisaged output. To this effect, this work suggests the removal of the traditional oppositions in the higher education system and policy, full adoption and inclusiveness in the implementation of the LMD production process, sufficient provisions for teaching-learning process, the application of the LMD professionalization guide in all field of studies, circles and levels of higher education and the need to strengthen the student pattern of learning process to correspond with the demand of LMD.

KEY WORDS: LMD system, Teaching-learning process, Higher education, Graduate degree programmes, Productive graduates, Implementation process, Production process

RESUME

Le présent travail de recherche vise à découvrir la raison pour laquelle le processus d'apprentissage du LMD, dans le contexte de l'enseignement supérieur camerounais ne répond pas aux visions et attentes envisagées de produits diplômés suffisamment productifs qui pourraient apporter un développement durable dans le pays depuis son adoption en 2007. Pour réaliser cette recherche, nous avons utilisé la théorie de la compétence, de la contingence éducative, et le cadre référentiel sur le système LMD. L'étude utilise une méthode de recherche mixte et une technique de recherche documentaire, d'entretiens, d'observation et des questionnaires pour collecter les données auprès des étudiants, les professeurs et les administrateurs dans deux départements de l'Université de Yaoundé I. Un échantillonnage aléatoire stratifié et la formule de Yaro Yamane a été utilisé pour déterminer les échantillons et la taille de échantillon. La taille de la population était de 1515, la population échantillonnée était de 235 et la population accessible était de 177. L'option de structure fondamentale ou classique de présentation de la recherche en sciences humaines et sociales et l'analyse de contenu, descriptives et comparatives ont été utilisées dans la présentation de ce travail. En confirmation de notre hypothèse, nos résultats montrent que les obstacles proviennent du système d'enseignement supérieur, du processus d'adoption du système LMD comme réforme sélective, de la mise en œuvre du système LMD et du processus d'enseignement-apprentissage. Cela montre que la mise en œuvre et le processus d'enseignement-apprentissage du système LMD à l'Université de Yaoundé I sont inefficaces et ne peuvent pas produire les résultats escomptes. À cet effet, le présent travail propose la suppression des oppositions traditionnelles dans le système et la politique de l'enseignement supérieur, l'adoption complète et l'inclusion dans le processus de mise en œuvre de la réforme LMD, des dispositions suffisantes pour le processus d'enseignement-apprentissage, l'application du guide de professionnalisation LMD dans tous les domaines d'études, cercles et niveaux de l'enseignement supérieur et la nécessité de renforcer le modèle de processus d'apprentissage des étudiants pour correspondre à la demande du LMD.

MOTS CLÉS : système LMD, processus d'enseignement-apprentissage, l'enseignement supérieur, programmes d'études supérieures, diplômés productifs, processus de mise en œuvre, processus de production.

GENERAL INTRODUCTION

Education in general, whether informal, non-formal or formal, has a system and a particular process under which knowledge, know-how and know-how to live, are transmitted or acquired. That is to say, every education has a system and process and it is this system and process that determines the nature and the mission of education which is mainly geared towards the nation building. In other word, every education has a mission which determine its contribution to the nation building and according to Pena-Ruiz, the traditional mission of educational institutions, *is to instruct in order to form future citizens with autonomy judgment and give a solid root to professional formation and also to relativize with adjunction a new educative function* (Pena-Ruiz, 2005, p. 17). This means that the principal mission of education is to produce citizens capable of manifesting the expected competence in their various domains of life.

That is to say, education does not only transmit knowledge and the knowhow but also produce citizens capable of creativity and innovation as a result of them having the mastery of their thought. Thus, Pena-Ruiz added that to form future citizens with autonomy of judgment *does not only mean to transmit to all children, knowledge and the necessary know-how to the production of goods meant for living; is also to cultivate an autonomy of judgment, making each citizen the master of his thought* (Pena-Ruiz, 2005, p. 17). It is this capacity of manifesting the expected competence in their various domain of life that determines productivity of graduates. Producing graduates capable of productivity is what determine the role of education in the society and renders it the most important domain in life. As such, any citizen that graduates from a system of education should be capable of productivity: The quality that could generate increase in the domain of their preoccupation through the application of the acquired competence.

From the above fact, it shows that educational institutions in general, are not just grounds of transmission and acquisition of knowledge, but also the abilities of creativity, which directly aimed at productivity in terms of human capital on one hand and on the other, in terms of value (Ngwa and Mekolle, 2020). It is this capacity that makes higher education the centre and concentration of the State in view of problem solving and quest for growth and development. Thus, the consecration of education by Cameroon national constitution in law n° 98 /004 of 14 April 1998 *as the fundamental mission of the State*; *the recognition of education as a national priority and the promotion of equality of chances for all Cameroonian citizens* (Rapport national de l'EPT, 2015, p. 15). This portrays that education is the power house through which Cameroon as a State,

aims at achieving her visions in terms of the accumulation of human capital that could bring about sustainable growths and development.

To this fact, Higher education as the priority in terms of human resources, shall be the main concentration of this work to evaluate the processes of graduation programmes, which is the most important aspect as far as human capital is concern. In this light, Simister (2014, p. 56) presents that:

> *In recent years, the contribution of tertiary education to countries' economic success has become the focus of greater attention, since tertiary education is expected to support the supply of skilled workers and enhance the conditions for innovation, bringing substantial social and economic benefits.*

In this regard, the activities and the process of graduation programme in Cameroon Higher education is regulated by the 1993 reforms and the 2001 orientation laws. The main vision and missions of higher education in Cameroon right from its creation has been that of the professionalization of graduates and their insertion into the job market. These visions can be actualised only in their productive capacity for it is this capacity that could bring about the envisaged sustainable growth and development in the country (ADEA, 1999).

However, the problem of professionalization and workforce productivity in Cameroon were not ameliorated as portrayed in the 2015 framework for action**;** *average productivity of the aggregate workforce in Cameroon-in both the formal and informal sectors-and their value addition over time declined between 1985 and 2000* (The World Bank, 2015). This representation of labour force participation in various sectors of the economy and the respective productivity (output per worker), is attributable to each sector. Such representation, entails ineffectiveness and inefficiency in the field of higher education which supposed to play a crucial role in increasing labour productivity, but it seems not to be the case. Whereas, a balanced higher education system, which offers programmes at various levels, is *directly linked to the needs of the labour market and facilitating the absorption of new research and technology. The education system in Cameroon seems so far, however, to have failed to deliver these services* (Cameroon Country Office, 2012).

From this discovery, it shows that unemployment, underemployment, unproductive workforce and low economic development in a country result mostly and not totally, from the low productivity capacity and capability of graduates produced by the higher educational programme as they comprises the human capital of a given economic system of a country. In this light, Cameroon Economic report (2012, p. 16) portrays that *like most Africans, Cameroonians already*

have jobs: they cannot afford otherwise. The problem is that these jobs have extremely low productivity and generate low earnings. This observation calls for greater emphasis on the measures of increasing the productivity of human resources as the product of higher education. Thus, as presented in the European Commission report of 2020, *creating a sustainable future is the common, global human challenge that we all face. This is not an abstract agenda, but a concrete reality that we cannot ignore. Higher education institutions can be at the heart of positive societal change, and change must also take place within higher education institutions* (European Commission et al., 2020, p. 159). That is, if there will be any tangible development in a society, it must come from higher educational institutions, which surely will depend on the system of producing graduates put in place to bring about productive workforce for the sustainable development. Hence, the accomplishment of a mission and the contribution of higher education to the nation building depend on the accomplishment of the processes of the said higher educational graduation programme. Thus, *Sustainable development issues require reflection and action in each and every higher education institution – from how they are organised and funded, through the content and methods of teaching and research, and how they engage in society* (European Commission et al., 2020, p. 159).

As such, higher education in the course of time has experienced many revolutions that brought about the emergence of Bologna Process (BP) in Europe also known as LMD system in French zones, aiming at professionalising higher education and which presently is in its full course across the globe. In 2007, Cameroon government and the Ministry of Higher Education adopted LMD (License-Masters-Doctorate) system for Cameroon higher education influenced by regional integration tendencies and global trends, launched under the 2005 Libreville Declaration (Eta, 2018). This LMD system of education, known as Bologna Process in Anglophone zones, *has not only been a catalyst for structural reforms and the development of quality assurance systems, but has also stimulated greater mobility and internationalisation* (European Commission et al., 2020, p.11).

LMD system main objective is to instil and bridge the gap between the gained knowledge of graduates at the University sphere and the world market demands of workforce in accordance with productive capacity that can enhance sustainable development and equally to meet-up with the needs and demands of the society. Hanifi (2018, p. 9) acknowledge this in the following; *the new reform system aimed at improving both the quality of the university education, the*

development of academic vocational training and promoting the staff and students' mobility. LMD system of education has been the most employed system in higher education by most countries across the globe, spreading from western world to Africa and now almost about to cover the entire higher education in Africa, which includes Cameroon. LMD system has enormous potential for innovation – particularly if it continues to become a genuinely open and inclusive space (European Commission et al., 2020).

It is clearly shown from the above perspective that higher education under LMD system has the mission of producing graduates competent enough to yean effective and efficient outputs capable of bringing about sustainable development: Such as innovations, creativity, effective and efficient management and creation of opportunities in all domains of life. This shows that the quality of education expected of LMD system should bring about more competency in workforce by enhancing the productivity of graduate, which is the basic ground of all development thus, Krugman, (1997, p. 11) asserts: *Productivity isn't everything, but in the long run it is almost everything. A country's ability to improve its standard of living over time depends almost entirely on its ability to raise its output per worker*. This is because output can be raised only when the acquired competence by workers or citizens are seen in action. When the practicality of the said acquired competence is accurate, then there will be productivity. Thus, education becomes useless when what is acquired cannot be applied accurately in daily life and domains of occupation.

It is from the above perspective that Doh B. and Doh P. (2016, p. 121) asserts that today's challenges of traditional conception of university education and the interests in employability *is driven by human capital theories of economic performance. What counts is no longer what is known but what can be done with what is known. Knowledge has to be put to work, seen to work and be in work*. So, it becomes questionable on the system of education that produces many graduates in different levels and domains of life without any perceptible development as is the case here in Cameroon. Thus, the evaluation of the LMD system in the context of Cameroon higher education, in regards to the productivity capacity and capability of graduates it produces, becomes necessary and inevitable. This shall be the course of our research, to be precise, in the context of the University of Yaoundé I which has produced many graduates at all level and domains of life.

II- PROBLEM

Following the 31st session of the United Nations General Conference on Education, Cameroon government and the Ministry of Higher Education in 2001 put in place the Law of

orientation N° 005 of 16 April 2001 for higher education in Cameroon (Rapport national de l'EPT, 2015). The vision and mission for higher education, as stated in article 2, are as follow: *the higher education realm shall be assigned a basic mission of producing, organizing and disseminating scientific, cultural, professional and ethical knowledge for development purposes* (The Republic of Cameroon, 2001). In line with this, LMD was employed with the following visions:

> *Fostering understanding of training grades and levels of professional integration: Fostering the possibility of professional integration among students by establishing efficient applied and academic disciplines and: Forming a new generation of productive graduates who can adapt in a fast dynamic global context (Ministry of Higher Education, 2007, pp. 2 – 3).*

In other words, LMD was adopted with the principal mission of producing productive graduates with aim of resolving the problem of unemployment and enhancing sustainable growth and development in the country. Thus Jacques Fame Ndongo, the Minister of Cameroon Higher Education affirms that:

> *The major focus of the reform was the challenge of professionalization expressed not only through new forms of partnerships between socio-professional business circles, but also through the diversification of the training offer illustrated by the creation of new sectors, [...] to meet the specific development needs of [the] country (Bomda et al., 2022, p. 1).*

However, these situations of employment and underdevelopment are still persisting in the country after the deployment of LMD system. With the above clear mission expected to achieve under LMD system regarding its potentials, it becomes of curiosity to know why since its implementation in 2007, Cameroon haven't experienced any tangible growth and development but rather is experiencing backwardness and stagnation coupling with several discoveries that poses a question on the potentiality of the reform. For instance, in June 2021, SOSUCAM dismissed 250 workers for "professional incompetence" (Bahri-Domon Y, 2021) showing some lack of sufficient competency in Cameroon labour force. Thus, Felicia Nkengim in her thesis asserts: *Studies have shown that one of the main limitations to youth employment chances is the lack of the required skills* (Nkengim, 2016, p. 3). Issa Tchiroma, the Minister of Employment and Vocational Training, points out that *88% [of] the [Cameroonian] education system continues to produce skills that companies do not need* (Bomda et al., 2022, p. 1). He went further to disclose that "88.6% of young people, 80% of whom are under the age of 25, hold informal jobs" and that "underemployment is estimated at 77% while the informal economic fabric is around 88%" (Bomda et al., 2022, p. 1).

Also, out of 100 entrepreneurs counted by INS, *only 8.8% have a higher education degree. Nearly half (48.4%) hold the Certificate of Primary Studies (including 19% without a diploma); 24.1% of the Brevet d'Etudes du Premier Cycle and 17.8% of a diploma of the second cycle of secondary education* (Bomda et al., 2022, p. 1). In fact, as was the case before 2008, Cameroon is still experiencing a situation whereby many higher education graduates are without jobs. Many are still struggling to transit from education to the world of work. Those who have succeeded, only few are happy with their jobs while others are just keeping themselves busy as they search for something better elsewhere (Bomda et al., 2022). Whichever the case, all these can be possible only when the teaching-learning process of the system of higher education did not effectively take its course in the production process of graduates in terms of the envisaged competences. It is from the above perspective that Bomda et al. (2022), quest to know the pertinence of LMD system in terms of its mission of professionalization and of closing the gap between professional certificates and those of academics. But they discovered that workers from professional higher institutes are more competent in the field than those from general education thus, showing the vagueness of such mission of LMD in Cameroon. Also, statistics (appendix 4) have shown that for the past ten years, Cameroon has a high rate of Labour Participation and yet the GDP growth and current Account Balance rates are not experiencing any tangible growth that could result to a sustainable development; thus, a clear manifestation of unproductiveness in the labour force.

From the persistence of unemployment, underemployment and unproductivity disclosed above, we have discovered that LMD system, in the context of Cameroon higher education, is not meeting up with the envisaged visions and expectations in terms of producing productive graduates that could bring about sustainable development and this posed a problem on its teaching-learning process. This is because the teaching-learning process for graduate degree programmes stands as the production aspect through which effective and efficient outputs of higher education as human resources could be generated for any envisaged sustainable growth and development. That is to say, the achievement of a required output depends on the effective implementation and the production process. It is in this light that our research is channelled towards the teaching-learning process for graduate degree programmes of LMD system and the productivity of graduates in the context of Cameroon higher education: the case of the University of Yaoundé I.

III- LITERATURE REVIEW

The issue of bringing about and enhancing effective pedagogical process and sustainable development, are most of the theoretical debates that surrounds education and its system in terms of the graduates it produces. This consists of reinvention of perception and construction of educational system in regards to its outputs which are the graduates and in view of the expected competences and economic development of the country it pertained to. Thus, what is expected of graduates from a system of education and the competencies required of them in the labour market in terms of economic growth and development of a nation, could permit researchers to analyse the outcome of graduates under LMD system of education. After vast investigation on produced materials, we mobilised for this research, literary reviews from two perspective: Reviews on expectations on Higher education in view of economic growth and development of a nation from general and national perspectives, and reviews on LMD system in view of its formation process for the socio-economic development of a nation from general and national perspectives.

1. Expectations on HE in terms of economic growth and development of a nation

To begin with, literary review mobilised on the aspect of expectations on Higher education in view of economic growth and development of a nation basing on human capital, comprises of two angles of reviews: Reviews that aimed at proving or disproving the view that economic growth and development of a nation lies on producing more educated labour force (productive human capital), which makes education the main core or not, of the economic growth and development. And on the other angle, reviews on the expectations of the country Cameroon on her higher educations and graduates in terms of economic growth and development of the nation as well as graduate's expectations and motivations towards education.

1.1. Human capitalist's view on the economic growth and development of a nation

On the firs angle, Ozturk (2001, p. 42), in his article aimed at showing *the role of education in economic development and the effect of education on labour productivity, poverty, trade, technology, health, income distribution and family structure*. Through the mobilisation of literature on and the historical process of economic development, Ozturk (2001, p. 42) demonstrates that *education in every sense is one of the fundamental factors of development*. Even though he admits that education alone cannot transform an economy without the consideration of the quantity and quality of investment as well as that of the policy that govern the environment, but he affirms with certainty that we cannot talk about economic development without the role of education as he

points out that *the quality of policy making and of investment decisions is bound to be influenced by the education of both policy makers and managers* (Ozturk, 2001, p. 47). For him therefore, *education is indispensable to economic development. No economic development is possible without good education. A balanced education system promotes not only economic development, but productivity, and generates individual income per capita* (Ozturk, 2001, p. 47).

Also, Hanushek and Wößmann (2007) carryout a research on the role of education in promoting the economic well-being of a nation with a particular focus on the role of quality of education. Using International comparisons incorporating expanded data on cognitive skills from developing and developed countries, they discovered that:

> *There are much larger skill deficits in developing countries than generally derived from just school enrollment and attainment. The magnitude of change needed makes clear that closing the economic gap with developed countries will require major structural changes in schooling institutions (Hanushek and Wößmann, 2007, p. 1).*

This portrays that quality education is the main factor that can trigger an economic growth and can serve as a necessary tool for the less developed countries to closed the economic development gap that exist between them and the developed countries.

Obradovic (2009) in his quest, seeks to portray the relation between education, human capital and economic growth. Through the mobilisation of literature on and the investment in human capital that influences economic development, Obradovic illustrates that *education itself represents one of the primary components in human capital formation, which is an important factor in modeling the endogenous production functions* (Obradovic, 2009, p. 197). Human capital according to him, is *the most important determinant of a capability of the country's national economy to produce and acquire technological innovations, i.e. technical processes achievements* (Obradovic, 2009, p. 197). Education for him therefore, is not just the producer of human capital stack, but also the determinant of the capability of human capital stock and the living standard which in turn are the determinant of economic development.

Simister (2014) also, carried out a research on the effects of tertiary education basing on how productive an employee is, so as to evaluate the validity of "human capital theory" which holds that education is a vital part of improving productivity. He used *time-series regression analysis of World Bank data, on the fraction of a country's workforce with tertiary education, and productivity* and also uses Britain as a case study (Simister, 2014, p. 55). In this work, he presents that *the fraction of a firm's labour force with a degree, explains some productivity difference*

between firms. Almost all of the empirical studies analysed by Holland et al., found positive and significant effects of human capital on growth (Simister, 2014, p. 56). Holland et al., as presented by Simister, analysed European data from 1994 to 2005, concluding that *at least a third of the productivity rise can be attributed to the increasing number of graduates* (Simister, 2014, p. 56). That is to say, countries with more educated employees and citizens have the tendency of improving their productive capacity and thus, triggering their economic growth and development.

This goes to prove Human capital theory which presents three levels of proves under which education improves productivity: first is that education confers competency which in turn increase productivity of the person educated, secondly, a firm with large proportion of graduates tends to be more effective as the graduates will help the firm to improve and achieve it expectations and thirdly, education confers indirect benefits as its outcomes such as technological improvement, innovations and new ideologies which help users, including those who are not educated, to improve in their knowledge and work (Simister, 2014). Simister in his discoveries, added another prove to these three levels of proves as he asserts: *New evidence in this paper clarifies causality: it shows tertiary education is a cause, and increased productivity (leading to economic growth) as an effect* (Simister, 2014, p. 62). This means that, education is a cause of improvement in productivity while economic growth is the effect. In other word, economic growth and development of a nation, is the outcome of productivity and which on its own part, is a direct outcome of education making the first two a correlated outcomes that anchors on education.

Cooray (2018, p. 4) on his own part, investigate empirically, the quantity and quality effect of education on the economic growth of a nation through proxy variables in order to *gain an in-depth understanding of the effects of education on economic growth; and two, to show that the effects of education on economic growth depend largely on the measure of education used*. From the research, he discovered that *the impact of human capital on economic growth depends on the measure of human capital used* (Cooray, 2018, p. 17). That is to say, the number of investment made on developing education and effectiveness of the education, contribute greatly to economic growth of a nation.

1.2. Capabilities theory's view on the economic growth and development of a nation

On the contrary to these views of human capitalist, Irmgard (2014) in his investigation on countries catching up to economic growth and development, illustrates that human capital theory neglect capabilities by regarding economic development as a process of production factor and

technology accumulation. To him, countries experiencing economic growth and development, have laid down patterns and processes of productive transformation which permit them to catch-up with their expectation of economic development which for him, lies mostly on capabilities. The dynamic concept of catching up according to him, is *reflected in diversification into new products and higher value added activities as well as in technological upgrading, the creation of more productive and better jobs and employment patterns that result in rising wages and poverty reduction* (Irmgard, 2014, p. 115).

For him therefore, the production capacity lies on the material provision which includes human capital and investment, but the production capabilities lies on the structural change and process dimension of productive transformation. In other word, capabilities expresses itself in option and competence: *Capabilities are expressed in the options defining the scope and nature of productive transformation, and in the competences that allow countries to translate options into productive capacities* (Irmgard, 2014, p. 122). That is to say, available options for economic activities that could be transformed into economic capacity and the competency determined the dynamicity of a nation to achieve expected economic growth. This economic dynamicity according to him, is determined and reinforced by knowledge-based capabilities of the carriers who are the individuals, institutions, and the societal economies.

The structure of the knowledge-based capabilities lies on the conceptual and procedural knowledge, that is, the know-how and knowhow to do. This portrays that the structure of the knowledge-based capabilities is the fundamental base of options and competence required for economic growth and development. This capabilities is determined by the individual and collective acquisition of conceptual and procedural knowledge, that is, individual and collective competency. Collective competency on its own part, is perfected by collective learning which according to him, *means essentially enriching and transforming knowledge structures embedded in social groups, and developing increasingly complex and "smart" routines and institutions. Knowledge structures, routines and institutions … of social groups, evolve in a process of learning* (Irmgard, 2014, p. 115). Learning according to him, takes its course at the level of the society, educational institutions and enterprises through learning by doing and collective formations.

However, the real constituent and expectation of teaching-learning in educational institutions, is to form future citizens with an autonomy and a critical capacity of judgement that could meet up with the societal demand and professional formation for market demand. It is in this

light that the traditional mission of republican school according to Pena-Ruiz (2005, p. 17), *is to instruct in order to form future citizens with autonomy judgment and give a solid root to professional formation and also to relativize with adjunction a new educative function*. It is from the above perspective that Chirouter (2021, p. 5) asserts: *For knowledge to regain its "flavour", for questions to resume their original place in the construction of scientific discourse, for curiosity and doubt to become daily habits, students must be able to feel safe in order to dare take the risk of thinking*. In other word, the main mission and expectations of education is to build citizens with autonomous judgement capable of critical thinking. This implies that the flavour of education lies on this free and autonomous judgement of citizens capable of critical thinking. On the other hand, the following shall constitute reviews on the expectations of the country Cameroon on her higher educations and graduates in view of economic growth and development of the nation as well as graduate's expectations and motivations towards education.

1.3. The expectations of the country Cameroon on her HE and those of the graduates

In her quest to analyse the integration of Cameroonian graduates into the market demand, Nkengim (2016, p. 2) in her thesis asserts that:

> *Research has shown that education has a considerable impact on labour market outcomes such as gaining employment and earnings. Education is said to increase the skills of individuals making them more productive thereby increasing of their chances being employed in the labour market.*

This portrays that the failure or lack of education, entails unemployment and low earning. For her, education is a transformation ground that impacts skills and competences for production. Thus, studies according to her, *have shown that one of the main limitation to youth employment chances is the lack of the required skills. Following this logical reasoning, it is probable that unemployment rates or the chances of being unemployed would decrease as the level of education increases* (Nkengim, 2016, p. 3). To this effect, the more one increases his/her level of education, the more the chances of the person to integrate in the labour market calling therefore, for the need of education intensification.

It is in this regard that the Government of Cameroon, according to her, *has responded by investing heavily in education and training. Since the year 2000, the government has implemented several policies to expand the education system with the objective of reducing youth unemployment* (Nkengim, 2016, p. 2). Thus, showing that the government of Cameroon has embarked on a policy of preparing Cameroonian citizens towards labour market demand through education. But for her,

to tackle the high youth unemployment problem in a country, there is need to consider both the ability of the education system to train qualified man power and the ability for the labour market to absorb them after graduation (Nkengim, 2016, p. 2). This implies that investing in education is not enough to bring about the realisation of the expectation on education in terms of employment, but equally, there is the necessity of looking into the ability of the educational system and of the absorption of the graduates into the labour market.

The expectation of people and students in view of becoming a University graduate according to Messanga (2021) in his dissertation, is the obtaining of diploma which constitutes for them, an enticing offer from the training offered by each University. This means that the continuation of University studies in a context marked by unemployment cannot be understood outside of the concerns related to the socio-professional integration of graduates. That is to say, for most students, graduation from Universities is a prestige that gives them more advantage in view of socio-professional integration. It is from this perspective that the combination of strategies under the catchword 'professionalization' by Cameroon higher education in terms of the employment of LMD reform is perceived (Doh B. and Doh P., 2016; Eta, 2017). This portrays that Cameroon government and her main pursuit for professionalization in Cameroon Higher Education is to prepare students with skills and competences for specific professions in order to meet up with the labour market demand and to resolve the problem of employability and development (Doh B. and Doh P., 2016).

It is from the above perspective that Doh B. and Doh P. (2016) in their work to evaluate the position of professionalization for graduate employability in Cameroon higher education, right from independent, discovered that it has been and it is still the main centre of Cameroon higher education policy. For them, to achieve this purpose there is a need to assess its effects which according to them could be gotten from information on the employment of graduates with professional skills. They equally suggest the need for more interactions between Cameroon higher institutions and the socio-professional world in order to build trust and facilitate collaboration. That is, a collaboration between labour market and the higher institutions so as to facilitate the integration of graduates to the labour market (Doh B. and Doh P., 2016).

The first set of reviews illustrate the perception of education, the roles of graduates and capabilities as the sources of countries' economic growth and development. Also, the reviews present the expectations of the country Cameroon on her higher education and the conception and

quest of students in view of the acquisition of degrees, which is seen as a prestige and quest for self-interest and fulfilment. From the reviews, it is seen that education, in all aspect specifically the higher education, is the core or source of growth and development in a country. It is equally seen that Cameroon government has invested and adopted LMD reform to professionalise higher education in Cameroon for sustainable growth and development of the country. However, the country seem not to be experiencing the growth and development. What could be the reason behind the inability of achieving this growth and development in the country (Cameroon) despite the deployment of LMD? This is the main concern of this work and what it aims at discovering.

2. LMD formation process for the socio-economic growth and development of a nation

In the second perspective, the categories of literary reviews mobilised here has to do with studies carried out in view of LMD system and the formation of human capital in terms of socio-economic growth and development. These reviews will be presented in four groups of ideologies: the implementations, achievements and purpose of the LMD reform, its shortcomings, its extension to Africa and purposes as well as its promising reality in regards to growth and development of nations. In terms of the emergences, purpose and achievements of the LMD reform, the coming to light of Bologna process is regarded here as a great accomplishment with potential goals such as its positive influence on the social dimension of higher education through participative equity thus, making higher education and labour market places for all category of people in the society (International Educator, 2007).

2.1. The purposes, achievements and implementations of the BP (LMD) reform

The achievement of the harmonisation of European higher education is based on several "tools of transparency" which are gradually being implemented such as: *the European Credit Transfer and Accumulation System (ECTS), the Diploma Supplement, and the recently introduced Qualification Frameworks* (International Educator, 2007, p. 8). This tools are *making European students more like their U.S. counterparts—highly mobile because they have comparable degrees and a credit transfer system* (International Educator, 2007, p. 8) showing that it is a model that was already in existence in U.S. higher educational system. That is to say, Bologna process as an innovation that is spreading across the globe, cannot said to be the case in U.S. higher education since the model is already existing there (International Educator, 2007). Thus, Bologna process is presented as an opportunity for international cooperation which requires more partnership among higher educational institutions (International Educator, 2007).

The Bologna process implementation report of 2018 outlines *the main milestones and commitments of the ministerial conferences within the Bologna Process up to 2015* (European Commission, EACEA/Eurydice, 2018, p. 17). This report illustrates the degree of achievements on several main themes which can be followed throughout the process. These main themes according to this report includes mobility of students and staff, a common degree system, the social dimension, lifelong learning, European system of credits, quality assurance and the development of Europe as an attractive aspect of knowledge region. Also, there is Learning and teaching which was added as an explicit priority in the Yerevan Communiqué (European Commission et al., 2018). The report equally provides a snapshot of the state of implementation of the Bologna Process from various perspectives using data collected mostly in the first half of 2017: *It provides both qualitative information and statistical data, and covers all main aspects of higher education reforms aiming at a well-functioning of EHEA (European Higher Education Area)* (European Commission et al., 2018, p. 19).

The report showcase the necessity of a student-centred learning whereby the study programmes are capable of enabling students to develop competencies that satisfy personal aspirations and societal needs through an effective learning activities. Also, it should consist transparent descriptions of learning outcomes and workload, flexible learning paths and appropriate teaching and assessment methods with an appropriate use and exploitation of digital technologies. It equally emphasize the necessity of involving students as full members of academic community, curriculum designer and quality assurance.

In relation to teaching, the report stresses on the provisions of communique notes that recognises and support quality teachings, providing opportunities for enhancing the teaching competences of teachers, promoting a stronger link between teaching, learning and research at all study levels. Also, the report advocates for incentives for institutions, teachers and students to intensify activities that develop creativity, innovation and entrepreneurship (European Commission et al., 2018). In terms of educational policies, the report discovered that *teaching and learning in higher education is now commonly embedded in both national and institutional higher education policies and strategies* (European Commission et al., 2018, p. 49). For this report: *Effectively supporting students in acquiring knowledge, skills and competences that best meet their self-development goals and social needs is at the centre of the Bologna Process* (European Commission et al., 2018, p. 50). This involves four distinct areas relating to learning and teaching

in higher education, namely credits and learning outcomes, modes and forms of study, learning in digital environments and teaching which are closely linked to the concept of student-centred learning.

This student-centred teaching-learning process requires assessing to what extent students have achieved the intended learning outcomes which provides essential feedback to the students as well as to the teacher. The report discovered that *most institutions report that course contents (91 %) and assessment and examination requirements (88 %) have been revised to be compatible with the learning outcomes approach* (European Commission et al., 2018, p. 55). This calls for the putting in place six features that determines the effective implementation of European Credit Transfer System (ECTS) in education institutions placed under external quality monitoring assurance (European Commission et al., 2018).

On internationalisation and mobility, the report disclosed a fast growing mobility of students and staffs across the boundaries both in and out of countries as a result of the Bologna process. As presented by the report: *one way through which public authorities can support enhanced mobility is to establish requirements for higher education institutions to provide mobility opportunities to students* (European Commission et al., 2018, p. 251). Thus, the internationalisation activities and the mobility of students and staffs base on the educational public policy of country and could be intensified through budgets put in place and incentives to motivate the outcome. The objectives behind the structures of LMD system of education in view of market demand for workforce according to the 2020 Bologna Process Implementation Report,

> *Has enormous potential for innovation – particularly if it continues to become a genuinely open and inclusive space. Interconnection is essential to meet future challenges, and local and national interests will best be served by autonomous higher education institutions that have the capacity to work beyond national boundaries (European Commission et al., 2020, p. 159).*

The Bologna process implementation report of 2020, which aimed at analysing the achievement of Bologna process (LMD) and the areas that need amendment, disclosed that *this report and others that have preceded it during the process have demonstrated that it has also supported a strong dynamic for change* (European Commission et al., 2020, p. 12). This dynamic for change is demonstrated by this report in areas such as the implementation of the reform system, the achievement of expectations and its potential for future transformation. According to this report, despite the complexity in the process of its adaptation and implementation among the signatory countries, and the fact of not being able to fully achieve its expectation on student

mobility and internationalisation, certificate recognition and social dimension, its unprecedented achievements have been made on the area of developing convergent degree structures, common standards and guidelines for quality assurance and great promising for future transformation in terms of market-demands and societal expectations.

Also, the report acknowledged a great achievements and influences on the area of internationalisation and mobility of students and staffs as well as on the area of certificate recognition among many countries and the social dimension of the process even though did not meet the expectation. This unprecedented achievement is demonstrated in the increase of students upgrading their education to the University level which entails their mature mind, increase in students and staffs mobility across the globe, increase in comparative research among scholars from different countries and the transfer of students from one University to another (European Commission et al., 2020).

On the perspective of the expectations and functions, work carried out in view of the cerebration of the 20th anniversary of Bologna process (LMD), expanded on them and considered Bologna process as a precious legacy. The work is constituted of 10 articles and a conference of five roundtable sessions comprising 39 articles making the total of 49 articles. The work was *intended as an analytical as well as an agenda-setting contribution to the design of the Bologna Process in the decades to come* (Noorda, et al., 2020, p.9). As presented by the work, the roundtable constitute of lecturers, researchers and students to evaluate and analyse the academic values of Bologna process and thinking ahead about the future of the Bologna process since, *it is the classrooms that decide what will be the genuine take-away of new generations of students and what bearing they will have on the development of society* (Noorda, et al., 2020, p.9). And the discursions based on the theme: *in what way can universities be trustworthy communities of teaching and learning for a sustainable future for all citizens of our very diverse societies?* (Noorda, et al., 2020, p.9).

The first session which was centred on academic values, disclosed that *autonomy, academic freedom, equity and integrity have entered common usage in recent decades. They are considered to be among the core values of academia and crucial conditions for trust and reliability* (Noorda, et al., 2020, p. 351). Thus, the discussion concludes that *the role of higher education in society is to foster and preserve knowledge and culture and in that way benefit society as a whole. In order to do so, the whole academic community should take part in decisions that affect that*

community (Noorda, et al., 2020, p. 351). In this light, it portrays that higher education is not just a public good but a public responsibility as well, whereby, teachers, researcher and students who are the constituents of academic community, participate in every discussion and decision that has to do with academic issues and that affects the community.

On the second session addressing student-centred learning, holds that *Student-centred learning nowadays, is a prominent concept within the European higher education area where students learn best when they are engaged, supported, challenged and encouraged by individuals around them* (Noorda, et al., 2020, p. 355). It therefore means that for the successful achievement of LMD objectives, student-centred learning must be taken into full consideration whereby students are motivated to take their study beyond the classroom through the guidance of their teachers, and the active partnership and engagement with students. The third session was centred on the role of higher education which was pointed out as being that of "Providing Leadership for Sustainable Development". Thus the assertion: *Sustainable development requires human ingenuity, action and involvement. People are the most important resource on this path, and universities play the essential role in the shaping of the global mindset* (Noorda, et al., 2020, p. 362). Hence, calling Universities and societies to engage toward the fulfilment of a globally sustainable communities.

This discussion points out that *Universities do not exist for themselves or for members of their academic communities in the first place* but rather for the creation of a *global sustainable communities* (Noorda, et al., 2020, p. 363). Also, it asserts: *In order to do that, a distinction between functions and capabilities is made, where capabilities are opportunities to function. The functioning of a university is crucial to make social inclusivity* (Noorda, et al., 2020, p. 364). This could be done through the answering of the question: "What are we good for?" and not "what are we good at?" This discussion pointed out that most Universities focus on answering the question: "what are we good at?" whereas the issue is not what they are able to give but rather, how they could satisfy the society needs and requirement.

The societal needs was elaborated in session five under the theme: *Careers and Skills for the Labour Market of the future*. This discussion points out that *Skills and competences have usually been defined in terms of a changing world of technological innovation, business reinventions and global connectivity* (Noorda, et al., 2020, p. 364) aiming at meeting with the world labour market demand whereas societal needs are more than that. This portrays that the

societal need lies nor depend only on the labour market demand but rather, is just a part of the societal need. Societal need equally involves humanistic and social competence under which values could be handled and could be harmonised and coordinate with that of world technological demand of innovation (world labour market demand) (Noorda, et al., 2020).

2.2. Controversies surrounding the BP reform

The National Union of Students in Europe in their work, scrutinised the Bologna process and its implementation across European Higher Educational Areas in order to point out areas that requires amendment and reinforcement. Thus, they assert: *The main aim of the Black book should be seen as learning from your own mistakes and avoiding the mistakes other countries did in the process of reforms* (ESIB, 2005, p. 3). This work disclosed the presence of weakness in the adoption and implementation of the Bologna process such as the abuse of the Bologna process by introducing National agenda as the Bologna process, Nations trying to hijack the process, the neglect of certain aspect of the Bologna process, the exclusion of students in education policy making and quality assurance, difficulties faced by student in relation to diploma supplement, the usage of the Bologna process to make important reforms of the Higher Education system and finally but not the list, the concentration of the Bologna process on the economic dimension and disregarding the social life aspect (ESIB, 2005).

In terms of the changes in higher education as a result of the Bologna process, Araújo et al., (2018) regard the Bologna process as a tool under which European capitalism aimed at achieving their economic goals. From this perspective, they demonstrate that qualification speech in higher education has changed to skills speech model whereby everything is centred on the skills required in the labour market to boast economy. Thus they assert:

> *Curriculums, in some European universities, have been formulated following orientations from international organisms such as the Organization for Economic Cooperation and Development (OECD) and the World Bank, a clear sign of capital's aspirations of incorporation of European citizens in a competitive and global labor market* (Araújo et al., 2018, p. 10).

This educational reform in Europe according to them, is the author of controversy whereby the Bologna process is experiencing diverse conception and implementation as well as the deviation from the main purpose of education which supposed to prepare citizen for an active participation in collective life and not just for labour market demand (Araújo et al., 2018). In this way, it means that education under Bologna process subordinates learning to capital demands to the expense of active participation in collective life.

2.3. The extension of LMD system to Africa, the purposes and its promising reality

In terms of LMD reform in Africa, Khelfaoui (2009) in his research, seeks to know the factors behind the introduction of Bologna process in Africa with the fact that most African countries embraced the reform more than and even before the members of European Higher. In this quest, he disclosed that the introduction of Bologna process in Africa base more on political factors and has instead drive African nations back to their former colonial situation. Thus, Africans lost their sense of fight against western domination on all aspect of life when incompetent leaders took over power and looking for solutions outside national frameworks and resources, induced African states to engage in a process of turning away from their own societies and from the ideals that led the struggle for independence (Khelfaoui, 2009). Turning to international aid therefore, explain why *the extension of the BP to African countries was supported by all agents of globalization. UNESCO, the World Bank and OECD have played a major role 'in its international promotion'* (Khelfaoui, 2009, pp. 24-25). These international institutions according to him, are agents of globalisation through which the decision making position of Africans will be more and more weakened thus, returning African nations back to colonial situation.

Eta and Mngo (2020) in their quest, seek to know the process of diffusion and transfer of Bologna process reform in national, sub-regional and regional context of Africa, and equally to examine the factors that drive these processes. Basing on data collected from existing documents, they deduced that in Africa, *the dissemination and transfer of BP-related reforms started as individual projects by national governments as early as 2000 before metamorphosing into sub-regional and regional initiatives* (Eta and Mngo, 2020, p. 59). They discovered that some African nations such as Morocco, Algeria, Egypt, Tunisia, and Senegal, were among the early adopters of the European Bologna process. The fact that African nations are not members of European Higher Educational Area (EHEA), but adopting the European Bologna process even before most of the members, poses a question on the motive driving the adoption (Eta and Mngo, 2020).

In this light, as to the reasons and motives behind the adoption, they *identifies economic, political and discursive factors as well as the selective and silent processes that shaped Bologna transfer at these different levels in Africa* (Eta and Mngo, 2020, p. 59). That is to say, the extension of European Bologna process reforms to Africa were influence and facilitated by former African colonial masters such as France who aim at extending their hegemony to their former colonies and to defend their interest (Eta, et al., 2017; Eta and Mngo, 2020). Also, the most important reasons

and motives as they pointed out were *the need to meet international standards and the international recognition of certificates. Bologna is thus seen as a step towards linking one peripheral and regional system to the international and global system* (Eta and Mngo, 2020, p. 72). These mentioned factors were mostly the force-drive behind the adoption of European Bologna process-related reforms in African nations. The system is known as BP in English speaking countries and LMD in French speaking countries.

The title LMD according the authors' finding, is the French adopted version of the Bologna process reform, which has been presented to former colonies as HE reforms, notwithstanding the versions implemented in other European countries (Eta and Mngo, 2020). From the above perspective, it shows that the diffused LMD reform in Cameroon, is the French version of Bologna process. The adoption of LMD reform in Cameroon according to Eta and Mngo (2020), has a peculiar motives and importance in regards to the long-held dichotomization of the challenges posed by the dual French and Anglo-Saxon systems of education. Thus, the LMD is used as a tool to neutralize or displace the conflict between the two traditional systems as well as a compromising harmonisation between the two conflicting groups resulting from their different culture and system inherited from their respective colonial masters (Eta, 2018; Eta and Mngo, 2020).

Cameroonian universities according to them, showed positive knowledge and beliefs about the LMD reform and harmonization and which could be *explained by the fact that the reform is a replica of the European Bologna reform, which was already largely embraced by the architects (France/UK) of the two educational systems adopted in Cameroon after independence* (Eta and Mngo, 2020). Thus, it means that if Bologna Process succeeded in creating a harmonious educational system between the two colonial masters, then LMD which is a derivation of Bologna process, should be able to do the same in this case of Cameroon. Eta, using text documents and interviews, examines the employability agenda under LMD reform with a focus on its conceptualization, its operational strategies, and its consequences for universities in Cameroon (Eta, 2017). Her finding shows that graduate employability is enhanced in Cameroonian universities through a combination of strategies known as 'professionalization' which aimed at preparing and equipping students with skills and competences for specific professions.

Conceptualizing professionalization, she disclosed that the adoption of LMD reform did not *bring in completely new elements in the employability agenda; it merely inspired local reforms and solutions which led to the reinforcement and diversification of the existing professionalization*

agenda that has been one of the missions of Higher education in Cameroon (Eta, 2017, p. 309). Focusing on the creation of professional degree programmes as an operational strategy for enhancing graduate employability, she discovered that as a result of the conceptualization and operationalization strategies adopted, there are mismatches between policy objectives and policy outcomes (Eta, 2017).

Bomda, et al., (2022), in their work that quest to know the pertinent of LMD system in terms of the mission of professionalising academics and of closing the gap between professional certificates and those of academics, discovered the vagueness of such mission. Using data gotten from the samples of professional graduate workers on one hand and those of academic graduate workers on the other, discovered from the analysis that between the employed professional and academic graduates from the LMD reform, the professional graduate workers are far more preferable by their supervisors in their various companies thus, preferable in the work-market demands. This discovery, induced them to call for *the need to re-examine the causal relationship between LMD reforms, professionalization and professional integration* (Bomda, et al., 2022, p.11).

In general perspective, LMD system is portrayed as an advantageous system of education in terms of growth and development. The reviews equally portrays certain shortcomings on the area of its adoption and implementations that could jeopardise the production process. On one hand, reviews on BP in Africa and Cameroon to be precise, portray the extension and adoption of the reform to Africa and Cameroon which has no much to do with the direction of our work. On the other hand, the reviews disclosed the vagueness of the mission of LMD system regarding the professionalization of students in Cameroon higher education. This shows that LMD system, in the context of Cameroon Higher Education, has failed in her mission but why the failure? Is there any shortcoming that is jeopardising the production process? Thus, this work aimed at discovering if there are failures in the production process of LMD system. That is why this work aimed at questioning and evaluating the teaching-learning process for graduate degree programme of LMD system in the context of Cameroon higher education to know if there are constrains to its production process in terms of the productivity of graduates.

From the mobilised categories of reviews portrayed above, it could be seen that students themselves are at the centre of the quality output of higher education under the guides of teachers and the administration as well as the country educational policy. This shows that the circle of

Cameroon higher education system requires a critical evaluation to know if the implementation and the production function of LMD system as well as the students themselves, are behind the reason for the inability of achieving the expected sustainable growth and development in the country. The teaching-learning process for graduate degree programmes stand as the core through which effective and efficient outputs for human resources could be generated for any envisaged sustainable growth and development. Thus, this research work aimed at discovering the extent to which the teaching-learning process for graduate degree programme of LMD system, in the context of Cameroon higher education, could produce the envisaged productive graduates that could enable sustainable growth and development in the country.

In the above regard, this research could bring about effectiveness in the labour force of the country through the amelioration it could bring to the teaching-learning process of graduate degree programmes of LMD system in the context of Cameroon Universities. In line with this, the late Professor Frederick Harbison of Princeton University affirms: *Clearly, a country which is unable to develop the skills and knowledge of its people and to utilize them effectively in the national economy will be unable to develop anything else*. Thus, this research work is of great importance for the production of competent graduates that could enhance growth and development in all domain of the country through their productivity.

IV- RESEARCH QUESTIONS

This work shall revolve around four questions, that is, one principal question and three secondary questions;

Principal question

Why LMD production process, in the context of Cameroon higher education, is not meeting up with the envisaged visions and expectations of producing productive graduates that could bring about sustainable growth and development?

Secondary questions

1) How conducive are the context of Cameroon higher education and the diffusion of LMD system to the effective implementation of the reform in the University of Yaoundé I?

2) What are the state of the implementation of the mechanism and processes of teaching-learning for graduate degree programmes of LMD system in the University of Yaoundé I?

3) What are the implications of the production process of LMD system in the University of Yaoundé I in terms of productive graduate?

V- RESEARCH HYPOTHESES

Main Research Hypothesis

LMD production process, in the context of Cameroon higher education, has not been able to meet up with the envisaged visions and expectations of producing productive graduates that could bring about sustainable development due to the context in which it is applied, failures in the implementation and malfunctions of the production process.

Secondary hypotheses

1) To a greater extent, the context of Cameroon higher education and the diffusion of LMD system are not conducive for an effective implementation of LMD system because there are obstructions, misinterpretations and failures in the adoption and introduction of the reform.

2) The implementation and the process of teaching-learning for graduate degree programmes of LMD system in the University of Yaoundé I, are ineffective as a result of misinterpretations and failures in the implementations and malfunctions of the formation process.

3) The production process of LMD in the University of Yaoundé I, in terms of producing productive graduates is ineffective and thus, has negative implications. This is because it has not been able to meet-up with the expectations of the system in question, Cameroon vision for higher education, and those of the institution and the students due to the malfunctioning of the system.

VI- RESEARCH OBJECTIVES

Main objective

To know the reason why LMD production process, in the context of Cameroon higher education, is not meeting up with the envisaged visions and expectations of producing productive graduates that could bring about sustainable growth and development in the country.

Specific objectives

1) To identify if the context of Cameroon higher education and the adoption of the LMD reform, are conducive to the effective implementation of the production process of LMD system. That is to say, this study aimed at discovering if the context of Cameroon higher education and the condition under which LMD reform was adopted, can enable effective implementation of the teaching-learning process of the reform in the University of Yaoundé I.

2) To determine the effectiveness of the implementation and processes of the teaching-learning of LMD system in the University of Yaoundé I. That is to say, our study aimed at

discovering if the implementation of LMD teaching-learning mechanism and the application of the teaching-learning process, in the University of Yaoundé I, are effective or ineffective.

3) To verify the implication of the production process of LMD system, in the University of Yaoundé I. That is to say, if the teaching-learning process for graduate degree programme of LMD system, in the University of Yaoundé I, is capable or incapable of producing productive graduates or again, if it is meeting-up with the expectations or not.

VII- METHODOLOGY

Mixed research study and the option of Fundamental or Classical structure of research presentation in Human and Social sciences constitute this methodological aspect. These determine the methodological considerations that enables the verification of the effectiveness of the teaching-learning process for graduate degree programmes of LMD system in the University of Yaoundé I and its capacity of producing productive graduates. We will respectively present referential framework on the LMD system, two theoretical frameworks: the theories of competence in education and educational effectiveness and ineffectiveness, the method and techniques of our data collection and how our data were processed and analysed.

1- Referential (Conceptual) Framework for LMD System

1.1. Graduate Degree Programmes of LMD System

LMD system comprises of three Graduate Degree Programmes namely, Licence (Bachelor), Masters and Doctorate degree programmes (ADEA et REESAO, 2008):

Bachelor degree programme has 6 semesters comprising of Teaching Units measured in credit value: 30 credits per semester with each credit having 20 to 25 hours of teaching learning process: Given the total of 600 to 750 hours of teaching-learning process per semester and 180 credits per Bachelor degree programme.

Master's degree programme has 4 semesters comprising of Teaching Units measured in credit value: 30 credits per semester with each credit having 20 to 25 hours of teaching learning process: Given the total of 600 to 750 hours of teaching-learning process per semester and 120 credits per Master's degree programme.

Doctorate degree programme has 6 semesters comprising of Teaching Units measured in credit value: 30 credits per semester with each credit having 20 to 25 hours of teaching learning process: Given the total of 600 to 750 hours of teaching-learning process per semester and 180 to 240 credits per Doctorate degree programme.

The Degree Programmes are made up of elements that learners could combine in differentiated courses known as capitalisable units. A capitalisable unit (Teaching Unit) constitutes an autonomous and coherent subdivision within a study programme. Within the training courses, the units are definitively acquired and can be capitalized as soon as the student has obtained the required average. The student can therefore train by choosing the content best suited to his profile and objectives, and in the time that suits him. This greatly increases his chances of success (ADEA et REESAO, 2008).

1.1.1. The different categories of Teaching Unit (TU: 6 categories*)*

Each TU comprises of lessons, animation of tutorials or/and practical works, fieldwork, research, face-to-face teaching (presence in class), distance learning, or a combination of these different forms under the following categories:

- Fundamental teaching unit meant for all
- Optional teaching unit for in-depth study or professionalization
- Transversal teaching unit intends to give tools in accordance to the background
- Planned free teaching unit in accordance to individual taste and needs
- Complementary teaching units
- Refreshing course (not credited) (ADEA et REESAO, 2008).

The new requirements introduced by LMD system, can be seen in three perspective: students must be taught in semester pattern; the necessity of working in the direction of the autonomy of the learner; and lecturers must be concerned with the success of learners rather than with the prospect of selecting the best (ADEA et REESAO, 2008).

1.1.2. Involvement in the implementation of LMD System

In the design of LMD system, there are three actors involve in the implementation of the system namely, academic staff, students and the administration.

Academic staff: This involve lecturers, advisers and heads of document centres who must be trained on LMD system. As their involvement, they have teaching tasks, student information, administrative and pedagogical management of courses, guidance and monitoring of students, and evaluation of the reform (ADEA et REESAO, 2008).

Students on their own parts, must be informed of the different modalities of this reform. As their involvement, they must take charge of their training by choice of optional teaching units. By the use of gateways arranged for reorientation needs, they must inform themselves about the

courses offered and carry out research on the courses and often have recourse to academic advisers. Also, they must join in the process of evaluating the reform through the mechanisms of evaluating the lessons that accompany the reform (ADEA et REESAO, 2008).

Administrative staff as well, must be trained on LMD system and they are directly associated with the implementation of the reform. They are to participate in the choice of new flow management and student monitoring and information tools as well as having the mastery of the tools (ADEA et REESAO, 2008).

1.1.3. Competence in LMD system: Profile and competence

Competence in LMD system has two perspectives which are Profile and competence:

- The Profile: There are two stages of profiles in LMD system which are the competence that the person to be trained must possess at the start and at the end of the training
- The Competence: it is characterised by integrated set of knowledge, know-how, interpersonal skills and knowing how to become or solve problems (interconnected capacities and aptitudes) (ADEA et REESAO, 2008).

1.2. Formation process in LMD System

1.2.1. The characteristics of a good training offer

A good training-offer involves clear and readable courses, diversified courses, professionalizing path, and realistic courses. For clear and readable courses, students must understand the objectives and components of the courses. Diversified courses must present students with the opportunity to acquire transversal competence. Professionalizing path enable students grasp the convergences that exist between the training paths and their professional projects. While realistic courses base on existing competences, working conditions, the job market, and they give students the means of mobility in a wider area (ADEA et REESAO, 2008).

To make student autonomous is the most important aspect of LMD system insofar as the process rely on the personal work of the student (ADEA et REESAO, 2008). Giving the learner every chance of success is another aspect that permit the learner to acquire the required competences. The first factor that goes in this direction is transparency: The learner has to be informed of the expected requirements and involvements, in order to better prepare for them. The second factor is the atmosphere that prevails in the classroom which should be that of democratic and a climate of group cohesion. The third factor is the spirit in which assessment is carried: The acquisition of competence should be at the focus (ADEA et REESAO, 2008).

1.2.2 Tools for presenting the training offer

With the view of empowering student so as to give himself what he must do each semester and for each diploma, semester plan need to be given to students, which comprises of all the information concerning the courses offered: Conditions of admission and registration; fundamental teaching units; transversal teaching units; in-depth teaching unit; optional teaching units; complementary teaching units; Free teaching units; refreshing course (not credited); and end of cycle internship, dissertation and thesis (ADEA et REESAO, 2008).

The lesson summary of each teaching unit should contain the following information: Acronym, code and title of the teaching unit; target audience; name of the lecturers in charge of the teaching units; specific objectives (corresponding to the capacities and competences that the learner will obtain at the end of the teaching unit); contents; evaluation methods and criteria; number of credits; convenient organization; bibliography (ADEA et REESAO, 2008).

1.2.3. The process of studying in LMD system

Studying in LMD system, students must acquire the behaviours that correspond with the requirements of the system, which revolve around three axes: getting to know oneself, getting information and preparing to take multiple learning paths. To know oneself involves having a professional project at the beginning of study to determine one's training project. The student need to know and be able to express to his academic adviser his aspirations, tastes, difficulties and academic assets, in order for the adviser to be able to help him build a training project basing on a coherent and realistic professional project. The project construction need to be done in a process of progressive orientation in series and options (ADEA et REESAO, 2008).

To get informed refers to the ability of student to get all necessary information that surrounds the education he receives. He must know the important dates, contents of the teaching units, bibliography to browse, evaluation system, and so on. This is because this information, which is to be taken in several departments and from different lecturers, is different for each student and, as their training progresses, student are to make sure that their professional project are still adapted to the realities of the job market (ADEA et REESAO, 2008).

Prepare to take multiple learning paths is an invitation to take ones responsibility at hand, diversify and manage oneself in research. In LMD system, those who are contented with lessons given by lecturers will have difficulties in the area of acquiring competence because they are expected to know how to use the course materials (hand-outs, online courses, bibliography) and

also all the resources that exist (libraries, computers, Internet). It therefore requires skills in all the fields that has to do with university work. These skills includes time management, note taking, documentary research and those of computer science (ADEA et REESAO, 2008).

1.3. The process of accompanying student in LMD system

The implementation of LMD system must have the level of structures such as guidance services with lecturers participating in the process. This service must indeed facilitate the orientation of student. When learner approaches a cycle of studies for the first time, the lecturer in charge of the learner must be able to present to him/her the training paths of the institution basing on the characteristics of this learner rather than on the logic of route design and must ensure the pedagogical coherence of the course. Throughout the course in question, the learner must find advice from the lecturer allowing him/her to persevere and also to complete his/her training by building above all, on the previous achievements (ADEA et REESAO, 2008).

The lecturer must promote the success of the learners by modifying his/her way of teaching and evaluation and also by individualizing the training as much as possible. In this sense, the lecturer must be able to discuss the training project with the learner and offer him/her the necessary support for the success of this project. Ultimately, the lecturer should no longer be contented with giving lessons, animate tutorials or practical work, but also has to play the role of academic adviser from time to time Academic staff must ensure that resources are available to learners and usable in accordance with the system (ADEA et REESAO, 2008).

1.4. The Domain of Professionalization in LMD system

Professionalizing does not only mean adding to training opportunities an experience in the professional environment but also, the concern to professionalize must cut across all training courses involving professional pathways and project (ADEA et REESAO, 2008).

1.4.1. Implementation of professionalising pathways

Professionalizing can be affirmed to *correspond to a spirit; which means that the promising courses to be set up at the university should correspond to the need of focusing all training on the professional projects of the learners* (ADEA et REESAO, 2008) and is to be done following the learning objectives. The activities should be carried-out in terms of competence and the content of the training should rhyme with the job market in close connection with self-creation of employment. The job market should not be limited to a single country but to the entire area where the training system is deployed: indeed, the possibilities of mobility do not only concern training

but also professional integration. The training plan should take into account the logic of the tutored projects, and the company-university alternation which constitute the evaluation of internships in capitalisable credits. In short, it should involve the possibility of acquiring professional experience at the university itself (ADEA et REESAO, 2008).

This means that professionalization is an attempt to respond to the different profiles of learners welcomed in universities. Therefore, to determine or set-up a promising sectors, *it is necessary to drop a certain number of traditional oppositions: professional/general, long sector/short sectors and even, professional paths/research paths to diversify the paths taking into account for the public to be trained and not the existing structures* (ADEA et REESAO, 2008, m. 4-Ter, p. 8). Ultimately, reflection on professionalization require universities to not just be contented with a simple adaptation to job market but also to adopt a forward-looking vision which could offer students new pathways (ADEA et REESAO, 2008).

1.4.2. Supporting students in their professional project

To succeed in the LMD system, the student must approach the training with a professional project. However, very often at the beginning of the studies, this professional project is not completely developed by the student. It is therefore necessary to accompany them in this process by welcoming and equipping the incoming students with all necessary information. Furthermore, orientation and reorientation services are very well needed. The student must adjust his course as long as he is in training: He must, in fact, ensure that his training project matches the professional project, which is also constantly being revised through the help of the orientation and reorientation services which can be central and/or decentralised. The advisers play a particularly important role with students in difficulty or failure by helping them find bridges and additional training, which allow them to go to the end of a training course and therefore to continue to build a professional project despite the partial failure (ADEA et REESAO, 2008).

1.5. Evaluation in LMD system

Evaluating consists of making a judgment on the quality of the learning achieved by a student, with a view of making a decision which is the fundamental step in the process. To decide on an evaluation system is first of all to specify the values that will condition the learning process. These evaluation process includes learning orientation assessment (at the beginning of the year or cycle), formative assessment (during the year) and certification assessment (mainly at the end of the semester or cycle). The teaching-learning process that wants to maximize the student's chances

of success has the following as the concentration. The evaluation system should be used to enhance student competence. The culture of the evaluation should be that which promote success. The effort prepared for weak students should be at maximum. The values to defend should be that of autonomy and responsibility and the functions to prioritize should be that of guidance, regulation, and certification (ADEA et REESAO, 2008).

1.5.1. An adapted evaluation system

The moment of evaluation must be chosen in such a way that the conditions favour the best possible performance in students. As for the time of the evaluation, the following are distinguished:

The diagnostic evaluation: it takes place at the beginning of the sequence and makes it possible to recognize the students who have or do not have the prerequisites. It leads to the decision to submit them to an education corresponding to their needs.

Formative assessment: it is part of a training system which takes place throughout the teaching process and leads to the decision to continue the process or to return to parts already seen. Formative evaluation is always criterion-referenced whereby all students are evaluated according to the same criteria.

Criterion-based evaluation: it measures using specific criteria aiming at revealing the student's degree of mastery of one or more skills.

Normative evaluation: it highlights, in a quantitative manner, the way in which the students of a class-group distinguish themselves from each other in relation to a given learning object.

Summative assessment: It takes place at the end of several teaching sequences and leads to the decision to grant or not a promotion or recognition of studies and is sometimes normative or criterion-referenced (ADEA et REESAO, 2008).

1.5.2. Determination of the level of the expected competence

The measurement of learning is quantitative as it seeks to verify the presence of a sufficient number of abilities, while the measurement of competence is qualitative, and it seeks to assess behaviour in a problem situation. From the above, it emerges that in LMD, it is important to evaluate learning in terms of sets of knowledge, know-how, interpersonal skills and knowing how to become which allow, in the face of a category of situations, to adapt, to carry out a task or a project and to solve a common problem (ADEA et REESAO, 2008).

The first step in developing a competent assessment is to establish the expected level for each. The evaluation should not be of the form: *What do we need to know? But what to do with*

what is known, in such a real context? The evaluation can be written, oral or practical and should relate to lectures, tutorials, practical work, internships and field trips, reports and dissertations, online training, and personal work. Identifying situations corresponding to the level of competence expected of graduates (ADEA et REESAO, 2008). The referential framework on the LMD system present five main indicators under which the effectiveness of the production process could be determined, namely LMD graduation degree programmes, LMD professionalization of students, the process of accompanying student in LMD system, LMD formation process and LMD evaluation system.

2. Theoretical Framework

Our choice of theoretical framework based on the theory that could enable use determine the structure and outcome of the teaching-learning process of LMD system for graduate degree programme. The theory of competence in education enables the determination of the structure and elements of producing productive graduates and the theory of educational effectiveness and ineffectiveness permits the discovery of the effective implementations and functions of an educational system which in-turn, determines its outputs. These theories enable us to evaluate, in stages, the context, the implementation, the teaching-learning process, and production of LMD system, which could permit us achieve our purpose as will be seen below.

2.1. The Theory of competence in education

The changes that occurred in the sphere of work and production in terms of competence in practice, attract further authors and theorists to further rethink the theory of competences in education and offer students the means to enter productive life. Among the theorists who gained repercussions in education, is Philippe Perrenoud and the work of Elliot et al., (2017) editors of *Handbook of Competence and Motivation: Theory and Application*.

For Perrenoud (1995), Succeeding in school is not an end in itself, in principle, students should be capable of mobilizing their academic achievements outside of school, in diverse, complex and unpredictable situations. For the author, the inability arises as a result of the problem of transfer of knowledge or construction of competences and is still unresolved in practice, which according to him is because entry into working life is often far removed from studies as a result of lack of reference to particular professional future. In order to remediate this situation according to the author, it will be necessary to consider the implications of the educational contract, didactic transposition, school work, class management, most importantly, the professional cooperation, the

functioning of establishments, and the role of the educational authority. From general perspective, Perrenoud present competence as a *high-level of know-how, which requires the integration of multiple cognitive resources in the treatment of complex situations* as such, suggesting that competence can be broken down into more specific components, that is, the "elements of competence" (Perrenoud, 1995, p. 1).

To do this, Perrenoud proposed the following schemas as the "elements of competence": schemas of perception, of thought, action, intuitions, suppositions, opinion, values, constructed representations of reality, knowledge, all combining in a problem-solving strategy at the cost of reasoning, inferences, anticipations, estimation of the respective probabilities of various events, of a diagnosis based on a set of indices, etc. All these for him, could be achieved through professional training: that is, prepare for a profession which will confront the practitioner with certain families of typical problems which, despite the singularity of each one, students are to be subjected to "treatment programs" (Perrenoud, 1995, p. 2). The function of competence can be gradually acquired in two different stages: At first, mobilization occurs more slowly, in which the subject is still developing in one's perceptions and needs to go through more excellent reflection and in a second moment, the competence is presented more immediately because the subject's mobilization of resources occurs instantly, being characterized as competence as it finds its effectiveness in the second moment (Perrenoud, 1999).

As seen above, Perrenoud (1999), perceive competence in four aspects: (1) Competencies are not themselves knowledge or attitudes, but are rather, the abilities that mobilize, integrate and orchestrate such resources. (2) This mobilization is only relevant in one situation, each situation being unique, even if it can be treated in harmony with others, already found. (3) The exercise of competence goes through complex mental operations, subtended by schemes of thought that allow more or less consistently and quickly determination and more or less effectively carrying out of action relatively adapted to the situation. (4) Professional skills are built-in training, but also the taste of a teacher's daily navigation, from one work situation to another. In this light, as mentioned by the author, competence must tend towards scientific knowledge and more excellent methodological reflection (Fernanda, et al., 2020). Another perspective adopted by the author, is that competence is fundamentally related to social practice. This refers to a need of analysing education and training from social perspective, focusing on reality and which implies that competence is aimed at professional practice (Perrenoud, 1999).

Another work that strike attention is that of Elliot et al., (2017) who aim at putting forth a clear competence theory involving the process that can determine its application. So, for these authors, *competence motivation encompasses the appetitive energization and direction of behaviour with regard to effectiveness, ability, sufficiency, or success (as well as the aversive energization and direction of behaviour with regard to ineffectiveness, inability, insufficiency, or failure)* (Elliot et al., 2017, p. 3). The model of developing competencies according to these authors, has five key elements but they do not constitute an exhaustive list of elements in the ultimate development of competencies. These elements are metacognitive skills, learning skills, thinking skills, knowledge, and motivation. Moreover, people can show analytical, creative, practical, or wisdom-based competence in one domain or element without showing all three of these kinds of competencies, or even two of the three in another (Elliot et al., 2017).

Metacognitive skills according to these authors, refer to the mastery of one's cognition, which involves seven important and modifiable metacognitive skills: problem recognition, problem definition, problem representation, strategy formulation, resource allocation, monitoring of problem solving, and evaluation of problem solving. Learning skills refer to knowledge-acquisition components such as selective encoding, which involves distinguishing relevant from irrelevant information; selective combination, which involves putting together the relevant information; and selective comparison, which involves relating new information to information already stored in memory etc. (Elliot et al., 2017).

The third, which is thinking skills refer to performance components involving the mastery of four domains. The mastery of critical or analytical thinking: Ability of analysing, criticising, judging, evaluating, comparing, contrasting, and assessing. The mastery of creative thinking skill: the ability of creating, discovering, inventing, imagining, supposing, and hypothesizing. The mastery of practical thinking skill: The ability of applying, using, utilizing, and practicing. The mastery of wisdom-based skill, which include the ability of utilizing knowledge toward a common good and balancing one's own interests with the ones of others. For the authors, these various domains of skills are the first step in the translation of thought into real-world action and they correspond with the abilities that portrays the presence of competence enumerate by Perrenoud (Elliot et al., 2017; Perrenoud, 1995).

The element of Knowledge according to the authors, involves two main kinds of knowledge that are relevant in academic situations. The first is declarative knowledge which has

to do with facts, concepts, principles, laws, and the like: "knowing that". The second is procedural knowledge which has to do with strategies and the procedures of achievement: "knowing how". The fifth which is motivation, refers to the push behind the quest towards achievement. The authors distinguish among several different kinds of motivation, achievement motivation which has to do with people who seek moderate challenges and risks and are constantly trying to better themselves and their accomplishments. Also, self-efficacy motivation, which refers to the belief in one's own ability to solve the problem at hand. This kind of motivation according to the authors, can result both from intrinsic and extrinsic rewards. For the authors, other kinds of motivation are important, too and motivation according to them, is indispensable element needed for school success without which the students may never even tries to learn or may perform poorly simply as a result of the lack of motivation (Elliot et al., 2017).

The theory of competence in education by Perrenoud (1995, p. 1) and Elliot et al., (2017, p. 3) therefore, hold that competence in education can be verified through the effectiveness and efficiency of the required competences in practical reality which can be seen in different degrees. It is in this light that Mulder (2021, p. 10), defines competence as:

> *Integrated capabilities consisting of knowledge, skills, and attitude clusters needed in a certain profession, occupation, job, role, organisation, or task situation, which are conditional for sustainable effective performance, including problem solving, realizing innovation and creating transformation.*

These elements constitute the structural phase of this work as they are the point of focus in all the chapters, which enable us to determine the practicality of the LMD reform, in the University of Yaoundé I to be precise, in terms of the competences it supposed to instil on graduates.

2.2. The Theory of Educational Effectiveness and Ineffectiveness

The theory of effectiveness emerged as a reaction to Coleman report of 1966, taking up the challenge that schools did matter as it aimed at enhancing the quality of schooling, especially for disadvantaged students. Educational effectiveness research retain two basic realities which are, inquiry oriented through the use of scientific methods, and a movement on furthering quality and equity in education. Here, the concept of effectiveness depends on establishing a formal analysis between a mobilised means (causes) and the attained goals (effects). The fact that effectiveness can be placed as an important facet of educational quality, underlines the normative context of the work (Scheerens, 2015).

The theory took its descriptive and taxonomies structure as an integrated multilevel model in the early 1990s following the works of Creemers, 1994; Scheerens, 1992; Stringfield and Slavin, 1992. Discovering through the work of Snow (1973) that the theory lack axiomatic aspect, Scheerens (2015) decided to mobilise rationality paradigm to give it a proper required phase. It is in this light that he demonstrate the conceptual structure of educational effectiveness as a hierarchical system with a loosely coupling relation and self-governance. This hierarchical system with a loosely coupling relation according to him, has the following implication: Process at the lower levels are being contextualized and controlled by higher levels under a vertical relation and despite this notion of higher level control, lower levels are having considerable autonomy of self-governance (Scheerens, 2015, pp. 11 - 12).

Through the rationality theory of effectiveness and ineffectiveness, the author discloses some causes or aspects that could determine ineffectiveness in education as he asserts: *Implementation failures, exaggerated interpretations, and undesired side effects would appear to be plausible explanations for ineffectiveness* (Scheerens, 2015, p. 21). This shows that by constantly encountering failures in the implementation, high misinterpretations and negative effects arousing from an educational system, one can deduced ineffectiveness of the education system and as such, cannot said to meet-up with the required output. Therefore, educational system is said to be effective if an only if there is no failure in the implementations, no exaggerations in interpretations and no undesired side effects. In other word, by actively encountering implementation failures and side effects, by fostering more realistic expectations on effects and effect sizes among practitioners and policy makers, and by considering alternatives levers for improvement, entails ineffectiveness of an educational system: The hierarchical system is presented in diagram found in appendix 5.

The achievement of a required output depend on how effective the implementation and the production process are carried out. When the implementation and the production process are effectively carried out, then the required output can said to be achieved and vice-versa. Thus, this theory is very relevant in this work because it enables us to determine the effectiveness or the ineffectiveness of Cameroon higher education system and the adoption of LMD reform. It permits us to verify the effectiveness of LMD system in the University of Yaoundé I through its implementation and the production process (teaching-learning process) which determines the capacity (productivity) of the graduates it produces. This verification was done through the use of

indicators and variables presented in the referential framework of LMD system in accordance to its implementation and the teaching-learning process for graduate degree programme.

3. Methods and Techniques of Data Collection

Mixed research method (qualitative and quantitative) and four data collection technics were used in this study. These data collection techniques are documentary research, interviews, observation and questionnaire technique. These combinations enabled us to access and process data with a very keenness and lucidity by using one to achieve our purpose where the other(s) could not. For instance, qualitative research enable us to access and process data from the areas where quantitative research could not and vice versa. Also, observation technique allow access to deeper and more significant information that others could not provide.

3.1. Technics of data processing

3.1.1. Site and Population

Investigation in the social sciences, whether by interview or questionnaire, is carried out within a specific spatial framework. Within this framework is a population, that is to say, a set of individuals capable of giving information to the researcher. The choice of this framework requires a social situation in which the phenomenon that constitutes the object of the research manifests itself. To this end, we have chosen to carry out our survey in the Centre Region, Yaoundé to be precise and shall centre on the University of Yaoundé I. This choice is because the University of Yaoundé I was one of the first Universities that implement the LMD system in her institutions in 2007 after the presidential decree on the adaption of LMD system in Cameroon higher education. It is equally the biggest and well known University in the Central Africa, as well as in the country, which has produced many numbers of graduates in different categories of life and of different levels of education under LMD system.

3.1.2. Sampling and sample

Sampling is a technique that extracts from the population, the individuals who are to be among the privileged respondents of a study known as the sample. To constitute our sample, we used stratified random sampling which consists of dividing the population into sub-population that are individually more homogeneous (called “strata”) than the total population by considering the different elements and characteristics of the sampling population (Tanah And Encho, 2017). The fundamental objective at this level is really the selection of a prototype of individuals who stand

as the exact replica of the population to which we want to apply the generalization. We have chosen, out of respect for the principle of psycho-sociological surveys, a few students, lecturers and administrators from two departments of the University of Yaoundé I using the criteria of professional and non-professional educational institution. It is from these two different categories of educational institutions and the three different level of graduation that we drew up our samples. We used Yaro Yamane's formula to determine the size of our samples and we used proportional allocation to get the sample sizes for different stratum and their characteristics as follow:

=>The height of the sample: $n = N/1 + N (e)^2$ where n = the sample size, N = the total number of population, e = the level of tolerable error and 1 = the constant. The total number of population = 1515, the level of tolerable error = 0.06, the sample size = 235

=> The sample sizes for different stratum: $P_1 = N_1/N$, $P_2 = N_2/N$ etc. hence $n_1 = n \times P_1$, $n_2 = n \times P_2$ etc. where n = the sample size, n_1 = the sample size of the first stratum and so forth, N = the total number of population, N_1 = the population number of the first stratum and so forth, and P_1 = the proportional allocation of the first stratum and so forth.

The same allocation was used to determine the samples of the characteristics of stratums: -The population number of the first stratum = 501; -The population number of the second stratum = 1014 (Agora Philosophique, 2023); -The proportional allocation of the first stratum = 501/1515; -The proportional allocation of the second stratum = 1014/1515; -The sample size of the first stratum = 235 x 501/1515 = 78; -The sample size of the second stratum = 235 x 1014/1515 = 157

Table 1: The Sampling: Stratify sampling according to the characteristics of the stratum

Strata: Char. used for the selection	**Stratum:** Department	Pop.	Sam.	Char. of stratum	Pop.	Sam.
-Professional -National advanced school -Field of science	**1st Stratum:** Dep. of Elect and Telecom Engineering	501	78	Doctorate student	13	02
				Masters students	105	16
				Undergraduate students	360	56
				-Lecturers	19	3
				-Administrators	04	1
-Nonprofessional -Faculty -Field of Art	**2nd Stratum:** FALSH: Department of Philosophy	1014	157	Doctorate students	82	13
				Master students	145	22
				Undergraduate students	755	117
				Lecturers	28	4
				Administrators	4	1

Source: Field data, 2023

Table 2: The Sampled population of the study

Target population (Students, lecturers and administrators)	Height of population	Sample population	Qualitative sample size	Accessible Population
Polytechnic: Department of Telecommunication	501	78	08	51
FALSH: Department of Philosophy	1014	157	12	128
Total	1515	235	20	177

Source: Field data, 2023

The population were drawn respecting all the characteristics found in the stratum such as level of studies, male and female, student delegates, grades of lecturers and administrative staffs.

3.1.3. Sampling technique

The sampling techniques that enable researchers to obtain data from the subset of the total population, in such a way that the knowledge gained is representative of the total population under study, is probability sampling. This method of sampling ensures the law of statistical regularity which states that *if on an average, the sample chosen is a random one, the sample will have the same composition and characteristics as the universal* (Tanah And Encho, 2017, p. 73). These sampling techniques, to be precise, the technique of stratified random sampling was of great necessity and has been the most employed in this research. This technique of stratified random sampling permits us to obtain data from a non-homogeneous group of population, which was the case of our sampling population where exist professional and non-professional education and different categories of graduates.

3.2. Technics of data collection

3.2.1. Documentary research

Documentary are generally called secondary source of data. Secondary data as the name implies refers to information or materials that are already in existence or amass by some other people for different purposes and which a researcher finds useful to the study he is carrying out (Tanah And Encho, 2017, p. 117). For Van Der Maren, Documentary research is an investigation by the researcher relating to an in-depth reading of books, documents and scientific articles (Van Der Maren, 2004). Thanks to documentary research we have been able to compile a review of the writings of authors relating to our subject. Staying devoted to this research, we spent time in the libraries of FALSH (CIRCLE), and that of the university campus of Yaoundé I, newspapers

relating to unemployment and diversity of documents found on the web, allowed us to have a broader vision on our research subject.

3.2.2. Observation

Observation is the most commonly used method especially in studies relating to behavioural science. It is the use of immediate awareness or direct cognition, as a principal method of research, thus having the potentials to yield more valid and authentic data. It equally enables a researcher to look afresh at everyday behaviour that otherwise might be taken for granted or go unnoticed through direct and/or indirect observation (Tanah And Encho, 2017, p. 115 - 116). So therefore, this method helped us to get an authentic and valid data on teaching - learning process under LMD system in classroom and evaluation in view of graduate productivity. Thus, we made use of both direct and indirect observation, which enabled us obtained data on the effectiveness of the application of the teaching-learning process of LMD system in the University of Yaoundé I.

3.2.3. Interview

This is a question and answer situation in which the interviewer ask questions supposedly pertinent to the research study. Equally, this method involves presentations of oral verbal stimuli and reply in terms of orals responses. In this light, information is elicitated as verbal interaction that exists between the researcher and the person being interviewed (Tanah And Encho, 2017, p. 119 - 120). This technique is used in this research to collect data from students, administrators and lecturers on the application and functional process of LMD system in the University of Yaoundé I. Data corrected through this method is normally more accurate because the interviewer can clear up the doubt of the informant about certain questions and thus, obtain correct information. Through this method, we get more information in greater details concerning teaching and learning process for graduate degree programme of LMD system in the University of Yaoundé I and equally the capacities of graduates it produces.

3.2.4. Questionnaire

It is a carefully design administration for collecting data in accordance with the specification of the research questions and hypothesis. It may be used to assert certain facts, opinions, beliefs, and practices. This method of collecting data is of great importance in the cases of big or large inquiring in social services and education (Tanah And Encho, 2017, p. 123 - 124). We used this method to get opinions and beliefs of students and student administrators on LMD

system in terms of the implementation, and production of graduate in the context of the University of Yaoundé I.

3.3. Data processing and analysis

The operation related to data processing is decisive for our work insofar as the analysis of information collected in the field requires a good scientific presentation. Thus, in order to bring out the finding of this research, which consist of moving from the data gathered from the field to the development of the research work, the technique used to interpret the data collected is content, descriptive and comparative analysis. The first has to do with a set of communicational techniques of analysis through systematic and objective procedures that enables us to describe the state of the implementation and production process of LMD system, to obtain indicators (quantitative or not) and to dictate inference of knowledge relating to the conditions. The second has to do with the use of the statistics discovered in the field to determine the effectiveness or ineffectiveness of the implementation and production process (teaching-learning process) of LMD system. While the third has to do with the comparison of the data obtain from the two different departments regarding the state of the implementation and production process of LMD system.

As part of our work, content analysis focused on qualitative data according to generic terms for a set of tools, bringing together observations and interviews carried out with students, lecturers and administrators of the chosen departments of the University of Yaoundé I. In addition, this technique of content analysis has extended to the level of documents (online and other documents) that contain information on the implementation and teaching-learning process of LMD system and Cameroon higher education system. Content analysis allowed us to make summaries of the discussions of the respondents in relation to the statements submitted to their assessments. The data collected was coded and prepared using SPSS 20 software. Thus, we opted for a descriptive analysis of the different variables in order to test the effectiveness of the main factors surrounding the implementation and teaching-learning process of LMD system to understand the influence of these variables on the acquisitions of graduate to determine their productivity. APA referencing system was used in the presentation of this work in combination with the option of Fundamental or Classical structure of research presentation in Human and Social sciences.

VIII. DEFINITION OF CONCEPTS

It is through the concepts that the specificity of any form of knowledge credited with scientific knowledge is recognized. The particularity of a scientific discipline is verified by its

concepts. Benoît Gauthier affirms that the definition of the concepts obliges the researcher to say precisely the implication of the concepts used in the context of the study (Gauthier, 2009, p. 232). In order to avoid any form of controversy linked to the understanding of our theme and the direction of the research, it is essential to define the concepts which constitute the essence of the title. To achieve this, we used various sociological dictionaries and lexicons of the social sciences, in order to find outlines for definitions of the concepts that will be used throughout our research.

1. Teaching-Learning process

1.1. Teaching process

The most common teaching institution is school whereby teaching is known as didactics basing on methods called pedagogy, but equally, teaching is an institutionalized activity in hospitals and companies. For JARVIS, Teaching *is the process of presenting knowledge, skills, attitudes, or values, which can be transmitted to and learned by others. This is commonly called didactic teaching* (Jarvis, 2005). Teaching process therefore, refers to the series of undertaken by an educator in both theoretical and empirical aiming at transmitting knowledge, skills, attitudes, or values to a learner. Our concentration shall be on that which occurs in institutionalized settings with a predefined curriculum such as Universities.

1.2. Learning process: "The acquisition of knowledge is what is usually termed 'learning'" (Jarvis, 2005). In *Greenwood dictionary of education, Learning is a psychological process in which lasting changes in an individual's knowledge or behaviour occurs as a result of experience* (Collins and O'Brien, 2003). According to this dictionary, the *explanations of how learning proceeds are influenced by philosophical, psychological, and sociocultural views of the learner and motivation. Such explanations typically emphasize the dynamics of either external behavioural changes or internal cognitive and emotional changes* (Collins and O'Brien, 2003).

Generally, learning is used to characterize a long-lasting change in knowledge, skills, attitude, or understanding of the world in a person. Learning takes place as a result of interaction of a person with the environment and his fellow men. Learning may occur either formally, as in the case of school or training course, or informally, as in the case of life experience, playground or at home (Collins and O'Brien, 2003). According to Jarvis (2005), there are many views of learning, all reflecting the academic specialisms from which the study is conducted.

1.3. Teaching-learning process therefore, refers to the series of undertaken by educators and learners in both theoretical and empirical activities involving both transmission and acquisition

of knowledge, skills, attitudes, values, beliefs, emotions, senses etc. resulting to both external behavioural changes and internal cognitive and emotional changes that could lead to the knowhow of the learner. Our concentration shall be on that which occurs in institutionalized settings with a predefined curriculum such as Universities.

2. Degree programme

2.1. Degree refers to an award conferred by a college or university as an official recognition of the successful completion of a programme of academic studies: A distinction bestowed in recognition of outstanding achievement or merit. A degree signifies the completion of an academic curriculum pertaining to a field of study under which the person who undergo the process is referred to as a graduate (Collins and O'Brien, 2003).

2.2. Programme on its on part, refers to series of projects meant to be realised in a long period of time with the goal of realising specific objectives. A project is constituted of many activities while Programme is constituted of many projects and there is always a place where these projects are carried out.

2.3. Degree programme therefore, refers to series of projects meant to be realised in a long period of time with the goal of realising specific academic objectives for the achievement of a defined degree or graduation.

3 Graduates' Productivity

There is a considerable literature on productivity in education, where productivity is taken as the search for patterns of school organization that produce the best student outcomes. In economic terminology, the effort is to find a production function - a mathematical expression of the relationship between inputs and outputs in education (Levin, 1993). Therefore, productivity is commonly defined here as a ratio of a volume measure of output to a volume measure of input used (OECD Manual, 2001). That is to say, the capacity of generating higher ratio of outputs in terms of the inputs used. Therefore, our main concern here, is the capacity of graduates generating higher outcomes from the degree programmes they received under LMD system. This capacity is measured through the achievement of the objectives set for the degree programme.

CHAPTER 1
CONTEXTUALISATION OF THE BACKGROUND IDEAS OF CAMEROON HIGHER EDUCATIONAL SYSTEM AND THE ADOPTION OF LMD REFORM

Cameroon is a central African state located slightly to the north of the equator.

> *This triangular-shaped country of some 475,440 square kilometres (183,568.4 square miles, slightly larger than California) is surrounded by Nigeria, Chad, the Central African Republic, Congo, Gabon, Equatorial Guinea, and a 402-kilometer coastline on the Atlantic Ocean (DeLancey et al., 2010, p. 1).*

A decentralized unitary country governed by the constitution of January 18, 1996, comprising of 10 regions, 58 departments, and 360 districts with a population estimated in 2020 at about 26.5 million inhabitants (Mackie, 2021, p. 2). The country's development policy is divided into two documents, namely: Cameroon's development vision for 2035 and that of the strategic document for growth and employment (DSCE) from 2010 to 2020. The expression "Higher Education system" as used in this study designates the systematic or rational organisations and functions of the various types of postsecondary educational institutions that train middle- and high-level personnel in diploma and degree certificate granting programmes.

The Orientation Law No. 98/004 of April 14, 1998 stipulates that Cameroon education system is to be organized into two educational sub-systems: Anglo-Saxon and Francophone education system, by which emerged the national biculturalism option" perceptible in higher education and regulated by the adoption of LMD system. It is in this light that this chapter shall focus on the question that seeks to know the extent to which Cameroon higher education and the diffusion of LMD system, can said to be conducive for the effective implementation of the LMD system. Here, we will discuss in the subsequent subsections, Cameroon Higher educational system, the determinant sources of Cameroon higher educational system, the extension of LMD system to Cameroon higher education and the circumstances surrounding the diffusion of LMD system in Cameroon higher education respectively.

1.1. CAMEROON HIGHER EDUCATIONAL SYSTEM

Formal education in Cameroon was placed under ministries by Law No. 98/004 of April 14, 1998 for the Orientation of Education in Cameroon. These ministries are MINEDUB (Ministry of Basic Education); MINEFOP (Ministry of Employment and Professional Formation); MINESEC (Ministry of Secondary Education); and MINESUP (Ministry of Higher Education)

(Rapport National de l'EPT, 2015, p. 18.). The administrative structure in Cameroon education is centralized requiring the endorsement of the central government through the above ministries. Thus, Higher education in Cameroon receives its endorsement of the central government through the Ministry of Higher Education created to oversee and presides over higher educational activities in Cameroon. In this subchapter, we will present the historical aspect of Cameroon higher education, the Structure and organisation of higher education in Cameroon, private higher education and public higher education in Cameroon.

1.1.1. The historical aspect of Cameroon higher education

The first higher educational institution in Cameroon was Cameroon National School of Administration created in 1959 following decree N°57-501 of April 16, 1957 by the French government, which grants the status of a self-governing state to Cameroon and which also favoured the setting up of higher educational institutions in the country. The institution started functioning in April 1961 having as mission to train high level administrative personnel for the public service. A magistracy section was latter added to it in 1964 giving it the present phase known today as "ENAM" (Ecole Nationale d'Administration et de Magistrature) (Aninpah, 1997, pp. 46 - 47).

On the aspect of University, the real foundation of university education in Cameroon was laid by the presidential decree N° 61-55 of April 25 1961, creating the first National institute of university studies later known as the University of Yaoundé. This institute was established to offer courses in arts, law and sciences, and was to be expanded to technical studies as presented by article 2 of the 1961 decree and the institute was affiliated to the University of Toulouse in France which at that time provides curriculum guidance and academic staffs (Aninpah, 1997, p. 47). This institute will later be transformed to the Federal University of Cameroon presently known as the University of Yaoundé I.

Another higher educational institution created by decree N° 61-186 of September 30, 1961 was the Advanced Teachers Training College (ENS), which went operational in November of that very year. The institution was created for the training of secondary school teachers and primary school inspectors. It was created and placed under the supervision of UNESCO, since it was the fruit of an agreement it signed with the Cameroon government in June 1961.

The reunification of the southern sector of British Cameroon known as the southern Cameroon, with "La Republique du Cameroon" after the plebiscite of February 11, 1961, necessitate the bi-cultural nature of the country educational system. The government of Cameroon

then sought the advice of UNESCO for the establishment of a Cameroon university. Following the study and recommendations of UNESCO, the Federal University of Cameroon was created by decree N° 62-DF-289 of 26 July 1962 to replace the National Institute of University Studies (Aninpah, 1997, p. 47).

At the start of the 1962-1963 academic year, the Federal University of Cameroon comprises of the following establishments: The Faculty of Law and Economics, The Faculty of Letters, Arts and Social Sciences, and the Faculty of Science. Also, the Advanced School of Agriculture, which started operating in January 1962, was attached to the University and was the case with the Advanced Teachers Training College (ENS), which became part of the University in 1963. These establishments of the Federal University of Cameroon, added to the Cameroon National School of Administration and Magistracy and the Military School (EMIA) could be said to form the foundation of higher education in Cameroon (Aninpah, 1997, p. 48).

By 1967 other establishments had been created and attached to the Federal University of Cameroon. The principal ones are worth mentioning which were, the Medical training which began in 1969 with the opening of the University Centre for Health Sciences (CUSS). At the same time, programmes in management and commerce were initiated at the Institute of Management (Institut de l'Administration des Entreprises: IAE). In 1970 the International School of Journalism (Ecole Supérieure Internationale de Journalisme de Yaoundé: ESIJY) came into existence as a regional institution, thus opening the doors of the University of Yaoundé to inter-African co-operation. In 1971, the Institute of International Relations (Institut des Relations Internationales de Yaoundé) and the National Advanced School of Engineering (Ecole Nationale Supérieure Polytechnique: ENSP) became operational mainly to tackle the broad strategic problems of development (ADEA, 1999, p. 2).

This showcase that the period from 1962-1967 witnessed the creation of general education structures (faculties), while the period after 1967 was consecrated to the creation of professional and technological institutions of higher learning. These efforts were aimed at preparing graduates for immediate integration into the public service or government corporations. By 1974 Cameroon institutions of higher learning has possessed at the structural level its two principal types of higher educational establishments: fundamental or general higher education and technical and professional higher education (ADEA, 1999, p. 2).

Without withstanding, after the 1972 referendum which changed Cameroon from a federal status to a united republic, the Federal University of Cameroon became simply known as the University of Yaoundé by the decree N° 73-326 of June 23, 1973. The University of Yaoundé remained the basic background of higher education in Cameroon until the 1993 university reforms (Aninpah, 1997, p. 48) whereby the President of the Republic in January 1993, signed a series of decrees that greatly transformed the landscape of university education in Cameroon. The Ministry of Higher Education compiled and published these decrees under the title "University Reforms in Cameroon" (La Reforme Universitaire au Cameroon) (Aninpah, 1997, p. 80). Four principal problems were outlined as the main motivation to the 1993 reforms which are: *a very low teacher-student ratio, low internal and external returns, the dominance of welfare services in the university budget and a demoralisation of the university community* (Aninpah, 1997, p. 80). This portray the presence of ineffectiveness in the production process of higher education in Cameroon at that time because the major problems pointed out disqualify the effectiveness of the process.

An important aspect of these reforms was the decentralisation of university education in the country. After the failure of the initial attempt that was made in 1977 to decongest the former University of Yaoundé with the creation of four University Centres namely the University centre of Buea, Dschang, Douala and Ngaoundere (ADEA, 1999, p. 5), as a result of being highly specialised, very selective and having only a few courses offered, the reforms came with decree N°92-74 of 13th April 1992 transforming the University Centres of Buea, and Ngaoundere into full universities. While the University of Buea was considered as an anglophone university, the University of Ngaoundere was considered as a francophone university and the University of Yaounde was considered as a bilingual university. The decree N°93-026 of 19th January 1993 decentralised university education in Cameroon by further creating the universities of Dschang, Douala, Yaoundé I and Yaoundé II. This enables the decongestion of the University of Yaoundé which is transform by the decree to the University of Yaoundé I (Aninpah, 1997, pp. 80 - 81) and the possibility of effectiveness in the production process of Cameroon university education.

The primary goals of the university reforms of 1993 were *the decongestion of the University of Yaoundé and the professionalization of university studies intended to produce graduates who could be useful to the private sector and the country as a whole* (ADEA, 1999, p. 5). Thus, a fundamental aspect of the 1993 reforms was the reorganisation of the academic year into two semesters and the introduction of course credit system. The course credit system was

intended to *make programmes more varied, professional, and relevant to the job market, and to reduce failure rates by allowing each student to progress at his/her own pace* (ADEA, 1999, p. 14). While the specific objectives as presented by ADEA (1999), were as follow:

To reduce over-crowding at the University of Yaoundé by the creation of six full-fledged Universities, with four of them based at the University Centres created in 1977, each with a specific mission geared towards an overall national development perspective. To provide all Cameroonians with equal opportunities of obtaining university education. This was to be achieved by the geographical location of each of the universities and also provision for common programmes to be offered in most of the universities. To make programmes more varied, professional, adapted and responsive to the needs of the job market, by providing more programmes that would enable graduates find employment in the private sector as well as create self-employment. To make universities more accessible to local, regional and international communities.

Also, to make more rational and optimal use of existing infrastructure, facilities and services, especially those already existing in the University Centres, by upgrading the otherwise under-utilised centres to full-fledged universities with diverse degree programmes. Broaden and increase the participation of different stakeholders in the financing and management of universities by instituting more substantial registration fees (raised from a modest 3,300F CFA to 50,000F CFA); in addition, the universities were encouraged to generate income by other activities and to involve the community in the attempt to diversify sources of funding. To grant universities more academic and management autonomy by providing basic infrastructure and finances. To provide a more conducive environment for teaching and research by creating a better atmosphere for teachers, teaching and research. To revive and maximise inter-university and international co-operation. To motivate staff and improve living conditions of staff and students through better remuneration, conditions for staff promotion of staff, and upgraded student conditions.

More broadly, the reforms sought to address the challenges of access, quality, capacity-building and funding in Cameroon university education. This reform continue till present as a result of increase in the demand of higher education in Cameroon. For instance, another reform was experienced with decree N°2008/280 of 9th August 2008 creating the University Maroua decree N°2010/371 of 14th December 2010 that create the University of Bamenda and the recent decree N°2022/003 of 5th January 2022 that create three more universities in Cameroon namely,

the University of Bertoua, Ebolowa and Garoua. Principally, all these reforms are attempts by the government to bring about effective running and function of state universities in Cameroon.

1.1.2. The Structure and organisation of higher education in Cameroon

Higher education in Cameroon constitute of state and private institutions of higher learning classified under universities and higher institutes. These institutions of higher learning are further classified under general and professional higher educational establishments providing general and professional certificates in higher education respectively. The minister in charge of higher education takes final policy decisions regarding universities and higher institutes, although each of them has a governing council. These Councils have the responsibility for personnel recruitment, implementation of school programmes and the running of the school activities, all are done in respect of the policy put in place by the government through the ministry. The creation of new departments, degrees, courses and changes in regulations must receive ministerial consent and each public university and higher institute receives a budget from the state through the ministry.

Cameroon higher education was organised and structured in accordance to the bi-cultural nature of the country in respect of Francophone and Anglo-Saxon subsystem of education. This dual system of education will later be harmonised with the adoption of LMD system in 2007 introducing a semesteral and unique system of higher education. The adoption of the LMD system respect the use of the two or either one of the languages: *French and English are the languages of instruction in higher education. Both languages are used in the Bilingual Universities for teaching and learning depending on the first language of the teacher or student* (Doh, 2015, p. 25). Most institutions of Higher learning in Cameroon today, both private and public, are likely to be bilingual though with certain high degree of the domination of one over the other depending on the background of the institution.

Though higher educational institutions are having the same academic organisation, but the organisations are done in accordance to their status which can be classified under public and private institutions of higher learning, and could be further classified under Universities and higher institutions and academic and professional higher educational institutions. But public institutions of higher learning can be further classified under integrated and non-integrated to the public service whereby those who graduate under the integrated institutions of higher learning, gain direct admission into public service which is not the case with others institutions.

All the above mentioned undergo the same academic year but with certain exceptions such as ENAM, EMIA etc. whose academic activities don't start at the same time with others and comprise of different form of formation activities that set them apart from other. In general, academic year runs from September to June as prescribe by the ministry of higher education but it often extend to July in certain institution where academic activities such examination extends to July. As mentioned above, the exception ones don't start in September and don't end in June or July. The start of their academic year depend on the period of the lunching and the publication of the results of their public entrance exams.

1.1.3. Private higher education in Cameroon

Institutions of higher learning in Cameroon are under two bodies of administration namely the private body of administration and government body of administration. Thus, Law No. 005 of 16 April 2001 to Guide Higher Education states in article 1: *Higher education shall comprise all the post-secondary training courses taught by public higher education institutions and private education institutions approved by the State as higher education institutions*. Hence, several higher educational institutions do not fall directly under the Ministry of Higher Education, but the Ministry must ascertain that they meet academic standards set by the government for the smooth functioning and achievement of education in the territory. The Ministry of Higher Education (MINESUP) is the main governance body for the state institutions of higher learning: *It defines policies for both the state and private higher education sectors. The Ministry is headed by a Minister who is assisted by a Secretary General, a General Inspectorate for academics and service control as well as various directors of departments* (Doh, 2015, p. 24). In this light, private higher educational institutions are runned and managed by private administrative bodies in the respect of the laws of orientation for higher education laydown by the government through the ministry of higher education.

Private institutions of higher learning constitute of Universities and higher institutes of learning that offer certificates in both general and professional domain of learning. For instance, a Catholic University was established in 1990 and according to the ministry of higher education's statistics of 2018, *Cameroon counts 235 legal private higher education institutions* (Guiaké and Zhang, 2019, p. 125). These institutions are headed by Lectors or directors with educational councils, and they provide learning for higher national diploma (HND), and academic and professional degree programmes for Bachelor, Masters and to some lesser extent, Doctorate

degrees. Institutions of higher learning in private sector are more of professional education than academic (general education) thus, more of higher institutes than universities which is not the case with public sector.

Many researches revealed that education quality in private higher institutions is much better than that of the public sector. For the researchers, education quality in private higher institutions is much better because of the competition among private higher institutions, their curriculum which can say to be more diversified and relatively linked to the market demand and sometimes a practical training in the enterprises (Guiaké and Zhang, 2019, pp. 125 - 126). That is to say, offering good programmes, good quality education, attractiveness and the competitiveness are a 'daily fight' within the private higher education sector portraying that students from private institutions are more prepared to face the challenges of world-of-work (Guiaké and Zhang, 2019, p. 126).

However, the public sector remains the sector which enrols the majority of students. Private higher education constitutes as of 2014, only about *15 percent of the entire student and staff population in Cameroon higher education... These students pay the full cost of their education through tuition fees, which may be as much as 5 to 20 times of what their students in the public sector pay* (Doh, 2015, p. 23). This shows that greater percentage of Cameroonian higher educational students attend but public institutions of learning, universities to be precise. That is to say, the public universities remain the sector which enrols the majority of students in Cameroon. This may depend upon two main reasons: the first is that the tuition fees in the public sector are much more affordable for many students than those in the private sector. The second reason is due to the fact that the admission into public universities, except the Grandes Ecoles, is relatively an open system admitting any holders of secondary school leaving diploma (Guiaké and Zhang, 2019, p. 126). Thus to a greater extent, the tuition fees which 50000 FRS and the non-existence of competitive entrance examination, pushes students to choose state universities.

Though enrolment in private higher education is progressively increasing as private higher institutions are growing to meet the demand expressed in the labour market, especially in the non-provided fields by the public institutions of higher learning (Guiaké and Zhang, 2019, p. 125). Private institutions offer new programmes such as STEM education (Science, Technology, Engineering and Mathematics) which enables students to get new knowledge and skills required for the job market. Researches reveal that the increase in students' enrolment rate in private sector

is driven by many reasons such as *the rise of the demand for higher education, and the decline capacity of the public sector* (Guiaké and Zhang, 2019, p. 125). Thus, this portrays that institutions of higher learning is experiencing increase and growth in Cameroon

1.1.4. Public higher education in Cameroon

Government Higher education in Cameroon can be seen in two perspective: The first perspective is that of professional and general education and the second perspective is that of integrated and non-integrated to ministerial service (public services). Here, all integrated institutions of higher learning offer professional education while the non-integrated institutions of higher learning comprises of those offering professional education and those offering general education. Integrated here, refers to those institutions of higher learning under which students are trained in such a way that they are directly integrated or employed into public service after the end of their study such as the National School of Administration and Magistracy (ENAM), Advanced Teachers Training College (ENS), the Military Academy (EMIA), the National School of Youths and Sports (INJS), University Centre for Health Sciences (CUSS) etc. those under which students after the end of their study, struggle on their own to obtain a job from private sectors or whenever government lunched recruitment.

Public Institutions of higher learning in Cameroon comprises of universities and higher institutes, while the higher institutes provide professional education, universities provide both general and professional education. Government universities are made-up of Faculties and higher institutes known as “Grandes Ecoles”, while the faculties are involved in general education and research, the higher institutes involve in training students for specific duties in the society like teaching, medicine, engineering, journalism and diplomacy. Though certain faculties such as those of sciences also provide professional education, for instance, the Faculty of Health. As already portrayed above, the formation process of higher education, in both private and public sectors in Cameroon, are carried out in semester and credit form that is, following the process of first semester and second semester.

As for the running of the institutions of higher educational learning, the universities are headed by either Lectors or Chancellors while the higher institutes are headed by directors, with each having educational councils responsible for the organisation of educational activities in the establishment. For number of universities, presently there are eleven universities within the ten regions of Cameroon, which is comprised of faculties and higher institutes, and which in turn are

made up of departments and they are runned and managed accordingly. That is to say, at the level of Faculties, the Dean oversees and runned the activities of the faculty with the councils and at the level of higher institutes, the director oversees and runned the activities with the council. Whereas, at the level of Department, the Head of department oversees and runs the activities of the department with the academic staffs of the department. This shows that there exist educational council at the level of university or higher institute and at the level of faculty except department.

In terms of admission into public institutions of higher learning in Cameroon, admission into the faculties is opened to all secondary graduates, while entry into the professional schools is very restrictive and is done through competitive examinations. For the integrated ones as portrayed above, students are admitted in accordance to the government needs and are absorbed into the public service on graduation. The "Grandes Ecoles" are specialised and professional higher institutions in which admission is done through a highly competitive nationwide examination because the number of students are limited, whereas "traditional" universities especially the faculties, welcome as many students that fulfilled the requirement needed for admission (Guiaké and Zhang, 2019, p. 122). That is to say, the admission is done through an open system which only requires a simple submission of the required document. The requirement for admission into the university is based on the two high school graduate qualifications: Baccalaureat (BAC) and G.C.E (General Certificate of Education) Advanced Level for Francophone and Anglo-Saxon subsystem of education respectively. Other requirements include language proficiency and relevance of high school subjects to the intended field of study (Doh, 2015, p. 25).

1.2. THE DETERMINANT FACTORS OF CAMEROON HIGHER EDUCATIONAL SYSTEM

Cameroon higher educational system was and is determined and influenced by many factors which includes Cameroon colonial origin, international relations and organisations, Cameroon politics and the policy that defines the higher educational system. These shall be subsequently discussed below to enable the understanding and conception of Cameroon higher educational context and the possible adoption of the LMD system.

1.2.1. The colonial origin of Cameroon higher educational system

Cameroon is a nation created out of the colonial expeditions of Germany, Britain and France without any higher education per say except the Cameroon National School of Administration created in 1959 when Cameroon had gain the status of a self-governing state. Being

a former French and British colony, Cameroon runs a bicultural Francophone and Anglo-Saxon educational and administrative systems (Doh, 2015, p. 22). This reality account for the origin of the bicultural system of education (Francophone subsystem of education and Anglo-Saxon subsystem of education) that existed in Cameroon higher education.

The co-existence of two subsystems of education in Cameroon Universities, ushered in two separate structures, programmes and examination systems, for example while the French-modelled university was operating on a multiplicity of degrees, the Anglo-Saxon university operated under the bachelor, master and doctoral degree structure in addition to issuing a postgraduate diploma (ADEA, 1999; Eta, 2018). In terms of grading systems, while university modelled after the French tradition operated under a system of modules and grade averages, the Anglo-Saxon university functioned via the United States' course-credit system (ADEA, 1999; Eta, 2018). The existence of a dual degree structure and grading system in Cameroon posed challenges in terms of finding equivalent degrees, especially for mobility purposes from one subsystem to the other (ADEA, 1999; Eta, 2018). Even though the 1993 reform attempted to bridge this gap but to no avail until the LMD reform was introduced, which to some extent harmonised the higher educational systems.

The legacy of Cameroon colonial origin also explains to some extent the reason why the curriculum at the university level has been deeply built on social sciences and Humanities rather than STEM programmes (Guiaké and Zhang, 2019, p. 124). As seen above, the first higher educational institution in Cameroon was Cameroon National School of Administration created in 1959 following decree N°57-501 of April 16, 1957 by the French government, which grants the status of a self-governing state to Cameroon and which also favoured the setting up of higher educational institutions in the country.

This institution presently known as ENAM, was mainly to form administrative clerk and the focus of the imperial education has been to form administrative personnel for their own use and had no any intention of forming human capital for innovation or sustainable growth. Researches showed that the concentration of colonisers have been to develop letters (foreign languages), political sciences and other social sciences in Cameroonian schools. This is one of the strategy they used to better administrate the territories under their influence and for the sake of civil service. Later after Cameroon had gain independence, those disciplines and the curriculum were kept to train local people for public administration. There was no intention of designing

curriculum for the purpose of innovation and sustainable economic growth (Guiaké and Zhang, 2019, p. 124) until the 1993 reform, even though the condition still prevailed.

The extension of this colonial influence can be seen in the principal purpose for the creation of the University of Yaoundé in 1962, which was *to train qualified national human resources, but this was understood mainly in terms of replacing expatriates as teachers and administrators in public and parastatal establishments. As a result, graduates from the University of Yaoundé did not receive the type of education required by a demanding private sector* (ADEA, 1999, p. 14). Consequently, one of the key goals of the 1993 reforms was the professionalization of the teaching programmes for the purpose of producing graduates for general job markets. But this purpose still ignore the aspect of STEM education, innovation and sustainable economic growth because Cameroon state universities stresses more on social sciences and humanities than STEM programmes and the space of sustainable economic development is slow.

It is from the above perspective that Ehizuelen (2018) carried out investigation from 36 African countries to know if the skills that graduates acquired match with those needed by the labour market. Unfortunately, he discovered that there is no match at all between them (Guiaké and Zhang, 2019, p. 123). Thus, he argued that:

> *The state of underdevelopment of Africa and the struggle to pursue economic transformation is not only due to the dearth of capital, but more importantly to the dearth of adequate knowledge and skills to enhance productivity and promote innovation (Guiaké and Zhang, 2019, p. 123).*

Hence, the non-suitability of the skills that graduates possess with those needed by the labour market is a main challenge in the education system in Africa in general and in Cameroon in particular (Guiaké and Zhang, 2019, p. 123). These visions can be actualised only in the productive capacity of graduates for it is productivity that determines growth and development in terms of human capital. Thus, even though the colonial powers did not really set up a higher education in Cameroon, but their influences still run and determines certain aspect of Cameroon higher educational system.

1.2.2. The influence of international relations (IR) on Cameroon higher educational system

Cameroon higher education objectives result from overlapping national and international policies. Cameroon is a signatory to several international conventions related to education, economic, health, location and politics. As a developing and aid-dependent country, Cameroon's higher education system is influenced by *the World Bank, UNESCO, the African Development*

Bank and other sub regional organizations which shape what is deemed strategic for higher education (Doh, 2015, p. 27). The face of globalization and internationalization of education induced a high level of influences from international organizations like the World Bank, UNESCO, UNICEF and UNDP amongst other education related agencies on Cameroon higher educational policies and system. Other forms of international relations influence on Cameroon higher education, are through *education related bilateral agreements between the Cameroon government and foreign diplomatic missions and institutions* (Ngwa and Mekolle, 2020, p. 190).

This reality of international relation (IR) influence to Cameroon higher educational system, could be seen in the International Declaration on higher education and the Priority Action Framework for Changing and Developing Higher Education adopted during the international conference organised by UNESCO at Paris from the 5th to 9th October 1998. Member states were recommended to widen access to higher education basing on merit, to renovate the system and institutions of higher learning, and to strengthen relations with the society, especially the job market (Rapport national de l'EPT, 2015, p. 16). This was one of the determinant aspects of the laws of orientation for higher education in Cameroon.

Also, another aspect could be seen in the revised convention on technical and vocational education adopted at the 31st session of the United Nation's General Conference on Education in 2001 which recommends, among other things, the removal of barriers between levels and domains of education, between education and the job market and between the school and the society. This are to be done by making technical and vocational education an integral part of everyone's basic general education in the form of initiating everyone into technology, into the job market as well as to human values and the standards required to behave as a responsible citizen; (Rapport national de l'EPT, 2015, p. 16). This revised convention adopted at United Nation's General Conference on Education in 2001, is another determinant aspect of the 1998 and 2001 laws of orientation that defines the objective of higher education in Cameroon.

During the year 2000s, LMD system known as the Bologna process has taken its extension face in Europe as well as across the globe. This can be perceptible in the influence it has in those meeting mentioned above in terms of the professionalization of higher education recommended to member states because that is one of the main vision of the Bologna process, which means the influence of the Bologna process already reached Cameroon higher education through the influence of international relation before its employment in 2007. Even its employment was

determined by CEMAC, which process seem to be political because it is more of political and economic relation of state located around the central region of Africa. Therefore, Cameroon employed LMD system under the membership of the CEMAC and not under self-determination.

Cameroon educational policy comes down to highlighting the different educational perspectives valued by the country in terms of education. Historically and as seen above, the political orientations of countries in educational matters have been largely influenced by the EC (educational community), in particular by the body established for this purpose, namely UNESCO. Thus, whether it is basic education, secondary or higher education, all these educational behaviours have followed its provisions in terms of policies and evaluation according to space and time.

1.2.3. The influence of Cameroon politics on higher education

Politics is the act of governing and managing the affairs of the state, a country or an area. Higher education and education in general are domain of activities carried under the supervision of the governing body but not run by the governing body. But in Cameroon, the State is at the heart of Cameroonian education system with several functions assigned to it whereby it defines and oversees educational policy, decides on educational programmes, and gives the authorizations for the opening and operation of educational establishments (Doh, 2015, p. 24). Each stage of a society corresponds to an educational system more or less sized to its measures. Educational system is in fact the summary of the society whose different traits reflects the social stratification that arose in the society and the state.

The administrative system of public higher education sector portrays absolute control of political actors over public higher education in Cameroon. For instance, higher education is under the control of the ministry of higher education, which has an absolute control on the state universities and higher institutions all over the country. Secondly, the university educational actors such as rectors, chancellors (university presidents), faculty deans and heads of departments are all appointed by the president of the republic (Guiaké and Zhang, 2019, p. 125).

Also, as stipulated in the Law n°005 of 16 April 2001 for the orientation of higher education in Cameroon, the state exercises a permanent control all over the areas of higher education in Cameroon, including their academic and pedagogical activities (The Republic of Cameroon, 2001). Whereas, to have an effective and successful academic system in which the curriculum will impact the socioeconomic development, institutional governance has to be adopted in such a way that could bring about competitiveness among universities and higher institutions, not only in

terms of marketable programmes but even more in terms of offering quality education and formation. In this light, studies and the theory of effectiveness mobilised in this work, have shown that the more self-governance and autonomy education institutions have, the more effective they become (Guiaké and Zhang, 2019, p. 125).

General sociology and historical materialism in particular, conceive the structure of any society as constituted by levels of instances articulated by a specific determination namely the infrastructure or the economic base of a society and the superstructure. This comprises two levels known as the legal-politics and ideologies. The superstructure therefore refers to the state in the sociological and legal sense and like each historical era, each stage of development can constitute a whole and a reproductive force in human relations. Among the sovereign missions of the state, there is also the education of its populations which falls within what Louis Althusser calls the ideological and repressive apparatuses of the state.

This leads us to educational policy through which the government put forth orientation laws with regard to the process of educating its population. Educational policy therefore is regulated according to what the state wants, the type of man she wishes to have and thus trained accordingly. Therefore, speaking of educational policy automatically leads to speaking of curricula or teaching programs and of the logics which underlie the process of training learners. This comprises of the environment, class situations and laws governing the various disciplines: That is to say, orientation documents and sanctions towards all administrative or non-administrative educators who do not respect the objectives of the state. Educational policy therefore touches both administration and lecturers and learners and all the laws, rules and regulations that govern educational institutions and as such, determines the higher education institutional policies.

In general, when the country gained independence in 1960s, the education curricula were those of (France) and Great Britain. At that time, education is conveyed in such a way that only the nobles have access to it and as such one had to be favourable to the colonial administration to access education thus, portraying a clear-cut of inequality in educational milieu. That is how the great outstanding figures of the country's history were formed and can still be perceptible in Cameroon higher educational system as a result of the influence of Cameroon politics. This influence can be seen in the decision that set aside integrated higher institutes for the formation of a category set of people meant for public services. In this perspective, education in those integrated

higher institutes therefore, has a purpose of keeping the regime in place as it aims at forming and structuring a particular kind of people for the public service.

This distinctive reality in the structure of Cameroon public institutions of higher learning, is a dangerous tool in the domain of education because firstly, it will create in Cameroonian students a mind-set of working towards admission into these integrated institution, in order to gain an assured job and as such, they will have less concern on every other aspect of education that could bring innovation. Secondary, it can serve as a mechanism of social reproduction of Bourdieu and Passeron, (1990) whereby, only the children of those who have influence in the government and in the society gain entrance into these higher institutions and as such, higher education on that aspect will continue to produce the same category of people in the public service. Thirdly, many can take all possible measures and can go to all extent to gain admission into these higher institutions and thus, will corrupt the process of admission as their will be administrators who will allow themselves to be corrupted and by so doing, corrupting the whole system. And fourthly, when the system is surrounded by corrupt people, the process of admission can never be just and as such, only those who will concord to the demand of the corrupt system could gain admission and not the merits thus, leading to a high level of incompetency in the domain of public service.

These therefore, are the dangers facing Cameroon economic growth and development as a result of the influence and determinants of Cameroon politics on higher education in Cameroon. When corruption becomes the order of the day:

> *The central role of the education sector – to teach ethical values and behaviour – becomes impossible. Instead, education contributing to corruption becoming the norm at all levels of the society. Social trust is eroded, and the development potential of countries is sabotaged (Kirya, 2019, p. 1).*

These dangers could arose as a result of Cameroon government choosing to set above all, integrated institutions of higher learning whose activities and organisations are purely determined by the government in order to form type of people she wishes to have as public workers.

1.2.4. Cameroon policy on higher education

Cameroon policy on higher education proceed from presidential decrees and international development agencies' objectives through which the Ministry of higher education constitutes the policies that governs higher educational activities in Cameroon as already demonstrated above. There is however known education policy document, the process of putting one in place commenced in 1961 when the first national university centre was created. There are four main

actors involved in higher education in Cameroon. These include the government, civil society, international development agencies and the private sector. Civil society organizations both local and international and the private sector play very limited or no role in the higher education policy process while the government and the international development agencies play major roles in the higher education policy process in Cameroon.

After the 1993 reform on higher education, came the forum of 1995 which was a critical event in the history of education in Cameroon. This forum gave birth to a reform that put in place the educational policy document of Law no. 98/004 of 14th April 1998 that lay down guidelines for education in Cameroon and later led to another reform that present a higher education policy document of Law No. 005 of 16 April 2001 for the Guide of Higher Education. Higher education considered as a national priority, is organized and controlled by the state.

The supervision and organisation of the Cameroon higher educational system is done by the State through legislation or regulatory. This therefore, gives the State the duty of: Defining the system of higher education: Fixing the creation, opening, functioning and financing modalities of both public and private institutions of higher learning: Deciding on the system and evaluation modalities of higher education in Cameroon, organises all national official examinations, and draws up the academic calendar for the entire country: Controlling private institutions of higher learning (Doh, 2015, p. 24).

Cameroon policy through the law N° 005 of 16 April 2001 on the orientation of higher education in Cameroon, assigned to higher education a basic mission of producing, organizing and disseminating scientific, cultural, professional and ethical knowledge for development purposes (The Republic of Cameroon, 2001). In 2007, LMD system was introduced into Cameroon higher education by presidential decree of … which aimed at actualising the professionalization of higher education. But there is no clear definition of skill and competence based curriculum in terms of market demand and the needs of the country. The professionalization of higher education desired by the government, has never been effective as a result of the absent of a well-defined curriculum that accord with job markets and the socioeconomic needs of the country for its growth and development (Guiaké and Zhang, 2019, p. 125).

Moreover, the professionalization of programmes that do not respond to the real needs is a mere utopia. Thus, it will be very important if the programmes and courses taught at all level in universities really respond to the socioeconomic needs (Guiaké and Zhang, 2019, p. 125). As

already seen above, there is no significant link between university curricula and the socioeconomic needs, especially on the area of economic growth and development of Cameroon. The professionalization of higher education as a priority lies on the suitability of the higher educational programmes with the country socioeconomic objectives. Therefore, the conception of relevant programmes that accord with the job market and the socioeconomic objectives of the country is the first and most important challenge to be undertaken. Thus, educational policy making and decisions shouldn't be only the matter of political actors, but also those of educational experts as well as the socioeconomic actors.

Furthermore, what exist as education policy in Cameroon is a myriad of legislations, presidential and ministerial decrees that orient educational practices at primary, secondary, public higher institutions and university levels (Ngwa and Mekolle, 2020, p. 199). Good education policies *are enacted with respect to the collective interest of the society that the educational system serves to be considered legitimate* (Ngwa and Mekolle, 2020, p. 196). Thus, to ensure that the policy reflects collective and not individual choice of those who have legal authorities to sanction policies, the process of initiating this education policies must be participative in such a way that it involves as many representatives of the various factions of stakeholders as possible. A good educational policy is also a declaration of educational goals and the process for achieving those goals for goal achievement and not regulatory or directive (Ngwa and Mekolle, 2020, p. 196).

In addition, a good educational policies are flexible in such a way that the procedures and activities for their implementation may differ with location and time depending on the surrounding circumstances. They are not ambiguously written rather, they are presented in manners that are easily understood by implementers and other stakeholders concerned, they should not only be available to administrators and those who work in educational institutions, but ought to be easily accessible to the various interest parties such as parents, the church, the community as a whole, Non-Governmental Organizations (NGOs), and industries that contributes to the growth and development of the educational sector. The outcomes of the implemented educational policies ought to be clearly stated so that everyone can understand the reason why the policies have to be implemented and what the policies expectations are. The policies should clearly spell out what educational organization members should and should not do in a given situation. (Ngwa and Mekolle, 2020, pp. 196 - 197)

Moreover, education policy makers must ensure that all policies are linked to the overall direction and goals of the organization. That is to say, the policy need to support education organizations in achieving their goals and objectives and it should be written in such a way that they expose staff to challenges that could enable them to better achieve their full potentials. The organizational rules and principles must be established and clearly understood as part of the policy development process. Education policy should not be a mere statement of ideals and commitments which cannot be implemented but rather, a document that must be inclusive and its outcome needs to be effective. The policy must possess measurable indicators that could provide that the desired end or expectations are realised. These measurable indicators are useful because they enable policy makers to evaluate the stages of the policy cycle and the realisation of its output. The evaluation of policies helps governments or organizations to determine the effectiveness of the policy and the possible areas that need changes thus, enabling the system to function more efficiently. The ability to measure the effectiveness of the policy gives it the capacity to be evaluated (Ngwa and Mekolle, 2020, pp. 197 - 198).

In addition to the above, other attributes of a good education policy include *sincerity of purpose, efficiency and cost effectiveness, appropriate funding, clear accountability, alignment with appropriate laws, enforceable and future proofed and historically informed* (Ngwa and Mekolle, 2020, p. 198). So therefor, for a policy and its implementation to be effective and for the policy outcomes to be achieved, it will be necessary and pertinent that it rhyme with the above criteria as a guideline (Ngwa and Mekolle, 2020, p. 198). It is from the above criteria and guidelines that Cameroon policies for higher education can said to be lacking and poses a question on the possibility of an accurate implementation of LMD system under such a spare of centralised policy for higher education.

1.3. THE BIRTH AND EXTENSION OF LMD SYSTEM TO CAMEROON HIGHER EDUCATION

LMD is an acronym for Licence, Master, and Doctorate. The LMD system represents a set of changes and innovations introduced in higher education consisting of an organization into three levels of training system: the License (bachelor), Master and Doctorate. The LMD system is therefore, an important element in the process of renewal of content and teaching-learning practices in universities and higher education in general. It will be of great necessity to know the background idea that led to the emergence of LMD system, its purpose and structure, the process that led to its adoption into Cameroon higher education and the factors that contribute to the

extension of the LMD system into Cameroon higher education. These above mentioned aspects, shall be the focus of this subchapter.

1.3.1. The background idea that led to the emergence of LMD system

The harmonisation of European Higher Education Area (EHEA), came as a result of the coming together of some European major powers (countries) who come to learn that *the preservation of their "welfare-state model of society", as well as diversity across cultures of their nation-states, could only be possible by joining forces, combining their resources to exert global influence on the political agenda and provide solutions to global problems* (Vuban, 2019, p. 132). This implies that the position of Europe at the world stage is threaten and requires their unification on the area that can enable them boost their economy and strengthen their influence across the globe. One of the problems that plague the European Union (EU), was the diversity of their education systems. It is the call for the resolution of this problem that led to the decision of integrating European Higher Education system which started in September 1988 at Bologna in Italy where the Rectors of European universities signed the "Magna Charta Universitatum" outlining the founding principles which will later become known as Bologna Process (LMD system) (International Educator, 2007, p. 6).

This process of harmonising European Higher Education was intensified with the introduction of European Credit Transfer System (ECTS) in 1989 as part of the Erasmus Mundus Programme. The intensification continues with the convention of April 1997 at Lisbon where UNESCO and the Council of Europe draft the Lisbon Convention on the recognition of qualifications concerning higher education in the European Region. The Convention contains the framework for mutual recognition of studies, certificates diplomas and degrees across Europe to promote academic mobility among European countries. These were followed by Sorbonne Declaration of May 1998 in Paris where education ministers from four major countries in Europe signed the Sorbonne Declaration which stands as the main stepping stone to the emergence of the Bologna Process (International Educator, 2007, pp. 6 - 7).

In terms of the account for the emergence of Bologna Process, the reform started with series of ministerial meetings and agreements between European countries, held to ensure comparability in the standards and quality of higher-education qualifications. These processes led to the creation of "European Higher Education Area" (EHEA) under the "Lisbon Recognition Convention" mentioned above and after the Sorbonne Declaration signed by Claude Allegre of France, Jürgen

Rüttgers of Germany, Luigi Berlinguer of Italy and Baroness Blackstone of the United Kingdom (UK), the final meeting that put forth or gave birth to the Bologna Process was held in June 1999 at Bologna in Italy where education ministers from 29 European countries, under EHEA, voluntarily signed Bologna Declaration which put in function the Bologna process. The declaration contain their agreement on a shared set of action lines to foster a competitive and attractive EHEA (International Educator, 2007; Vuban, 2019). In March 2001, Representatives of the National Unions of Students in Europe (ESIB) formally declare their supporting position for the Bologna Process at Goteborg Student Convention, which gave a strong push to its extension as the number of member states increase to 48 participating (signatory) countries across Europe (International Educator, 2007).

The education system known as Bologna process, had been existing before in several countries in Europe such as England. Bologna declaration only harmonies nations under the system by setting it open for universal use and as such raises certain controversies among the nations that are just receiving the system for the first time (European Commission et al., 2020; Araújo et al., 2018). The controversies surrounding the implementation of the Bologna Process across Europe resulted to the appellation of the Bologna Process in the French Zones as LMD system. The controversy here is that the implementation of the Bologna Process in most European member states or countries are more in content than practical.

Most of the signatory countries found it difficult to wholly and practically implement the Bologna Process because the reform is totally new and different from their educational system as a result of this, their adoption of the reform become more selective than whole and practical (ESIB, 2005; Khelfaoui, 2009) This was the case with France where the Bologna process was not wholly and practically implemented, rather the Bologna reform in France was more of a selective transfer. Thus, the title LMD system is the French-assimilated version of the Bologna Process presented to former colonies as the Higher education reform (Eta and Mngo, 2020).

This shows that LMD system is not another name for Bologna process which supposed to be the case but instead, is a reform that took its common face in Bologna process. The above reality indicates that the adoption of Bologna-related reforms in Africa and Cameroon in particular, was a case of selective transfer as can be seen in the appellation (LMD system). In other word, the transfer of Bologna reforms to Africa which includes Cameroon, was more in content rather than practical implementation of the lines of action. In content-wise, the most emphasis is the

conversion to two semesters, three-cycle studies, the credit system and the mobility of students and staffs (Eta and Mngo, 2020).

1.3.2. The purpose, objectives and structure of LMD system

The harmonisation of European Higher Education Area (EHEA) is a process that benchmarked programmes, certificates and qualifications, quality control, qualification recognition, accreditation, Quality Assurance (QA) mechanisms, and credit systems known as Bologna process in English speaking zones and LMD system in French speaking zones. The main aim of this harmonisation was to enhance compatibility and comparability of qualifications gearing towards the promotion of employability across regions, the mobility of students and staffs and the establishment of a common language for regulators as well as "policy integration in higher education" and the use of "voluntary intergovernmental integration", for the creation of commonalities at higher educational level. In order words, the LMD system innovation promotes the professionalization of higher education or the teaching core of competencies that address the needs of the global job market (Ngwa and Lawyer, 2020, p. 41; Vuban, 2019).

With these in mind, the purpose of Bologna process according to international educators (2007), is not about conformity, but rather about clarifying the complexities of the various higher education systems. To accomplish these ambitious goals, several 'tools of transparency' are gradually introduced. This includes the European Credit Transfer and Accumulation System (ECTS), the Diploma Supplement, and Qualification Frameworks (International Educator, 2007, p. 8). The objectives, the action lines and the agenda of the Bologna Declaration (1999) as presented by Vuban, were as follow:

To enhance the readability and comparability of grade degrees and diploma supplements, to enhance graduate employability and European Higher Education international competitiveness. To adopt a Higher Education system comprising of two main degree cycles: undergraduate and postgraduate; or three cycles comprising of Bachelor, Master and PhD. To adopt a credit system known as the European Credit Transfer System (ECTS) and to enhance student mobility and lifelong learning. To enhance free mobility among students, teachers, administrative staff, and researchers. To promote quality assurance (QA) through European cooperation and to develop comparable methodologies and criteria. And to promote basic "European dimensions in higher education" integrating study programmes, research and teaching, mobility programmes, inter-institutional co-operation, and curricular development (Vuban, 2019).

The framework adopted by the ministers at their meeting in Bergen in 2005 defines the qualifications in terms of learning outcomes evolving around statements of what students know and can do on completing their degrees. In describing the cycles, the framework uses the "European Credit Transfer System" (ECTS) whereby the first cycle typically comprises 180–240 ECTS credits (a minimum of 60 credits per academic year) for awarding a bachelor's degree. Second cycle typically consist of 60–120 ECTS credits (a minimum of 60 ECTS per academic year) for awarding a master's degree. And third cycle (doctoral degree) have no concrete ECTS range, since the disciplines vary in length and comprehensiveness. However, the most applicable among most countries, typically require 120-240 ECTS of study (ADEA et REESAO, 2008; European Commission et al., 2020).

In most cases, it would take three to four years to earn a bachelor's degree and another one or two years for a master's degree. Doctoral degrees usually require another two to four years of specialization, primarily it requires individual research under a mentorship. Degree names may vary by country. One academic year normally corresponds to 60 ECTS credits, equivalent to 1,500–1,800 hours of study. All these are carried under the accepted design of Quality Assurance put in place by the forerunners to control the quality of education received (ADEA et REESAO, 2008; European Commission et al., 2020).

1.3.3. The process leading to the introduction of LMD in Cameroon higher education

The process started with regional and sub-regional attempts to harmonise higher education in Africa using the Bologna model. The heads of states of the Economic and Monetary Community of Central Africa (CEMAC) signed the Libreville Declaration in 2005, which adopted Bologna Process reforms through the LMD system and Cameroon was represented by the speaker of the House of Assembly. This declaration create the CEMAC Space for Higher Education Research and Professional Training (Eta et al., 2017; Eta and Mngo, 2020).

Cameroon employed the LMD reform under the membership of CEMAC and was introduced into Cameroon higher education in respect of CEMAC sub-regional attempts to harmonise higher education in the zone following the signing of the Libreville Declaration (Eta et al., 2017, pp. 7-8; Vuban, 2019). It is from this perspective that the Cameroon Ministry of Higher Education, on the 16 of May 2006, signed a decision that introduced the LMD system into Cameroon higher education by creating the operational bodies for the implementation of the LMD system. This shows that the diffused LMD reform in Cameroon, is the French version of Bologna

process adopted by the CEMAC with the aim of achieving certain desired goals or objectives (Eta et al., 2017).

From the above perspective, the Libreville Declaration portrays that the adoption of the LMD system is to promote student and staff mobility at the national, regional and international levels, facilitating the equivalences of certificates. It is equally meant to harmonize study programmes, qualifications and awards, to enhance the attractiveness of Higher Education in the sub-region and to professionalise and integrate graduates into the regional and global labour market, as well as integrating the entire CEMAC region (Eta, 2018; Eta and Mngo, 2020; Eta and Vuban 2017; Vuban, 2019).

The adaptation of the LMD reform in the CEMAC African region, was a political decision taken by CEMAC heads of state without the consent of higher educational actors of the CEMAC zone (Eta et al., 2017). As presented by Vuban, the LMD action lines within the CEMAC region, as drawn by CEMAC Council of Ministers are: Professionalization of educational programmes; introduction of the credit system; implementation of two-programme system (undergraduate and postgraduate); and three degrees: Bachelor's, Master's, and Doctorate; adoption of nationally, sub-regionally, and internationally comparable readable certificates; the 'semestrialisation' of training periods (Vuban, 2019). This line of action omits Quality Assurance and didn't feature among any of the action lines in this context. Thus, according to Vuban,(2019) this portrays some unresolved quality concern in Cameroon higher education since the introduction of the LMD reform in Cameroon higher education draws its source from the adoption of the LMD reform at the CEMAC level.

The sub-regional attempts to harmonise higher education in Africa using the Bologna model, attain its fulfilment in the launching of Higher Education Harmonization Strategy by African Union (AU). The 2007 AU Meeting of the Bureau of the Conference of Ministers of Education ended with the release of a policy document titled 'Harmonization of Higher Education Programs in Africa: A Strategy for the African Union' (Eta and Mngo, 2020). This conference put a confirmed stamp to the already undergoing effort by sub-regions to harmonise higher education in Africa using the Bologna model. The document stated the AU's strategy for harmonization, which is consistent with its vision of integration, peace, prosperity and peerage in the global community (Eta and Mngo, 2020).

This Higher Education Harmonization Strategy by African Union (AU), hasting the pace of the implementation of the LMD reform as Cameroon, after the Ministry of Higher Education signed the decision of May 2006, was followed by the announcement made by the head of state in his 2007 message to the youths, on the introduction of LMD system into Cameroon higher education for the professionalization of students. After these, another decision was made on the 19 of October 2007 by the ministry of higher education to define the objectives of the LMD reform and establish provisions for its implementation (Eta et al., 2017, p. 9).

1.3.4. Factors that favoured the extension of LMD system into Cameroon higher education

First and foremost, political factor contribute greatly to the extension of LMD system into Cameroon higher education. The diffusion of the Bologna Process in Cameroon through the LMD system is the continuation of the process that began at the CEMAC sub-regional level with the signing of the Libreville Declaration in 2005 and the adoption was a political decision, as the university community or actors were not consulted prior to the signing of the Libreville Declaration nor were they given the reasons for the adoption ahead of time. The political decision was taken and has hold that all universities in CEMAC must move to the LMD system and they must apply it. As the Libreville Declaration had already been jointly signed at the CEMAC sub-regional level, Cameroon had to comply with that decision at national level which automatically gave the diffusion a political face (Eta et al., 2017)

Also, international relation is another major factor that contributed to the extension of LMD system into Cameroon higher education. Examining the justifications for adoption of the LMD in the CEMAC region and in Cameroon, Eta (2018) illustrated how meeting international standards was used as a political rationale. That is to say, the adoption was made under “international standard rationale” for policy borrowing. Here, the adoption of an idea results from the search for externalisation of borrowing potential ideas following how that idea works in other settings. The search may be influenced by common relations such as language, political linkages (same political association) and perceptions of hierarchy whereby the less developed countries commonly borrow from more developed countries (Eta et al., 2017). This obviously was the case of the adoption of LMD system in CEMAC.

Another factor, was the perception of the Bologna process (LMD system) as an effective reform with great potentials for the achievement of desired expectations. It is in this light that Eta et al., (2017, p. 2) asserts:

> *The BP model has been celebrated as an effective policy for Africa by virtue of its problem solving approach and the shared challenges faced by African and European educational systems in terms of expansion, employability, skills shortages, integration and mobility of students.*

The BP model became attractive for Africans because it permits regional and international integration through the harmonisation of higher education areas, it enables the professionalization and integration of graduates into the world markets and was seen as a tool for enhancing comparability and cooperation with the EHEA replacing ex-colonial networks with global networks (Eta et al., 2017).

From all indication, the factors that contribute to the extension of the Bologna Process ideas into Cameroon higher education system is the "global nature" of the Bologna Process and the desire to harmonise higher education in the Central African sub-region following this global trend of Bologna process, of which Cameroon is a part. Also, the need to apply international standards and the solution oriented nature of the Bologna Process, combined with the internal challenges facing the Cameroon higher education system, especially in terms of harmonising the dual French and Anglo-Saxon systems of education in Cameroon, triggers and permits the extension of Bologna Process into Cameroon (Doh, 2015, p. 26; Eta, 2018). Thus, the LMD is used as a tool to neutralize the conflict between the two traditional systems as well as a compromising harmonisation between the two conflicting groups resulting from their different culture and system inherited from their respective colonial masters (Eta, 2018; Eta and Mngo, 2020).

1.4. THE CIRCUMSTANCES SURROUNDING THE DIFFUSION OF LMD IN CAMEROON

Before the introduction of the LMD reform into Cameroon higher education, there were issues surrounding Cameroon higher educational system and there were certain realities that occur as a result of the introduction of the LMD reform. Also, there were situations that stand as threats to the introduction of the LMD system, and expectations of Cameroon educational actors toward the LMD system. All these shall be the focus of this sub-chapter.

1.4.1. The state of Cameroon higher education before the diffusion of LMD system

Cameroon's territory as seen above, is made up of French and English cultures resulting to the bilingualism and dual-subsystem of education at all level which includes higher education. This reality which resulted from the simultaneous French and British colonial rule over Cameroon following the defeat of Germany in World War I, set Cameroon higher education system apart

raising conflicting views between the qualifications and certificates of both subsystems. The situation equally gave rise to the issue of domination and minority whereby those who are practicing English subsystem feel dominated by French subsystem (ADEA, 1999; Eta et al., 2017).

As in other CEMAC countries, the institutions of higher learning modelled on the French system, offered multiple degrees such as Diplôme d'études universitaires générales (DEUG), Licence, Maîtrise, Diplôme d'études approfondies (DEA), Doctorat de troisième cycle and Doctorat d'État. At the Anglo-Saxon institutions of higher learning, there was a HND and a three-levels of degree structure which Bachelor, Masters and Doctorate degrees. While universities modelled on the French system operated a modular system and average grading, the Anglo-Saxon university employed the course credit system (Eta et al., 2017). This concurrence of French and Anglo-Saxon systems of education set the higher education apart and presented challenges both locally and internationally.

At the local level, the master's degree of Anglo-Saxon systems did not exist in the French-system universities, the Maîtrise and the DEA of French system were used at different points in time as equivalents for transfer from a French to an Anglo-Saxon system university and were seen to be either below or above the master's degree respectively. Internationally, the 'Doctorat de troisième cycle' awarded by Cameroon universities was confused with the traditional Anglo-Saxon PhD. Thus, before the introduction of LMD reform, the higher education system in Cameroon comprised of two degree structures according to the French and Anglo-Saxon systems.

1.4.2. Efforts made for the introduction of LMD system in Cameroon

The introduction of LMD system into Cameroon higher education was not a matter of adoption, as it had already been adopted at the CEMAC level. Rather, the issue was how to best disseminate the ideas and prepare the institute of higher learning for implementation. On 16 May 2006, the Cameroon Ministry of Higher Education signed a decision creating the operational bodies for implementation of the LMD followed by another decision on 19 October 2007 that defined LMD objectives and established provisions for its implementation. The objectives aligned with those of CEMAC and can be seen as the first step towards dissemination of LMD ideas in terms of interpretation and guidance, including specific and general objectives and anticipated changes. Conferences were organised by the Ministry of Higher Education to familiarise university administrators and other stakeholders as important tool for the diffusion of the LMD.

One of the conference was held in Yaoundé in 2010, under the theme "Refondation Curriculaire pour un Universitié Camerounaise Compétitive au 21st Siècle" aiming at defining guiding principles for the implementation of the LMD degree structure, as well as discussions on the comparability of qualifications and how to enhance graduate employability. The conference brought together national Higher Education stakeholders and international delegates involving two "Bologna experts", one from Ireland and the other from Belgium. In other to maintain a linguistic balance during the conference, the "Bologna experts" invited were 'English-speaking and French-speaking respectively, who shared the UK and Belgian experiences of the Bologna Process (Eta, Kallo and Rinne, 2017). This shows that the main instruments for Bologna Process dissemination into Cameroon higher education came through national and institutional texts guiding implementation and through conferences and seminars involving Cameroonian experts traveling abroad and Bologna experts traveling to Cameroon to share their experiences of the Bologna Process (Eta, 2018).

More so, efforts were made on the area of financing research, motivation of students in their academic quest and intensification of the use of technology in higher educational milieu. Cameroonian government give what is known as research allowances and it is expected that public institutions of higher learning do research (Vuban, 2019, p. 140) as it is one of the most import aspect of institutions of higher learning especially the universities. Students equally are motivated through "Prime d'excellence" (50,000 FRS) awarded every year to students who perform well in their end of academic year results. Also, to boost the usage of technology in higher educational milieu, Cameroon government took initiative of offering Laptops to Cameroon higher educational students, which took effective in the academic year 2017/1018. Even though the research allowances are limited to public universities and the "prime d'excellence" to Cameroonian students and only those who are not working, the incentives can go a long way to boost the smooth functioning of LMD system in Cameroon.

Furthermore, another step taken by the ministry of higher education was that of given a deadline to universities (Institutions of higher learning) to move to the LMD system. Following adoption of the LMD at CEMAC sub-regional level and its subsequent introduction in Cameroon, universities were instructed by the Ministry of Higher Education to begin implementation in 2007/2018 academic year: Thus, *given that the 2007/2008 deadline was a formality, some universities respected it while others began implementation of the LMD in the academic year*

2008/2009 (Eta et al., 2017, p. 10). Among the universities that respected the deadline were those already familiar with Bologna Process ideas, such as the University of Buea and the University of Yaoundé I (Eta et al., 2017, p. 10).

1.4.3. Expectations on the LMD system in terms of its potentials

First and foremost, Cameroon Ministry of Higher Education remarked that one of the objective of LMD system is to harmonise the dual-degree structure that was in function in Cameroon higher education. The findings of Eta et al., (2017) show that although imposed on the universities through politics, the adoption of the LMD system found some support in Cameroon because of its potential to resolve the country's higher education challenges (Eta et al., 2017). Thus, LMD system of education is recognised here in Cameroon to have potentials that could resolve the problem of human productive workforce that could bring about sustainable future, which is the main focus of higher education. Of recent, many efforts have been put in place to see to the achievement of sustainable development goal of 2030. This has intensified the implementation of this LMD system in order to bring about the achievement of professionalization and development.

Also, LMD system is been applauded of its capacity of taken graduates to their destine end, which is job market, as employers or employees. Thus,

> *The expectations for the university go beyond the basic missions of teaching, research and service to the society. Higher education does not need to train without focusing on where the graduates will end up (motive for professionalization) (Doh, 2015, p. 20).*

It is in this light that Tanjong (2008), using focus group discussions and a survey on Cameroon's higher education institutions and actions towards sustainable development, discovered that Cameroon higher education, has a slow and ineffective pace in terms of sustainable development but hoping that with the introduction of LMD system, which he referred to as being "professionally oriented" and with the employment of the recommendations made, the condition could change to a favourable one.

1.4.4. Situations that stand as threat to the function of LMD system in Cameroon

To begin with, presence of dual culture and system of education in Cameroon pose a problem to the full function of LMD system in Cameroon. In the attempt of harmonising the two subsystem at the level of higher education through LMD system, there are still differences in the actual operationalization of the degree structure and the credit system. In terms of practice, the

operationalization are deeply rooted in the dual systems of education in Cameroon, as each sub-system seeks to preserve its cultural heritage (Eta, 2018, p. 81). Thus, Eta (2018) asserts:

> *It seems that there always will be barriers to the harmonisation of higher education practices because the two cultures have to co-exist… for fear that harmonisation may lead to assimilation and subsequent extinction of one sub-system (Eta, 2018, p. 81).*

This view can be seen in the press release in the Cameroon Tribune by Ministry of Higher Education in 2016, which instructed:

> *The specificities of the Anglophone sub-system of education will have to be respected as prescribed by the Law. The Universities of Buea and Bamenda will, therefore, harmonise their curricula among themselves without necessarily conforming to the Francophone model (Eta, 2018, p. 81).*

This presents a clear barrier to the full function of LMD system as it normally ought to.

Also, another obstacle to the full function of LMD system in Cameroon is the inadequate human, economic and academic resources. LMD system supposed to integrate 70% of the student's personal work which in turn will empower the student in his/her learning activity and also to improve the level of training. Such a parameter cannot be fully applicable in an educational environment that has inadequate human and academic resources such as learning halls, libraries, laboratories and the lack of true multimedia centres (Felix and Sophie, 2022, p. 621). It is in this light that Hanifi (2018, p. 9) asserts that:

> *Lack of human resources, the lack of training for the current teaching staff on the LMD system instructional key aspects and the big size of the groups are among the main problems that emerge as real obstacles in the path of the success of any newly adopted reform system such as the LMD system.*

Cameroon institutions of higher learning are backward or lacks sufficiency in terms of academic staffs, financing, infrastructures, multimedia centres, libraries, and laboratories (Tanjong, 2008, p. 14; Felix and Sophie, 2022, p. 621). This backwardness or insufficiency in human, economic and academic resources could slow down, weaken or paralyze the teaching learning process of LMD.

Again, distinction between professional and academic or general education as was the structure of Cameroon higher education, were taken into consideration and maintained in the application of the reform. This means that Cameroon does not apply the LMD as thought by its founders since the LMD system in the context of Cameroon higher education did not categorized the degrees as distinction between the professional and academic degrees are clearly perceptible even in the process of formation (Vuban, 2019, p. 134). This normally contradicts the purpose of LMD system which aimed at closing or harmonising these aspects of higher education through the

process of professionalizing all training offers (field of studies). Thus, LMD is a promising system, whereby *it is necessary to drop a certain number of traditional oppositions: professional/general, long sector/short sectors and even, professional paths/research paths to diversify the paths taking into account for the public to be trained and not the existing structures* (ADEA et REESAO, 2008, m. 4-Ter, p. 8). This has never been a reality in the LMD system that is in function in Cameroon higher education.

It is from the above perspective that Bomda et al., (2022, p. 1), in their work that quest to know the pertinent of LMD system in terms of its mission of professionalising academics and of closing the gap between professional certificates and those of academics, discovered the vagueness of such mission. Therefore, the presence of these traditional structures, which are obvious in Cameroon higher education system, are obstacles to the full function of LMD system in Cameroon because it limits the professionalization harmony and process of the system.

The issue of delay in the process of degree programmes, especially at the master and doctorate level, has been an obstacle to the full function of LMD system in Cameroon. LMD system envisages 2 years of research and writing for Master's Degree and 3 or 4 years of research and writing for Doctorate Degree, but the observation on the ground as revealed by Vuban (2019), shows that there are *blockade inflicted by the elders to the young doctoral students of Cameroon… the lucky ones defend their thesis after 5 years* (Vuban, 2019, p. 134). This reality of blockade and delay is clearer in the letter released by the Ministry of Higher Education, which carry instructions for Vice-Chancellors and Rectors of State universities in relation to the respect of the laid-down criteria for the selection and defence of Masters and Doctorate students in LMD system. This letter was release as a result of blockades and delays of Masters and Doctorate students observed in State universities by the ministry of higher education (Ministry of Higher Education, 2021b).

Also, the selective nature of the LMD system that is in function in Cameroon, diffused from CEMAC region, poses a problem on the full function of the reform in question. The adoption of LMD system at the CEMAC level, based on a selective process which started with France who is signatory member of the Bologna Process and then extend to CEMAC member states through diffusion. Cameroon being a signatory non-member state of the Bologna Process, has many unresolved quality concerns in its Higher Education system which still exist because the Bologna Process has been adopted on a selective basis whereby some action lines have been adopted while others are neglected or have not been adopted: for instance Quality Assurance (QA). This refers

to Quality Management body with principles as a workable strategies used in solving quality problems in Higher Education. In Cameroon Higher Education, Quality Assurance is a neglected pillar of the Bologna Process because it has not featured among any of the action lines in the CEMAC context of adoption. This makes the LMD system that is in function in CEMAC region and in Cameroon in particular, an event instead of a process (Vuban, 2019, p. 134).

The above analysis aimed at portraying the context of Cameroon higher education, the extension of LMD system into Cameroon higher education and the evaluation of their conduciveness to the effective implementation of LMD system. It is seen that Cameroon higher education has a complex and complicated background of dual culture and educational systems. It is equally seen that Cameroon politics and international bodies in which she is affiliated, have great influence on her higher educational policy which is centralised and exclusive to the government educational administrators than the decentralisation it appears to be in theory. The adoption of the LMD system at the CEMAC level and at the national level, are more of exclusive than inclusive as it is politics and selective incline leading to what Bourdieu (1977) referred to as symbolic violence which jeopardises power relation by specifically adding symbolic force to what supposed to be and by so doing, subjugating the whole system.

It can equally be seen that the state universities are structured towards having the same graduation programmes in space and time in terms of general and professional education which has become a culture and as such, leading to what Bourdieu (1977, p. 78) referred to as cultural capital which ends up becoming habitus. Thus, when the State University continue to have the same programme and teach the same Unit Values for 20 to 25 years which is the case here, the university programmes becomes a routing without basing on the society need. Judging from the theory of education effectiveness and ineffectiveness mobilised for this research, to a greater extent, the context of Cameroon higher education and the adoption of the LMD system does not give a conducive ground for an effective implementation of LMD reform. But how reality is this ineffectiveness in the implementation and function of LMD system in the University of Yaoundé I? Thus, it will be necessary to verify the effectiveness of the implementation and function of the LMD reform in the University of Yaoundé I in terms of productive graduates as will be seen in the following chapters.

CHAPTER 2
THE IMPLEMENTATION STATE OF THE MECHANISMS OF THE TEACHING-LEARNING PROCESS FOR GRADUATE DEGREE PROGRAMMES OF LMD SYSTEM IN THE UNIVERSITY OF YAOUNDÉ I

LMD system as already seen above is introduced into Cameroon higher education under the ministerial decree of 2006 after its adoption at the CEMAC regional level in 2005. The University of Yaoundé I was one of the first university that implement the reform in her institutions in 2007, which was the latest date given by the ministry of higher education for all institutions of higher learning in Cameroon to move to the LMD system, though not all the institutions of higher learning respected the deadline. The University of Yaoundé I is made-up of eight institutions of higher learning which comprises of four faculties, three national schools of higher learning and Doctorate school made-up of four centres corresponding to the faculties and the national schools of higher learning. As already disclosed above, this research select a department from one of the faculties, philosophy department to be precise and a department from one of the national schools of higher learning, Department of Electrical and Telecommunications Engineering to be precise. These selected departments are academic and professional institutions respectively.

An effective implementation of LMD system has to follow or be in accordance to certain mechanisms of teaching-learning process and degree programmes of the reform. Thus, this chapter shall base on the question that seeks to know the state of the implementation of these mechanisms and programmes. In this light, the subsequent subchapters will disclose the effectiveness of the implementation mechanism, of the graduate degree programmes, of the professionalization mechanism and evaluation mechanism of LMD system in the above mentioned departments.

2.1. EFFECTIVENESS IN THE IMPLEMENTATION PERSONNEL AND THEIR ROLES

The effective implementation of LMD system involves certain mechanism, which includes administration, academic staffs and the students. These categories of personnel involved, have roles to play in the implementation of the LMD system and as such, for an effective implementation of the system, these categories of personnel ought to have a good knowledge on the operation and function of the reform. Therefore, this subchapter shall examine from both departments selected for this research, the involvement of these categories of personnel and their role play as well as their knowledge of the system.

2.1.1. Administration and their roles in the implementation of LMD

The functioning of a higher educational institution cannot be done without the contribution of an administrative staff. Administration is a collective body of executives or personnel entrusted with the executions of affairs in a given organisation, community or institution. In LMD system, this role remains very important, insofar as student training is more personalized. Monitoring will therefore have to be personalized with the adapted of a well-defined management tools which is what define their roles. The administrative staffs are therefore directly associated with the implementation of LMD reform. Participate during the design phase, participate in the choice of new flow management and student monitoring tools, they must learn about the different aspects of the LMD system and train in mastering the tools that will be chosen. This may lead them to experience changes in roles vis-à-vis students as they will need to focus more on learners (ADEA et REESAO, 2008, m. 2, p. 13).

In other word, the variables that determine their rules are participation in and having a mastery over the system design, the monitoring channels or tools, disciplinary body, information means, and the organisation of activities. We used indirect observation and interview method to collect data here. Observation help us to know the administrative offices found in the departments and we use interview to collect data on their duties in the implementation of LMD system.

2.1.1.1. Administration in Philosophy department and their roles

Philosophy department is one of the 16 departments found in the Faculty of Arts, Letters and Human Sciences (FALSH). The department has a Head of department appointed by the Head of the State through the ministry of higher education, an assistance chosen during departmental meeting, a personnel in charge of the publication and correction of results and has been handling that office for long (all are lecturers) and secretaries who are master students and not a personnel employed per say as secretaries. The master students acting as secretaries, are in charge of receiving and giving out students' documents, giving rendezvous to students on meeting with any of the administrative personnel and pasting of information on the notice board and in various WhatsApp groups. There are two students chosen by the administration from master student delegates who are willing to offer their time for that duty. So, they were not employed nor receive payment for that service but are often motivated by administrators and lecturers of the department.

From the interview we had with one of the administrators, we are able to code certain realities about their duties towards the teaching-learning process and graduate degree programmes

of the department, which are providing students with information concerning their academic activities in the department, structuring courses programmes in accordance to the competence expected and teaching-learning time table of the department, organising results and admission of students, organising the supervision of the end of semester exams, and organising departmental meetings with the academic staffs. All these are done in collaboration with the academic staffs and in respect to the academic year programme of the faculty. Conferences are organised at the department and faculty levels approved by the administrators of both levels.

From our findings, the Head of department is not in charge of recruiting lecturers except the part-timers but can recommend lecturers following their application. Recruitment of lecturers are done by the head of the State with the process passing through the ministry of higher education. This gives the Head of department less power over the lecturers even though he has as a duty, the coordination of all the activities of the department. He is in charge of signing and approving any document and activities that has to do with the department and the assistance can only carryout these functions in his absent and under his permission. And the administrators attend meeting at the faculty level and at the university level on the issues concerning any innovations or new matters arising involving educational activities of the faculty or the University.

We equally discovered that most of the activities depend on the one of the faculty such as the admission of first year students, the beginning and end of classes, the publication period of Continue Assessment (CA), the beginning and end of Normal Section and resit exams and their publications, the organisation of student documents, and the organisation of student activities which includes the election of student delegates. The aspects that totally depend on the department are the contents of all the above mentioned such as structuring of class time table, structuring and publication of CAs and final year results (PVs), deliberation of students for admission from one level to another and the design or structure of the formation programme.

Also, the follow up of students is left in the hands of lecturers who give account of their activities at the departmental meetings and there is a mechanism that aimed at lecturers' accountability of workload delivered at the faculty level known as "Cahier de texte" (logbook). Though this mechanism is not effective because most lecturers don't respect the rules and there is none for the assurance of the students' followed up. And there is no disciplinary council for the discipline of students at the department and faculty levels but at the University level and as such discipline of students has no clear definition nor direction.

2.1.1.2. Administration in Electrical and Telecommunication department and their roles

This is one of the 6 departments found in the National Polytechnic Higher School of Yaoundé (ENSPY). Like the department of Philosophy, it has a Head of department appointed by the Head of the State through the ministry of higher education, an assistance chosen during departmental meeting, and a secretary. The secretary is in charge of receiving and giving out students' documents, giving rendezvous to students on meeting with any of the administrative personnel and pasting of information on the notice board. The secretary here, is employed and receives payment for the service and is accountable to the head of department.

From the interview we had with one of the administrators, like the department of Philosophy, we noticed the same realities about their duties towards the teaching-learning process and graduate degree programmes of the department, which are providing students with information concerning their academic activities in the department, structuring course programmes in accordance to the competence expected and teaching-learning time table of the department, organising results and admission of students, organising the supervision of the end of semester exams, and organising departmental meetings with the academic staffs. All these are done in collaboration with the academic staffs and in respect to the academic year programme of the National Polytechnic (ENSPY), which unlike FALSH, determine most of the academic activities that take place at the department level.

Just like in Philosophy department, the Head of department is not in charge of recruiting lecturers except the part-timers which he/she recommends to the school (ENSPY) following their application to the Director. Recruitment of lecturers are done by the head of the State with the process passing through the ministry of higher education. This gives the Head of department less power over the lecturers even though he has as a duty, the coordination of all the activities of the department, which mostly depend on the one of the Institution. He is in charge of signing and approving any document and activities that has to do with the department and the assistance can only carryout these functions in his absent and under his permission.

We equally discovered that most of the activities depend totally on the institution (ENSPY) such as the admission and registration of first and third year students, the beginning and end of classes, the publication of Continue Assessment (CA), the beginning and end of Internships, of Normal Section and resit exams and their publications, the organisation of student documents, and that of student activities which includes the election of student delegates. Most of the aspects

totally depend on the institution except the contents of the formation programme. And the administrators attend meeting at the institution and university levels on the issues concerning any innovations or new matters arising involving educational activities of the faculty or the University.

Here unlike in Philosophy department, conferences are organised only at the institutional level approved by the director. The follow up of students is left in the hands of lecturers who give account of their activities at both department and institutional levels and there is a mechanism that aimed at lecturers' accountability of the workload delivered but not for the assurance of the students' followed up. Also, unlike the department of Philosophy, there is a disciplinary council for the discipline of students at the institution level and as such discipline of students has a clear definition and direction such as missing of classes and the offences that can lead to the dismissal of student from the school.

2.1.2. Academic staffs and their roles in the implementation of the LMD system

Academic staffs include lecturers, and those involve in the orientation of students insofar as they play the role of academic advisers. Also, it includes the heads of documentation centres insofar as their actions support training. Academic staffs participate in the implementation of the LMD at two levels: at the design level and at the implementation level. At the design level, which is essentially for lecturers, is to work on the transformation of the old training offers into courses, choice of teaching units and the content of the teaching units and the choice of an appropriate evaluation system. They also ensure the professionalization of the courses through the choice of learning situations, and reflecting on the outlets of the courses they are developing. At the level of implementation, in addition to their traditional teaching tasks, lecturers must participate in student information activities but above all take charge of the administrative and pedagogical management of the courses, guidance and monitoring of students in the role of academic advisers or tutors and finally, academic staff are largely associated with the evaluation of the reform (ADEA et REESAO, 2008, m. 2, p. 12). Using indirect observation and interview methods, we investigate the presence of the above indicators and discovered the following in the various departments.

2.1.2.1. Academic staffs in Philosophy department and their roles

Academic staff, as we realised in the philosophy department, is limited to lecturers for there is no academic advisers nor document centres. Document centres are found at the level of faculty which include the faculty library and the student union (AEFALSH) library called "Le CERCLE". Also, orientation and academic advice are left in the hands of student union, which is at the level

of faculty even though senior student delegates, at the level of department do play those roles and the lecturers equally play the role of academic advisers as well. So therefore, the lecturers are the only academic staff at the department level and they occupy many roles both at the design and implementation levels.

From what we coded from the observation and interview we had with three of the lecturers (an Associate Professor, a Course Master and the Assistant), we discovered that the lecturers play administrative roles as all the administrators are lecturers and they are twenty eight in number: nine full professors including the retired one who are still functioning at the level of doctorate, five associate professors, six course masters, four assistant lecturers and four part-time lecturers among whom there is one non-PhD holder. In terms of design, they do work on the transformation of the old training offers, choice of teaching units and the content of the teaching units and the choice of an appropriate evaluation system. They have the role of professionalizing the courses through the choice of learning situations, and reflecting on the outlets of the courses offered. At the level of implementation, they have the usual traditional teaching tasks, participate in student information activities, take charge of the administrative and pedagogical management of courses offer, and they assume the guidance and monitoring of students through their role of academic advisers or tutors. Finally, they are associated with the evaluation of academic activities.

2.1.2.2. Academic staffs in Electrical and Telecommunication department and their roles

Academic staff, as we realised in the department of Electrical and Telecommunication Engineering, as in Philosophy department is limited to lecturers for there is no separate academic advisers nor document centres. Heads of document centres and laboratories and sport masters, are found at the level of institution. Just like in Philosophy department, orientation and academic advice are left in the hands of student union, which is at the level of institution even though senior student delegates, at the level of department do play those roles and the lecturers equally play the role of academic advisers too. So therefore, the lecturers are the only academic staff at the department level and they occupy many roles both at the design and implementation levels.

From what we coded from the observation and interview with two of the lecturers (a Course Master and an Assistant lecturers), we discovered that the lecturers play administrative roles, as all the administrators are lecturers except the secretary and they are nineteen in number: Two full professors including the retired one who are still functioning at the level of doctorate, two associate professors, eight course masters, seven assistants who are part-time lecturers. In terms of design,

they do work on the transformation of the old training offers, choice of teaching units and the content of the teaching units and the choice of an appropriate evaluation system. They have the role of professionalizing the courses through the choice of learning situations, and reflecting on the outlets of the courses offered. At the level of implementation, they have the usual traditional teaching tasks, participate in student information activities, take charge of the administrative and pedagogical management of courses offer, and they assume the guidance and monitoring of students through their role of academic advisers or tutors. Finally, they are associated with the evaluation of academic activities.

2.1.3. Students and their roles in the implementation of the LMD system

Students' involvement in the implementation of LMD system is very pertinent since reform is student centred. The system requires the student to take charge of his own training thus, must manage his own training both in time and in its progressive structuring. Indicators that determine their involvement includes the choice of optional teaching units through the use of gateways arranged for reorientation needs. Also, the student must carefully inform himself about the courses offered not only in the specialty that interests him but throughout the university, and often have recourse to academic advisers. Equally, the students are to join in the process of evaluating the reform by given their own opinion on the whole reform, especially in the design phase, and on the lessons they receive. This is done through the mechanisms of evaluating the lessons that accompany the reform (ADEA et REESAO, 2008, m. 2, p. 12). Using indirect observation, interview and questionnaire methods, we investigate the presence of the above indicators and discovered the following in the various departments.

2.1.3.1. Students in Philosophy department and their roles

Student involvement indicators that determine their role in the implementation of LMD system, as we realised in the philosophy department, are totally absent showing that students are not involve in the implementation. From our interview with nine students (student delegates and non-delegate) and even those with lecturers, it is clear that students are not in charge of their own training because the choice of training offers are done among the administrators and lecturers which can be seen in their timetable so, there is no optional teaching units and their no gateways arranged for reorientation needs. During the prescription students are informed of all the departments found in the faculty by the student union to enable then choose 4 department of their choice according to their scale of preference after which one will be considered following the

student's performance in his/her secondary school leaving certificate. This does not permit students to choose courses or the teaching-units they wished to offer, and also, choice is permissible at the level of specialty but not for teaching-units: that is to say, students choose the field they wish to specialise and not the teaching-units they wished to offer. This limits the fact of student taken full charge of their training.

Also, students are not given academic advisers to whom they could often recourse to except at the level of master 2 and doctorate, which is purposely for their dissertation and thesis respectively. Equally, students are not given the chance of evaluating the reform: There is no mechanism that permit students to give their own opinion on the whole reform, especially in the design phase, and on the lessons they receive. Even though student union exist at the level faculty, having student delegates from all the departments as members, their intervention according to the students interviewed, don't involve those aspects. As clearly stated by one of the student delegate when posed a question on this issue: "students are not involved in big matters, they are only involved in the matters that concern them" (interviewee no. 6). This "big matters" here refers to pedagogical and some high administrative issues and the "matters that concern them" refers to minor issues like prescriptions and inscriptions, Faculty and the University games etc.

2.1.3.2. Students in Electrical and Telecommunication department and their roles

As for the department of Electrical and Telecommunication Engineering, student involvement indicators that determine their role in the implementation of LMD system are totally absent showing that students are not involve in the implementation. From our interview with six students (student delegates and non-delegate) and even those with lecturers, it is clear that students are not in charge of their own training because the choice of training offers are done among the administrators and lecturers which can be seen in their study programme, there is no optional teaching units and their no gateways arranged for reorientation needs.

Entrance into the institution is done through a competitive public exam and number of places are limited to 250 students. Unlike FALSH, those that succeed in the public exam according to the number of places required, receive common training offer, which is structured by the institution into three different fields of study. This does not permit students to choose courses or the teaching-units they wished to offer, though choice is permissible here only at the level of specialty, which is at the practical stage in second circle but does not permit the choice of teaching-

units: that is to say, students choose the field they wish to specialise and not the teaching-units they wished to offer. This limits the fact of student taken full charge of their training.

Also, just like in Philosophy department, students are not given academic advisers to whom they could often recourse to except at the level of master 2 and doctorate, which is purposely for their dissertation and thesis respectively. Equally, students are not given the chance of evaluating the reform: There is no mechanism that permit students to give their own opinion on the whole reform, especially in the design phase, and on the lessons they receive. Even though student union exist at the level institution, having student delegates from all the departments as members, their intervention according to the students interviewed, don't involve those aspects. Even though they accord with the plan of the training offer as one of the interviewee affirms: *most of these training plans have been accredited by international bodies*, but it still remain an imposition on students and without students' participation in constituting their own training offer as it supposed to be.

2.1.4. The implementation personnel and their knowledge of the LMD system

To better achieve this task of implementation, the administrators and academic staffs must be trained on the reform. During the design phase, the administrators and the lecturers must therefore learn about the different aspects of the LMD system and participate in the choice of new flow management. Also, the persons in charge of documentation centres must inform themselves and carry out a reflection in order to adapt their centres to the requirements of the LMD. Students being involve in the implementation of the LMD, must be informed of the different modalities of this reform but beyond that, the LMD system requires the student to take charge of his own training which can be possible only if they are very well informed and have good understanding of the system (ADEA et REESAO, 2008, m. 2, p. 12). From the data gotten from the observation, interview and questionnaire methods, we discovered that knowledge of the LMD system by the three categories of the implementation personnel in both department are as follow:

At the level of administration and academic staffs, formations or trainings on the system as seen above (subchapter 1.4.2.), were done during its design process but students were not involved not taken into consideration. Thus, the administrative and academic staffs were trained and informed on the reform and have a ministerial document that defined the functions and their roles in the system (Ministry of Higher education, 2006). As equally seen above in the same subchapter, the employed system is polluted with the two subsystem that was in existence in Cameroon higher education. This shows that the knowledge obtain during its design phase which

continue as heritage till present, ignore certain aspect of the reform such as QA, student involvement etc. It is in this light that an interviewee (a lecturer) retort: *The LMD system has been structured and put in place for us to follow…* (Translated to English) whereas the reform is a process and not a static structure which has to be passed from one generation to another as heritage.

From the above perspective and from the interview we had with the lecturers, it shows that the administrative and academic staffs of both departments do receive training and information on the reform but they are limited to what has been put in place making the system a static structure and not a process. While on the aspect of students, most of them, especially those in the philosophy department, don't even know the system of the teaching-learning process they are undertaken. They only know about the semesters and the levels of studies (Bachelor, Masters and Doctorate) but receive no information about the system. Almost all the students in Philosophy department that we interviewed and those we gave questionnaires, reacted negatively to our questions: "What is LMD system?" and "Were you informed of the different modalities of LMD system?" respectively. Students in the department of Electrical and Telecommunication Engineering reacted positively to the questionnaire because the interview we had with six of the students, show that they did receive some information about the system but a shallow one.

All in all, implementation personnel of LMD system in the University of Yaoundé I involve only the administrative and academic staffs who did have the knowledge of the reform according to the way it was employed and limit their roles accordingly. That is to say, some aspects of the reform were left out willingly because of the seeming complicated and inapplicable nature of the aspect such as the one which allows students to participate in the construction of their training offer. It is in this perspective that one of the lecturer (an Associate Professor) exclaimed: "It will be complicated and impossible to be applied here…" (Translated to English) showing that the implementation is selective as the adoption was selective. Thus, the implementation personnel are incomplete and their role play are incomplete and the aspect that is left out was the main centred aspect of the LMD system and as such can said to be ineffective.

2.2. EFFECTIVENESS OF THE IMPLEMENTATION OF GRADUATE DEGREE PROGRAMMES

Graduate Degree Programmes of LMD are study programmes under which students obtain certificate of graduation portraying that the student has acquired certain level of competences contain in the study programme. Graduate Degree Programmes of LMD are hierarchically structured in three circles which are Bachelor, Masters and Doctorate Degree Programmes and

they are carried in respect to the European Transfer Credit System (ETCS) with a defined workload and training offers, structured in collaboration with the student undergoing the training. This subchapter evaluates the effectiveness of the implementation of these graduate degree programmes of LMD system in the University of Yaoundé I within her departments. Through document and observation methods, we were able to discover the following.

2.2.1. The implementation and effectiveness of Bachelor Degree programme

Bachelor degree programme of LMD system is made up of six (6) or eight (8) semesters depending on a country and comprises of Teaching Units measured in credit value. There are thirty (30) credits values per semester with each credit having twenty (20) to twenty five (25) hours of class teaching-learning process (HCTLP), giving the total of six hundred (600) to seven hundred and fifty (750) hours of teaching-learning process (TLP) per semester, and one thousand two hundred (1200) to one thousand five hundred (1500) HCTLP and sixty (60) credit values per academic year. From the above perspective, each semester could be covered in two to five months depending on how it is handled and it requires one hundred and eighty (180) or two hundred and forty (240) credit values of workloads to achieve a Bachelor degree: Making three (3) or four (4) academic years respectively. Proceeding from these indicators, we were able to evaluate the effectiveness of Bachelor degree programme of LMD in both departments of study through data collected from documents, observation.

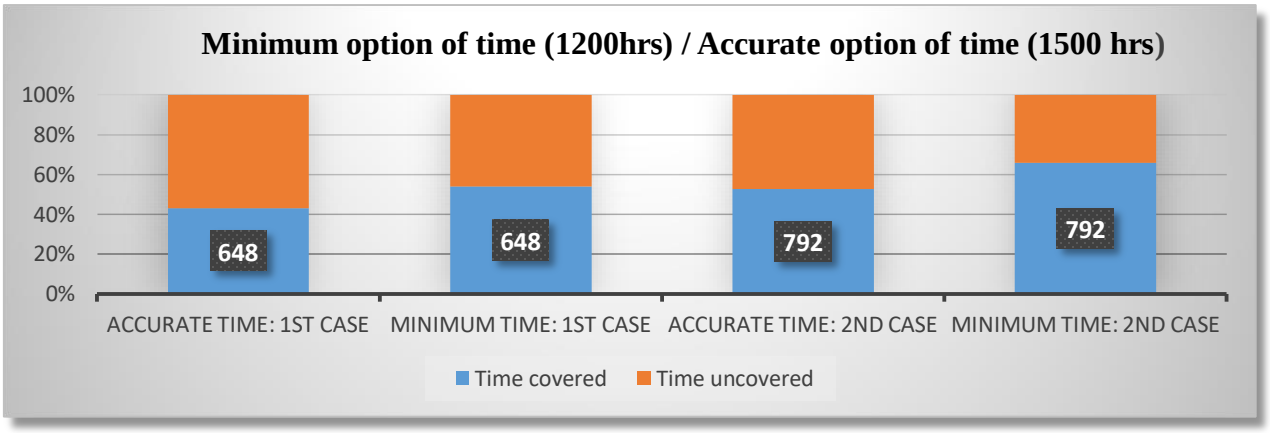
2.2.1.1. The effectiveness of Bachelor Degree programme in Philosophy department

In Philosophy department, Bachelor degree programme of LMD system has six (6) semesters and comprises of Teaching Units measured in credit value. There are thirty (30) credit values per semester and the first semester starts in September and ends in January while the second semester starts in March and ends in June. The two semesters make one academic year with the coverage of sixty (60) credits thus, requires one hundred and eighty (180) credit values of workloads in three (3) academic years to achieve a Bachelor degree.

Our observation from their time table and classes, shows that they have eighteen (18) to twenty two (22) hours of teaching-learning process a week. We use the eighteen (18) hours of classes as the first case and twenty two (22) hours of classes as the second case, to calculate the HCTL covered in a semester using the formula: HCTL x 4 wks., x NMs). It shows that the first semester, which has five months, without considering public holidays like Christmas, New Year and many others, covers three hundred and sixty HCTL in the first case and four hundred and forty

(440) HCTL in the second. The second semester, which has four (4) months, without considering all the public holidays within, covers two hundred and eighty eight HCTL in the first case and three hundred and fifty two (352) HCTL in the second. This shows that the first case covers six hundred and forty eight (648) HCTL leaving eight hundred and fifty two (852) HCTL uncovered in the accurate time option and five hundred and fifty two (552) HCTL in the minimum option. The second case covers seven hundred and ninety two (792) HCTL leaving seven hundred and eight (708) HCTL uncovered in the accurate time option and four hundred and eight (408) HCTL in the minimum time option.

Figure 1: Percentage of time for first circle teaching-learning process in Philosophy department



Source: Field data, 2023

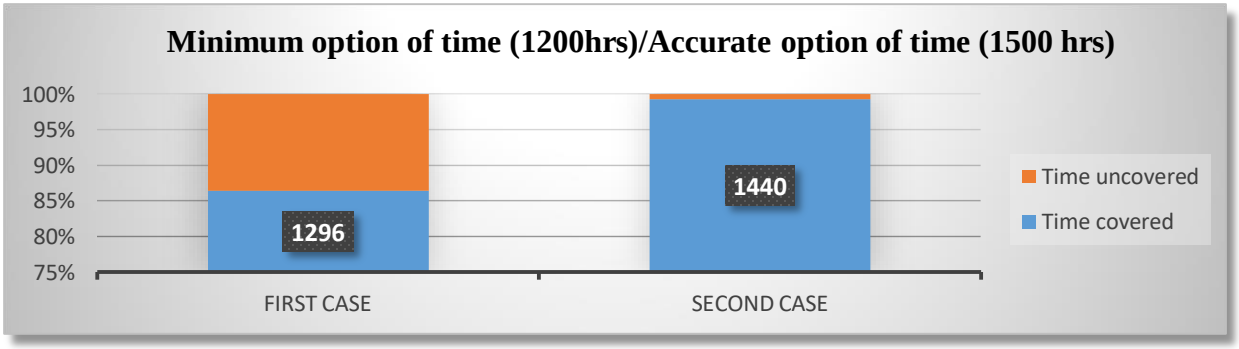
From what is portrayed above, it shows that the first case is very low in terms of the credit value. As for the second case, on the accurate time option, 47% of HCTL are uncovered per academic year while on the minimum time option, 34% are uncovered. It therefore shows that the HCTL in Philosophy department, are not sufficient for the credit value and are not enough for the acquisition of the competencies required. This is because the amount of time students engaged in teaching-learning process does not rhyme with LMD prescription and this aspect of time in teaching-learning process is one of the most important aspect of education as far as the acquisition of competence is concern. It is from this perspective that Walberg (2003) includes time factor (the amount of time students engage in class teaching-learning) as one the nine psychological causes of learning which he refers to as instruction factors. (Walberg, 2003, p. 45) Thus, the implementation of Bachelor degree programme in Philosophy department, to some greater extent, can said to be ineffective.

2.2.1.2. The effectiveness of the first Degree programme in the department of Electrical and Telecommunication Engineering

In the department of Electrical and Telecommunication Engineering, the first degree programme for engineer, has ten (10) semesters: Four (4) semesters for the first circle known as conceptual engineer and six (6) semesters for the second circle known as practical engineer. Each semester comprises of Teaching Units measured in credit values. There are thirty (30) credit values per semester which sometime varies among the first and second semester: when the first semester is above thirty, the second semester will be less than thirty and vice-versa. The first semester starts in September and ends in January while the second semester starts in March and ends in June. The two semesters make one academic year with the coverage of sixty (60) credits thus, requires three hundred (300) credit values of workloads in five (5) academic years to achieve the first degree in engineering, which is equivalent to Master one in general or academic degree programme.

Our observation from their time table and classes, shows that they have eighteen (18) to twenty (20) classes of two hours a week: meaning that they have thirty six (36) to forty (40) HCTL a week. Using 36 HCTL as first case and 40 HCTL as the second, we calculate the HCTL covered in a semester using the above mentioned formula. It shows that the first semester, which has five months without considering public holidays like Christmas and New Year and many others, covers seven hundred and twenty (720) HCTL in the first case and eight hundred (800) HCTL in the second case. The second semester, which has four (4) months without considering all the public holidays within, covers five hundred and seventy six (576) HCTL in the first case and six hundred and forty (640) HCTL in the second. This shows that in the first case one thousand two hundred and ninety six (1296) HCTL could be covered in an academic year while in the second case, one thousand four hundred and forty (1440) HCTL could be covered.

*Figure 2**: Percentage of time for first degree class teaching-learning process in department of Electrical and Telecommunication Engineering***



Source; Field data, 2023

From what is portrayed above, it shows that on the accurate time option, only 14% HCTL are uncovered per academic year in the first case while 4% HCTL are uncovered in the second case. It therefore shows that HCTL in the department of Electrical and Telecommunication Engineering, are sufficient for the credit value and are enough for the acquisition of the competencies required.

2.2.2. The implementation and effectiveness of Masters' Degree programme

Master's degree programme of LMD system consists of two to four (4) semesters depending on a country and in Cameroon, training at Master level according to the Research Master and Professional Master Option, begins in Master 2. It includes the following three Modules: Theoretical and practical teaching Module, Seminars and internships module and End-of-studies dissertation module. The training is done over a period of one academic year, comprising a total of sixty (60) credit values. ((Ministry of Higher Education, 2013)

From that perspective, it requires one thousand two hundred (1200) to one thousand five hundred (1500) hours of teaching-learning process, which equals sixty (60) credit values of workloads for an academic year. For two academic years, one hundred and twenty (120) credit values of workloads are required to achieve a Master's degree. Proceeding from these indicators, we were able to evaluate the effectiveness of Master's degree programme of LMD in both departments of study through data collected from documents, observation.

2.2.2.1. The effectiveness of Master's Degree programme in Philosophy department

In Philosophy department, Master's degree programme of LMD system has four (4) semesters and comprises of Teaching Units measured in credit value. There are thirty (30) credits values per semester and the first semester in master one starts in September and ends in January while in master two, it starts from January to May. The second semester of master one, starts in March and ends in June while Master two has the writing of dissertation under the supervision of a lecturer as the second semester and it depends on when the student finish writing the dissertation. The two semesters make one academic year with the coverage of sixty (60) credits thus, it normally requires one hundred and twenty (120) credit values of workloads in two academic years to achieve Master's degree in Philosophy, but can extend to three or four academic years depending on when the student finished writing the dissertation.

Our observation from their time table and classes, shows that they have twenty two (22) hours of classes a week, for CTL. Just like the second case in the Philosophy department, it can

only cover four hundred and forty (440) HCTL in both levels of masters and the second semester in Master one, which has four (4) months, can only cover three hundred and fifty two (352) HCTL. This present the same situation discovered in the HCTL of the undergraduates and therefore mean that they are not sufficient for the credit value and were not enough for the acquisition of the competencies required.

2.2.2.2. The effectiveness of Master's Degree programme in the department of Electrical and Telecommunication Engineering

In the department of Electrical and Telecommunication Engineering, master's degree programme for engineer, has two (2) semesters: the first semester is for class teaching-learning process and the second semester is for writing a dissertation under the supervision of a lecturer. The first semester comprises of Teaching Units measured in credit values and there are thirty (30) credit values per semester which sometime varies among the first and second semester: when the first semester is above thirty, the second semester will be less than thirty and vice-versa. The first semester starts in October and ends in April while the second semester is consecrated to the writing of a dissertation under the supervision of a lecturer and depends on when the student finished writing the dissertation. The two semesters make one academic year thus, requires sixty (60) credit values of workloads in one (1) academic year to achieve Master's degree in engineering, which is because the achievement of Engineering incorporates the Master one.

Our observation from their time table and classes, shows that they have eighteen (36) to twenty two (40) HCTL a week. Using the formula presented above, shows that the first semester could cover eight hundred (800) HCTL and the second semester comprises of internship, the report of the internship and the realisation of project which cannot be measured. From what has been measured above, the HCTL in masters correspond with the credit value and could enable the acquisition of the competences required.

2.2.3. The implementation and effectiveness of Doctorate Degree programme

Doctorate degree programme of LMD system is made up of six (6) to eight (8) semesters depending on a country and comprises of Teaching Units measured in credit values as disclosed above. In Cameroon, the training leading to the Doctorate degree is carried out in two (02) phases: the first phase covers the first year of registration, that is, two (02) semesters, and the second phase covers the following two years. The first year of the Doctorate counts for a total of sixty (60) credits comprising of the following modules: methodology courses with a total of twelve (12)

credits, theoretical courses with a total of twelve (12) credits, three (03) seminars for a total of 18 credits, and a general summary examination organized at the end of the First Phase counting for eighteen (18) credits giving the total of sixty (60) credit values.

After the validation of the first phase, the doctoral student may be authorized to continue his research work for the writing of his thesis during the second phase. The second phase, which has to do with writing thesis, counts for a total of one hundred and twenty (120) credits. In this phase, the works of doctoral students are presented and evaluated during doctoral seminars which take place within the URFD of each centre. The doctoral seminars comprises the following two modules: Module 1 involves Communication and Conferences presented by lectures of magisterial rank and module 2 involves the presentation of the progress of research work by doctoral students. The issuance of a defence authorization to a doctoral student depends on their participation in at least two (2) doctoral seminars per year. Therefore, the Doctorate counts in total, the lessons of the first phase, which is on 60 credits and the thesis which represents 120 credits giving the total of 180 credits. ((Ministry of Higher Education, 2013)

From the above perspective, the second phase cannot be measured but the first phase can be measured using the credit value of the class teaching-leaning. Given that each credit value has twenty (20) to twenty five (25) hours of class teaching-learning process, it follows that sixty (60) credit values per academic year gives the total of one thousand two hundred (1200) to one thousand five hundred (1500) hours of class teaching-learning. Since the doctorate degree programme does not depend much on hours of class teaching-learning process but rather on conferences and personal research, we shall measure the effectiveness of the first phase using the hours of class teaching-learning and the second phase, we shall base on the indicators. Proceeding from the above perspective, we were able to evaluate the effectiveness of doctorate degree programme of LMD in both departments of study through data gotten from documents, and observation.

2.2.2.1. The effectiveness of Doctorate Degree programme in Philosophy department

In Philosophy department, Doctorate degree programme of LMD system has three (3) academic years. The first year comprises of sixty (60) credit values involving classes, conferences and end year exam which could not be measured. The other two academic years comprises of conferences and research on the thesis to be realised at the end of the degree programme. Doctorate two and three comprises base on numbers of conferences and research coverage of the required thesis which equally could not be measured. The thesis is placed under the supervision of a lecturer,

and as was the case with the Master degree, the achievement depends on when the student finished writing the thesis. Thus, the first phase with the coverage of sixty (60) credits and the second phase with the coverage of one hundred and twenty (120) credits given the total of one hundred and sixty (160) credit values of workloads in three academic years to achieve a doctorate degree normally. But this can extend to four or more academic years depending on when the student finished writing the thesis and the confirmation of the supervisor.

Our observation shows that lots of HCTL, as was the case in Bachelor and masters' degree programmes, are uncovered in doctorate one because they have the same HCTL. Thus, as already seen above, the HCTL in Philosophy department, are not sufficient for the credit values and are not enough for the acquisition of the competencies required.

2.2.2.2. The effectiveness of Doctorate Degree programme in the department of Electrical and Telecommunication Engineering

In the department of Electrical and Telecommunication Engineering, Doctorate degree programme of LMD system is the same as in Philosophy department except on the area of HCTL which correspond here with the credit value and the inclusion of internship. Doctorate two and three as in Philo dep. equally base on the number of conferences and research coverage of the required thesis with the same credits and follow the same process.

2.2.4. The organisation of the three degree programmes and its effectiveness

LMD system which comprises of three grades (Licence, Masters and Doctorate) is organised in differentiated courses known as capitalisable units (Teaching Unit, TU) constituting of an autonomous and coherent subdivision within a study programme. The lessons of a capitalisable unit can take different forms such as lectures (conferences), tutorials, practical work, fieldwork, research, class teaching-learning, distance learning, or a combination of these different forms (Ministry of Higher Education, 2021a). Within the training courses, the capitalisable units are definitively acquired and can be capitalized as soon as the student has obtained the required average and all the capitalisable units in a training course must be validated. The student can therefore train by choosing the content best suited to his profile and objectives, and in the time that suits him and thus increases the student chances of success (ADEA et REESAO, 2008, m. 2, p. 7).

Institutions can choose different types of teaching (capitalisable) units according to their training needs. However, any training offer, generally includes four main categories of teaching units namely fundamental teaching units, optional teaching units, transversal teaching units and

planned free teaching units (TUs). The fundamental teaching units correspond with the courses that all students must follow, complementary teaching units are those meant for in-depth study or professionalization. Transversal teaching units involves teachings intended to give tools to students from various backgrounds such as language, IT, mathematics, human rights, cultural and sports activities, etc. and planned free teaching units are those chosen freely by students according to their tastes and needs (ADEA et REESAO, 2008, p. 7). In this light, every training course must contain diversify competences in different aspect of life to enable students insert in the job market and the society. The above indicators are our concern in the effectiveness of the organisation.

2.2.4.1. The effectiveness of the organisation of the three degree programmes in Philosophy department

LMD system in Philosophy department is organised in three grades known as Licence, Masters and Doctorate degrees and the programmes are organised in differentiated courses known as capitalisable units (Teaching Unit, TU). The lessons of a capitalisable unit in Philosophy department take three main forms namely lectures (conferences), tutorials and practical works carried out in class teaching-learning and distance learning. Within the training courses, the capitalisable units are definitively acquired and can be capitalized as soon as the student obtained the required average of two all-over four (2/4) and all the capitalisable units in the training course must be validated with at least, the lowest 'Cant' (1/4). As already seen above (2.1.4.), the organisation of the training course don't involve students and as such choosing the content of the training course lies in the hands of the administration and the teaching staff.

Training courses in Philosophy department comprises of ten (10) different capitalisable teaching units chosen according to the competences the department expect her students to acquire. Here, each semester has five (5) teaching units comprising of four (4) fundamental teaching units and one (1) of either complementary or transversal teaching unit and all are compulsory for all students. The fundamental teaching units totally based on philosophy while the optional teaching unit, meant for in-depth study or professionalization, based on related fields of study such as Psychology, Sociology, Anthropology and Entrepreneurship and the transversal teaching unit based on language and ICT. Therefore, the organisation of the training courses in Philosophy department, does not involve all aspect or characteristics of training course and it imposes the teaching units of all the training courses on students. This is an interruption to the system and has violate the flexibility and the dynamic nature of the system and as such, cannot said to be effective.

2.2.4.2. The effectiveness of the organisation of the three degree programmes in the department of Electrical and Telecommunication Engineering

LMD system in the department of Electrical and Telecommunication Engineering, is organised in three grades known as Engineer, Masters and Doctorate degrees in engineering and the programmes are organised in the same manner with Philosophy department except the field work. Training courses comprises of twenty eight to thirty two (28 to 32) different capitalisable teaching units chosen according to the competences the department expect her students to acquire. Here, each semester has about fifteen to sixteen (15 to 16) teaching units comprising of about six (6) fundamental teaching units and about four (4) complementary (optional) and transversal teaching unit and about two (2) sort of free teaching units but all are compulsory for all students. The fundamental teaching units totally based on conceptual or practical Electrical and Telecommunication engineering while the optional teaching unit is based on an in-depth study and professionalization. On the other hand, the transversal teaching units base on language, ICT, Computer science etc. while the free sort of teaching units base on sports and discipline.

From the above perspective, the organisation of the training courses in the department of Electrical and Telecommunication engineering, involve all aspect or characteristics of training course but they are imposed on students. That is, the teaching units of all the training courses are imposed on students which to some extent, violate the flexibility and the dynamic nature of the system. Thus, to some extent, the organisation of the training courses can said to be effective because it involves all the characteristics of the system training course though lacks the flexibility of choice as all the teaching units are imposed on students.

2.3. THE EFFECTIVENESS OF THE PROFESSIONALIZATION MECHANISMS

Most of the time, professionalization has been seen as the establishment of professional streams, which is generally what has been done through the creation of University Institutes of Technology on the French model or Polytechnic Colleges. On the Anglo-Saxon model, these are usually short courses of two or three years of training, where students are in principle trained to enter directly into working life. Therefore, professionalization is seen as the actions tending to insert in learners the traditional training modules of preparation for entering into working life. This in contrary, has put some distinction in the field of education and LMD system aimed at removing this distinction and bring harmony into the field of education by enabling professionalization to cut across all field of higher education (ADEA et REESAO, 2008, m. 3-Ter, p. 3). From the

reflection contained above, we can conclude that professionalizing, which involve adding to training opportunities an experience in the professional environment, must cut across all training.

The focusing of all training need to be done through the following definition: Learning objectives and activities should be carried-out in terms of competence. The content of the training should rhyme with the job market and also in close connection with the self-creation of employment. The training plan should take into account the logic of tutored projects, company-university alternation and the possibility of acquiring professional experience at the university itself (ADEA et REESAO, 2008, m. 4-Ter, p. 3). Among many indicators, the most important ones necessary for the professionalization of training courses include professional projects and work-study programme, student orientation towards the vast market, diversification of competence, and activities on school campus for the professionalization of students. Proceeding from these indicators, we were able to evaluate the effectiveness of professionalization in both departments of study through data collected from questionnaires, observation and interview.

2.3.1. The implementation of mechanism for student orientation towards the vast market

A student who has the best chance of meeting the requirements of a job, who has the qualities of employability, is not the only one who has such required professional skills in the field in question. Such a person cannot stand better chance than the one who has the ability to orient themselves in a vast market, to showcase themselves, to complete their initial training according to what they discovered about the space in which they live. Professionalizing can then be affirmed to *correspond to a spirit; which means that the promising courses to be set up at the university should correspond to the need of focusing all training on the professional projects of the learners* (ADEA et REESAO, 2008, m. 4-Ter, p. 8).

In other word, student orientation towards the vast market is a very important tool in the professionalization of students as it enable them to discover the space in which they live. That is to say, it requires welcoming and equipping the incoming students with all necessary information. When the student enters the university, he must be taken in charge by academic advisers who will help him to clarify his professional project so as to set up a training project adapted both to his needs and aptitudes and to the contextual realities. Furthermore, orientation and reorientation services are very well needed for constant evaluation and updates of one's training and professional project. Thus, from data collected through interview, observation and questionnaires, we are able to discover the following on both departments.

2.3.1.1. Provision of mechanism for student orientation towards the vast market in Philosophy department

To begin with, from the questionnaires administered to one hundred and sixteen students in the Philosophy department, none of the students has a professional project and none receive orientation towards the professional project. In terms of project in general, only master two and doctorate students have academic projects, which they are to realise at the end of their study programme. In terms of information and orientation, as already disclosed above (2.1.3.), the new coming students are informed of all the departments found in the faculty by the student union to enable them choose the department of their choice and they are welcomed and equipped with the necessary information about the faculty and not the university nor the vast market.

From the above perspective, it does not exist in the Philosophy department, the scenario whereby students are taken in charge by academic advisers who clarify their professional project so as to set up their training project adaptable to the student's needs and aptitudes and to the contextual realities. Furthermore, orientation and reorientation are only done at the level of masters and doctorate whereby students are given academic supervisors for the realisation of their academic projects. Thus, at this level, professionalization in Philosophy department, is totally ineffective as all the professionalization indicators at this level, are absents.

2.3.1.2. Provision of mechanism for student orientation towards the vast market in the department of Electrical and Telecommunication Engineering

To begin with, from the observation, interview and the questionnaires administered to forty three students in the department of Electrical and Telecommunication Engineering, none of the students, under the first degree of engineering, has a professional project at the beginning of their studies nor receive orientation towards the professional project. From the above perspective, it does not exist in the department of Electrical and Telecommunication Engineering, the scenario whereby students at the beginning of their studies, under first degree of engineering, are taken in charge by advisors who clarify their professional project so as to set up their training project adaptable to the student's needs and aptitudes and to the contextual realities.

Through interview, we discovered that most of the students, under the first degree of engineering, developed their professional project in the fifth year of their studies while some developed there's in the fourth year. But all the masters and doctorate students start their studies with a professional project and received orientations towards the formulation of the professional project and its realisation. We equally discovered that they have only professional projects, which

they are to realise at the end of their study programme. That is to say, while students of masters and doctorate in Philosophy department develop academic project, students in the department of Electrical and Telecommunication Engineering develop but professional projects.

Furthermore, orientation and reorientation are only done at their fifth year, at the level of masters and doctorate whereby students are given supervisors for the realisation of their projects. Thus, at this level, professionalization in the department of Electrical and Telecommunication Engineering to some greater extent, can said to be effective as the professionalization indicators at this level, are present in all the level of studies except at the first level where they are absent at the beginning of the studies.

2.3.2. The implementation of mechanism for diversification of competence

Ultimately, reflection on professionalization require universities to not just be contented with a simple adaptation to job market but also to adopt a forward-looking vision which could offer students new pathways for diversify competences (ADEA et REESAO, 2008, m. 4-Ter, p. 3). On the area of diversified competences, the diversity and the progressive orientation of students need to be taken into an account when structuring the training course. The diversified training provide the opportunity to acquire transversal competence, which under the professionalizing path, enable students to grasp the convergences that exist between the training paths and their professional projects. Also, it has to be realistic by taken into account the existing competences, working conditions and the job market, while giving students the means of mobility in a wider area than that of their own country (ADEA et REESAO, 2008, m. 4, p. 4).

This means that the structure of the training offer as a mechanism, should be diversified towards the acquisition of competences in different domain as well as acquiring a transversal competence which can cut across many domains of life. It should be able to enable students grasp the convergences that exist between the training paths and their professional projects and should base on the existing competences, working conditions and the job market. Equally, it give students the means of mobility in a wider area than that of their own country. Through observation, interview and questionnaires, we are able to verify the presence of these indicators in the structure of the training offer of the chosen departments.

2.3.2.1. The provision of mechanism for diversification of competence in Philosophy department

To begin with, the diversification of training offers in Philosophy department, as can be seen in the above (2.2.4.1.), is limited in that the organisation of the training offers only consider

three aspect of the characteristics of a good training offer of LMD: the fundamental, the complementary and the transversal teaching units. Also, there is no professional project in Philosophy department talk-less of the convergence between the training offers and the student's professional project. The convergence between the training offer and the academic project, can said to exist at the levels of masters and doctorate where students design their academic project before selection and which are to be realised at the end of their studies.

Also, the manner in which the above mentioned aspect of training offer is applied, is equally limited in that their applications are done only at the levels of study and at the levels of degree. For instance, teaching units on ICT and Entrepreneurship, are done only at the level of masters while language and other complementary such as Psychology, Sociology and Anthropology, are done at the level of undergraduate and all are referred to as complementary teaching units. Also, they are programmed according to levels of study except language that cut-across all levels of study in bachelor degree. But none of these complementary training units exist at the level of doctorate.

In terms of the training offer with the existing competencies, working conditions and job market, the above organisation of training offer, does not really take into consideration the existing competences such as Computer science which is not employed at all, ICT and Entrepreneurship which are not fully employed at all levels of the degree training offers. We are in the world of technology and entrepreneurship but the teaching units directing towards these areas of competencies, working conditions and job market, are little or not at all taken into consideration.

However, the contents of the training offers and the academic projects of masters and doctorate students, are designed to correspond with the existing competences, and job markets. From our interview with the lecturers on the design of the content of the training offer and academic project, we coded three main set of concentration of the works which are: Critical and discovery capacity, Analytical and problem solving capacity, and presentation of content and the contextual reality of the content. These, according to one of the lecturers, is to enable the students discover contextual problems in their domains of speciality and proposed solutions, which in turn makes them specialist in that domain in terms of job market across the globe.

Nevertheless, from the above analysis, the effectiveness of the provision of mechanism for diversification of competence in Philosophy department, is limited. It can said to be ineffective at the undergraduate level and less effective at the masters and doctorate levels.

2.3.2.2. Provision of mechanism for diversification of competence in the department of Electrical and Telecommunication Engineering

The provision of mechanism for diversification of training offers in the department of Electrical and Telecommunication Engineering, as can be seen in the above (2.2.4.2.), is to some extent, effective in that the organisation of the training offers involve all the aspects or characteristics of LMD training courses but they are imposed on students. That is, the teaching units of all the training courses are imposed on students which to some extent, violate the flexibility and the dynamic nature of the system. Also, the manner in which the employed aspect of training offer is applied, is equally to some extent, effective in that their applications cut-across all levels of study and degrees except, to some lesser extent, in doctorate degree.

Furthermore, in terms of the training offer with the existing competencies, working conditions and job market, the above organisation of training offer, as we can see, really take into consideration the existing competences such as Computer science, ICT and Entrepreneurship which are fully employed in all the degree training offers except, to some lesser extent, at the doctorate level. We are in the world of technology and entrepreneurship and the teaching units directing towards these areas of competencies, working conditions and job market, are to some greater extent, taken into consideration and can said to be effective.

More so, the contents of the training offers and the professional projects of masters and doctorate students, are designed to correspond with the existing competences, and job markets. From our interviews, on the design of the content of the training offer and professional project, we discovered that they base on the actual world competences as can be seen above. And the professional projects base on the student's discovery in the field through internship. The internship enables the student to discover contextual realities of the world in which he/she lives and come up with innovation and practical solutions to the discovered problems. Therefore, from the above analysis, the effectiveness of the provision of mechanism for diversification of competence in the department of Electrical and Telecommunication Engineering, can said to be effective.

2.3.3. The effectiveness of professional projects, company-university alternatives and work-study programme

Training favouring professional projects, company-university alternation and work-study programs involves having a professional project, company visits and internships of various kinds and knowledge on how to integrate into the job market respectively. In this context, it becomes necessary to introduce into the course teaching units, a teaching units for the preparation of

professional projects, a teaching unit on the knowledge of professional environments, and teaching units that enable students to know how to look for a job, to prepare for a job interview and to integrate into the job. Thus, associating students with various levels of training (ADEA et REESAO, 2008, m. 4-Ter, p. 7).

That is to say, the training plan should take into account the logic of the tutored projects by students having a professional project, the evaluation of the internships in capitalisable credits through the creation of company visits and internships of various kinds and the knowledge on how to integrate into the job market through teaching units that enable students to know how to look for a job, to prepare for a job interview and to integrate into the job. Using observation, interview and questionnaires, the presence of these indicators were verified in the training offer of the two chosen departments.

2.3.3.1. Professional projects, company-university alternatives and work-study programme in Philosophy department

From our observation, the training plan in Philosophy department, does not take into account the evaluation of internships in capitalisable credits, for there is neither company visits nor internships of any kind and there is no teaching units that permits students to have the knowledge on how to look for a job, to prepare for a job interview and to integrate into the job-market. Also, at the bachelor degree level, the training offer does not take into account the logic of tutored projects by students having a professional or academic project. From the questionnaires we administered, none of the undergraduate students have project to realise except masters and doctorate students who have academic projects, which are to be realised at end of their academic degree programme. As such, the professional projects, company-university alternatives and work-study programme in Philosophy department can said to be ineffective.

2.3.3.2. Professional projects, company-university alternatives and work-study programme in the department of Electrical and Telecommunication Engineering

Here, from our observation, the training plan in the department of Electrical and Telecommunication Engineering, take into account the evaluation of internships in capitalisable credits, for there exist company visits and internships of various kinds. Though there is no teaching units that permits students to have the knowledge on how to look for a job, to prepare for a job interview and to integrate into the job-market but the teaching units for internship, is considered to cover these domains.

However, at the beginning of the first degree of engineering, the training offer does not take into account the logic of tutored projects by students having a professional or academic project. From the questionnaires we administered, none of the students at the level of conceptual studies, have project except at the fifth level, masters and doctorate levels, and they are to be realised at end of their academic degree programme. As such, the professional projects, company-university alternatives and work-study programme in the department of Electrical and Telecommunication Engineering can, to some greater extent, said to be effective.

2.3.4. The effectiveness of activities on school campus for the professionalization of students

Here, the university itself has to be a place conducive for the acquisition of professional experience, for example by allowing student associations and mutual funds to manage certain aspects of university life, leisure, reprography centres, catering areas, creating an association of ex-working students who share their experience on how they succeed and oriented or guide current students towards their own success etc., and by recruiting students as instructors or tutors. Also, there should exist a structure that allows a certain visibility of the professional world on the campuses, for example, a business office providing information on companies and their job offers. To take charge of this whole policy, it will certainly be necessary to create improvement committees made up of teams of academics and representatives of the world of work and economic operators (ADEA et REESAO, 2008, m. 4-Ter, p. 7).

This therefore means that to have an effective activities on school campus for the professionalization of students, there should be student association and mutual funds managing certain aspects of university life, there should be an association of ex-working students who share their experience on how they succeed with current students and orientate or guide them towards their own success, students should be recruited as instructors or tutors and other areas of the University affaires, there should be a business office providing information on companies and their job offers on campus and there should be a committees made up of teams of academics and representatives of the world of work and economic operators. Using observation, and interview, the presence of these indicators were verified from the two chosen departments

2.3.4.1. The effectiveness of activities on school campus for the professionalization of students in Philosophy department

The activities on school campus for the professionalization of students, in Philosophy department, involves student association and the involvement of the members of student

association as instructors or tutors and advisors of new coming students. Also it involves recruiting or involving students in certain office work such as secretary. But there is no association of ex-working students who share their experience on how they succeed with current students and orientate or guide them towards their own success.

Again, from our observation, there is no business office providing information on companies and their job offers on campus and there is no committees made up of teams of academics and representatives of the world of work and economic operators on campus. Therefore, to some greater extent, activities on school campus for the professionalization of students in Philosophy department are not effective because among the six required indicators above, only two are present which are those of student association and involvement of students in certain working offices on campus.

2.3.4.2. The effectiveness of activities on school campus for the professionalization of students in the department of Electrical and Telecommunication Engineering

Just like in Philosophy department, the activities on school campus for the professionalization of students, in the department of Electrical and Telecommunication Engineering, involves student association and the involvement of the members of student association as instructors or tutors and advisors of new coming students as well as recruiting or involving them in certain office work such as secretary. But there is no association of ex-working students who share their experience on how they succeed with current students and orientate or guide them towards their own success.

Also, from our observation, there is no business office providing information on companies and their job offers on campus and there is no committees made up of teams of academics and representatives of the world of work and economic operators on campus. But there are established contacts between the institution and companies, through which students are recommended to companies that are in need of workers. Therefore, to some extent, activities on school campus for the professionalization of students in the department of Electrical and Telecommunication Engineering are effective because among the six required indicators, at least, three are present which are those of student association and involvement of students in certain working offices on campus and to some extent, that of institution-company relation.

2.4. THE EFFECTIVENESS OF THE MECHANISMS OF EVALUATION

As for evaluation, generally the following are distinguished: Diagnostic evaluation also known as learning orientation assessment, which takes place at the beginning of semesters, formative assessment which takes place during the teaching-learning process and summative assessment which takes place at the end of every semester (ADEA et REESAO, 2008, m. 4-Bis, p. 4). It is in this light that this subchapter will be consecrated to the verification of the presence of these stages of evaluation in the chosen departments. Here, we used interview and questionnaires for the collection of data that enables the realisation of this verification: We administered interviews on students, lecturers and administrators of both chosen departments and questionnaires on the selected students of both departments

2.4.1. The implementation of learning orientation or diagnostic assessment

Diagnostic evaluation as seen above, takes place at the beginning of semesters and it enables the recognition of students who have and those that do not have the prerequisites: the necessary aptitude required for the training. It leads to learning orientation whereby students are submitted to a training programme that corresponds to their aptitudes and needs following the discoveries made during the assessment (ADEA et REESAO, 2008, m. 4-Bis, p. 4). We administered interviews lecturers and administrators and questionnaires on students of both departments

2.4.1.1. The effectiveness of learning orientation assessment in Philosophy department

Diagnostic evaluation per say in Philosophy department, cannot say to exist at the general level except at the individual lecturers level, which can said to be possible through assignment but not considered as learning orientation assessment. As already discovered above, the dynamic aspect of the LMD system is lacking in Philosophy department and as such, the aspect of learning orientation whereby students are submitted to a training programme that corresponds to their aptitudes and needs, does not exist. Thus, rendering diagnostic evaluation unnecessary and ineffective in Philosophy department.

2.4.1.2. The effectiveness of learning orientation assessment in the department of Electrical and Telecommunication Engineering

Just like in Philosophy department, diagnostic evaluation per say in the department of Electrical and Telecommunication Engineering, does not equally exist at the general level except maybe, at the individual lecturers level, which can said to be possible through assignment but not

considered as learning orientation assessment. As already discovered above, the dynamic aspect of the LMD system, in this perspective, is lacking in the department of Electrical and Telecommunication Engineering and as such, the aspect of learning orientation whereby students are submitted to a training programme that corresponds to their aptitudes and needs, to some extent, does not exist. Thus, rendering diagnostic evaluation unnecessary and ineffective in the department of Electrical and Telecommunication Engineering.

2.4.2. The implementation of formative assessment

Formative assessment on its own part, is a training system which takes place throughout the teaching process and which leads to the decision to continue the process or to return to parts already seen. Formative evaluation is always criterion-based evaluation whereby all students are evaluated according to the same criteria. That is to say, it measures the follow-up of students using specific criteria which aims at revealing the student's degree of mastery of one or more skills. At the level of continue assessment (CA), it involves normative evaluation which highlights, in a quantitative manner, the way in which students of a class-group distinguish themselves from each other in relation to a given teaching-learning object. (ADEA et REESAO, 2008, m. 4-Bis, p. 4). To achieve our verification here, we administered interviews on the selected lecturers of both chosen departments and questionnaires on students.

2.4.2.1. The effectiveness of formative assessment in Philosophy department

From our observation and interviews carried with students and lecturers, we discovered that in Philosophy department, there is a formative assessment but the focus is not on the decision to know if students have acquired the expected competency in order to continue the process or to return to parts already taught. That is to say, the evaluation does not seek to measure the follow-up of students but rather, revealing the student's degree of mastery of one or more skills under a semi-summative assessment known as continue assessment (CA). The level of continue assessment (CA) can be considered here as a semi-summative because the results are combined with the semester’s exam and it involves normative evaluation which highlights, in a quantitative manner, the way in which students of a class-group distinguish themselves from each other in relation to a given teaching-learning object. Formative evaluation in philosophy department, is always a criterion-based evaluation whereby all students are evaluated according to the same criteria, which can be an assignment, exposition or classroom evaluation. As such, formative evaluation, to some extent, can said to be effective.

2.4.2.2. The effectiveness of formative assessment in the department of Electrical and Telecommunication Engineering

From our observation and interviews carried with students and lecturers, just like in philosophy department, the department of Electrical and Telecommunication Engineering equally have a formative assessment and the focus also, is not on the decision to know if students have acquired the expected competency in order to continue the process or to return to parts already taught but rather, aimed at revealing the student's degree of mastery of one or more skills under a semi-summative assessment known as continue assessment (CA). Also, the results are combined with the semester's exam and it involves normative evaluation which highlights, in a quantitative manner, the way in which students of a class-group distinguish themselves from each other in relation to a given teaching-learning object. Just like in philosophy department, formative evaluation here is always a criterion-based evaluation whereby all students are evaluated according to the same criteria, which can be an assignment, exposition or classroom evaluation. As such, formative evaluation, to some extent, can said to be effective.

2.4.3. The implementation of summative assessment

Summative assessment as seen above, takes place at the end of several teaching-learning process and it leads to the decision to grant or not a promotion or recognition of studies. Summative evaluation on one hand, is criterion-based evaluation whereby all students are evaluated according to the same criteria and on the other hand, it is normative whereby students are compared to each other in respect to the grade of their performance. In short, in summative assessment the moment of evaluation must be chosen in such a way that the conditions favour the best possible performance in students (ADEA et REESAO, 2008, m. 4-Bis, p. 4). To achieve our verification here, we administered interviews on the selected administrators and lecturers and questionnaires on students of both departments.

2.4.3.1. The effectiveness of summative assessment in Philosophy department

In Philosophy department, summative assessment takes place at the end of semester after several teaching-learning process. Also, the assessment is criterion-based evaluation whereby all students are evaluated according to the same criteria and on the other hand, it is normative whereby students are compared to each other in respect to the grade of their performance. Here, the combination of the results of two semesters, leads to the decision to grant or not a promotion or recognition of studies. Equally, there are fixed moments chosen for the evaluation and are set in

such a way that the conditions favour the best possible performance in students (interview with one of the administration). Therefore, summative assessment can said to be effective here.

2.4.3.2. The effectiveness of summative assessment in Electrical and Telecom department

Just like in Philosophy department, summative assessment in the department of Electrical and Telecommunication Engineering takes place at the end of semester after several teaching-learning process. Also, the assessment is criterion-based evaluation whereby all students are evaluated according to the same criteria and are compared to each other in respect to the grade of their performance. As well, the combination of the results of two semesters, leads to the decision to grant or not a promotion or recognition of studies and there are fixed moments chosen for the evaluation in such a way that the conditions favour the best possible performance in students. Therefore, summative assessment can said to be effective here.

2.4.4. Organisation the mechanism of assessments

LMD system assessments are organised in terms of learning and competence measurement. Assessments here, are carried out in respect to the European Transfer Credit System (ETCS) whereby each teaching unit contains a credit value as seen above and comprises of two set of grading assessments which are normative and summative evaluation: During the formative process known as Continue Assessment (CA) and at the end of semester known as the end of semester or general exam respectively. The assessment during the formation process (CA) is graded below the one at the end of semester (general exam), which can be on thirty (30) and on seventy (70) or on forty (40) and on sixty (60) respectively.

Furthermore, the combination of the two assessment are further graded according to the degree of student performance (A, B, C, and D) whereby average performance and above of students, determine the capitalisation of the teaching unit and average performance and above of students on the combination of all the teaching units within an academic year, determines student admission into another level of study. Finally, students' capitalisation of all the teaching unit of a training offer with at least an average performance, determines the graduation of students from the degree programme.

2.4.4.1. Organisation and provisions for assessments in Philosophy department

From our observation, LMD system assessments in Philosophy department are organised in respect to the European Transfer Credit System (ETCS) whereby each teaching unit contains a credit value as already disclosed in (2.2.2.) and comprises of two set of grading assessments which

are normative and summative evaluation: During the formative process known as Continue Assessment (CA) and at the end of semester known as the end of semester or general exam respectively. The assessment during the formation process (CA) is graded below the one at the end of semester (general exam), which are on thirty (30) and on seventy (70) respectively. The combination of the two assessment are further graded according to the degree of student performance which determine the validation of the teaching unit. When a student failed to validate a teaching unite during the end of semester exam, the student can go for a resit, which is considered as the 3rd semester.

Results here, are graded as follow: "F, E, D, D+, C-, C, C+, B-, B, B+, A-, A" (F and E have zero (0) point, D = 1point, D+ = 1.30point, C- = 1.70point, C = 2point, C+ = 2.30point, B- = 2.70point, B = 3point, B+ = 3.30point, A- = 3.70point, A = 4point). To validate a teaching unit in Philosophy department, required a student to at least score "Chant" in the teaching unit which falls within the range of D to C- but they are non-transferable: Which means students with such grade cannot continue their study elsewhere. For a student to be admitted into another level of study, the student must at least score an average of two all-over four (2.00 out of 4.00 GPA) in the combination of all the teaching units within the two semesters that make-up an academic year. However, those with closed to average are deliberated to average as the case may be and any invalidated teaching unit, is to be retaking and validated before graduation. Finally, student validation of all the teaching unit of a training offer with at least an average performance in all the academic years, determine the graduation of students from the degree programme.

2.4.4.2. Organisation and provisions for assessments in Electrical and Telecom department

From our observation, just like in Philosophy department, LMD system assessments in the department of Electrical and Telecommunication Engineering are also organised in respect to the European Transfer Credit System (ETCS) as presented above. The assessment during the formation process (CA) is graded below the one at the end of semester (general exam), but here, the grading of CAs and internships varies from thirty (30) to forty (40) and the one of the end of semester exam varies from sixty (60) to seventy (70). The combination of the two assessments are further graded according to the degree of student's performance, which in turn determines the capitalisation of the teaching unit. Results here, just like in Philosophy department, are graded as presented above with resit for those who fail.

Unlike in Philosophy department, to validate a teaching unit in the department of Electrical and Telecommunication Engineering, a student is required to at least score an average of (2/4) in the teaching unit, that is, capitalisation here ranges from C to A grade. For a student to be admitted into another level of study, the student must at least score an average of two all-over four (2.00 out of 4.00 GPA) in the combination of all the teaching units within the two semesters that make-up an academic year. There is no deliberation in the department of Electrical and Telecommunication engineering and any non-capitalised teaching unit, is to be retaking and capitalised before graduation. That is to say, student must validate all the teaching unit of the training offer with at least an average performance in all the academic years, before the student could graduate from the degree programme. Therefore, it can be seen that evaluation mechanisms are to some extent, present in both departments and their organisations are carried accordingly, showing that this aspect of LMD system is to some extent, effective in both departments.

The above presentation seeks to evaluate and analyse the implementation state of the mechanisms of teaching-learning process for graduate degree programmes of LMD system in the University of Yaoundé I. The above presentation show that the University of Yaoundé I has been teaching the same Unit Value and has been producing the same categories of graduates for the past 20 to 25 years making it a routing than a dynamic formation process. Thus, judging from the theory of competence and that of education effectiveness and ineffectiveness mobilised for this research, the implementation state of the mechanisms of teaching-learning process for graduate degree programmes of LMD system in the University of Yaoundé I, is to a greater extent, ineffective.

This is due to the discrimination that set aside professional degrees from the academic ones, the exclusion of the dynamic aspect of the LMD whereby students are allowed to participate in the implementation and formulation of their training offer, and the limitation of time provision for the workload coverage that violate the credit value and contradict the system of LMD which seeks, as one of its main aims, to harmonise both academic and professional education and making students the centre of the teaching-learning. Though the implementation process may not really affect the function in terms of producing the envisaged productive graduates, hence, this called for the examination of the teaching-learning process of LMD since the teaching-learning processes are the functional aspects that deals with the quality production process of graduates. Thus, are the teaching-learning process of LMD system in the University of Yaoundé I ineffective?

CHAPTER 3
THE EFFECTIVENESS OF THE TEACHING-LEARNING PROCESS OF LMD SYSTEM IN THE UNIVERSITY OF YAOUNDÉ I

Bologna Process was design to base on Student-Centred Learning and Teaching Ecosystem (SCLTEs) (Noorda et al., 2020). Thus, LMD system which is a derivative of this process, equally based on this ecosystem making the teaching-learning process for graduate degree programmes of LMD system a student base and it cut across all domains of higher education that function under LMD system (ADEA et REESAO, 2008). Our main concern here, is on the domain of teaching-learning process which is different from the mechanisms of implementations presented in chapter two above. Here, the concern is on the processes of teaching and accompanying students, the student learning process and the processes of evaluation. These domains of teaching-learning processes account most for the output of training offer. In other word, the effectiveness of these domains determine, to some greater extent, the capacity of higher education product.

From the above perspective, apart from the mechanisms of the teaching-learning as seen above, an effective implementation of LMD system equally has some teaching-learning processes to follow as disclosed above. Thus, this chapter shall base on the question that seeks to know the effectiveness of the teaching-learning process for graduate degree programmes of LMD system in the University of Yaoundé I in terms of the processes set for the carrying out of degree programmes under LMD. In this light, the subsequent subchapters will disclose the effectiveness of the teaching and guidance process, the process of accompanying student in their professional projects and their effectiveness, the effectiveness of student centred learning process, and the effectiveness of the evaluation contents and process in the chosen departments.

3.1. THE EFFECTIVENESS OF THE TEACHING AND GUIDANCE PROCESS

Teaching and guidance in LMD system follows student centred learning and teaching ecosystem whereby the quality of the instructional experience lies on the method used and the content delivered. Throughout the course in question, learners must find advice from lecturers allowing them to persevere and also to complete their training through provision of course materials, to reorient themselves by building above all, on their previous achievements. Lecturers must promote the success of learners by modifying their ways of teaching and guidance and also by individualizing the training as much as possible. In this sense, lecturers must be able to discuss the training project with learners and offer them the necessary support for the success of this project (ADEA et REESAO, 2008, m. 4, p. 9).

The above reality, leads to the necessity of quality in the instructional experience, provision of course materials and accepting questions and debates in class, class atmosphere in terms of moral perception of classroom, and monitoring and feedbacks of students, as indicators that determine the effectiveness of the pattern of teaching and guidance process. From observation, interviews with selected lecturers and students and questionnaires administered to students, we are able to collect data to evaluate the effectiveness of this domain of teaching and guidance process in the two chosen department as will be disclosed below.

3.1.1. The quality of instructional experience: Method used and content delivered

This aspect has to do with two realities which are, method used in the teaching process and content of the teaching unit: to know if they were fully and well delivered. High-impact student-centred instructional and curricular methodology based on active learning activities whereby all students in a class session are called upon to participate rather than simply watching, listening and taking notes of the lecture. this involve higher-order cognitive activities such as questioning, problem-solving etc., collaborative learning activities that prompt students to work in pairs or groups on an assignment or project leading to a final product with each student held accountable for doing their share of the work, experiential learning activities whereby students are engaged in doing some educationally-purposeful work and learning from the experience that arose from the work, and self-regulated learning activities that strengthen students' learning autonomy (Noorda et al., 2020, p. 43).

Hence, the focus here is to verify the presence of all the above mentioned variables that portray active learning activities which are, cognitive activities such as questioning, problem-solving, collaborative, and experiential learning activities and self-regulated learning activities as well as, the fully and well delivered of teaching unit contents. Well delivery of teaching unit content involves providing *bibliographical elements for all teaching; create course materials (hand-outs, online courses, etc.) that will allow the learner to work alone; accept questions and debates as much as possible in relation to the time available…* (ADEA et REESAO, 2008, m. 4, p. 7). From observation, interviews with selected lecturers and students and questionnaires administered to students, we are able to collect data that enable us evaluate the effectiveness of the quality of instructional experience: Method used and content delivered, in the two chosen department as will be disclosed below.

3.1.1.1. The quality of instructional experience in both departments

From our interview with the lecturers on the method and content of teaching, we are able to code the following which are common among the lecturers. These include whereby all students in a class session are called upon to participate through questions, brainstorming, and stimulus-response, problem-solving, group work, exposition and individual works. Thus, in terms of method, the lecturers have in mind the student-centred instructional and curricular methodology basing on active learning activities of students. Each teaching unit involves a part called directed work or practical work (TD and TP) meant for a collaborative learning activities that could prompt students to work in pairs or groups on an assignment or exposition leading to a final product with each student held accountable for doing their share of the work.

Also, there is a part in each teaching unit called "Cours Magistral", for self-regulated learning activities that strengthen students' learning autonomy. But in Philosophy department, there is no experiential learning activities whereby students are engaged in doing some educationally-purposeful work, such as internship, to learn from the experience that arose from the work. As for well delivery of teaching unit content, lecturers provide students with the bibliographical elements of their lessons and course materials through hand-outs, online courses, and coping of notes in class sessions. Hence, the quality of instructional experience can said to be effective in both department but not full in Philosophy department where one of the indicator is absent as a result of the consideration of distinctions between academic and professional aspects of education in the system.

3.1.2. Class atmosphere in terms of moral perception of classroom

In general, morale perception of classroom according to Walberg (2003), is the degree to which students are concentrating on learning rather than diverting their energies because of unconstructive social climates (Walberg, 2003, p. 8). Moral class atmosphere therefore, includes students having a clear idea of the classroom goals and the lessons matching with their abilities and interests (Walberg, 2003, p. 8). Also, it requires equal opportunity and freedom of learning in class with a democratic atmosphere that could enable student achieve learning objectives in a climate of group cohesion and class size that could enable free interaction between the lecturer and students and the participation of all students in the class teaching-learning process (ADEA et REESAO, 2008, m. 4, p. 8). With these indicators, we are able to evaluate the effectiveness of moral class atmosphere in both selected departments.

3.1.2.1. Moral perception of class atmosphere in both department

From our finding on classroom goals, we discovered that the students supposed to have a clear idea of the classroom goals, but not equal opportunity and freedom of learning in class. These can said to ignore some aspect of democratic atmosphere that could enable student achieve learning objectives in a climate of group cohesion as seen in the above methods used such as questions, expositions and brainstorming. Also, from the content delivery and the data we gathered from the lecturers, it shows that the contents of lessons contain objectives and the main goals. But the aspect of class size and lecturer-student ratio that could enable free interaction between the lecturer and students and the participation of all students in the class teaching-learning process, are clear major issues in both departments, where a class contain about hundreds of students and reduces as the level of degree increases. This poses a serious problem on the possibility of producing competent and productive graduates since such a class size leads to decrease in the quality output.

As for the lessons matching with student abilities and interests, we discovered from our observation disclosed above that they are of little or no concern in the organisation of the training offer. But in order to get a clear view of the students, we administered questionnaires to some students under which we collected the following data.

Table 3: Data on the lessons matching with student abilities and interests

	Yes	To some extent	No
Students of Philosophy department	13	89	14
Students of the department of Electrical and Telecommunication Engineering	31	12	0

Source: The field study, 2023.

From the above presentation of data, it shows that in Philosophy department, the highest percentage of students think that to some extent, the lessons are matching with their abilities and interest while the lesser percentage categorically agree that the lessons are matching with their abilities and interests. On the other hand, it shows that in the department of Electrical and Telecommunication Engineering, the highest percentage of students categorically agree that the lessons are matching with their abilities and interests while the lesser percentage, zero students, disagree on the fact that the lessons are not matching with their abilities and interests.

3.1.3. Lecturers and their individual time with students

Lecturers are to plan and communicate to learners the time they could be welcome individually or create means through which learners could communicate their worries to them

individually (ADEA et REESAO, 2008, m. 4, p. 7). This can either be on phone or through online media such as Email, WhatsApp, Messenger, Google classroom etc. From interviews with selected lecturers and students and questionnaires administered to students, we are able to collect data that enable us evaluate the effectiveness of lecturers and their individual time with students, in the two chosen department as will be disclosed below.

3.1.3.1. Lecturers and their individual time with students in both departments

From our observation and interview with lecturers and students, this aspect of lecturers having individual time with student, exist only at the stage of students and supervisors. That is to say, students with a project to be realised at the end of their studies such as master and doctorate students, who are placed under the supervisor of a lecturer, are those opportune to have individual time with their supervisors which can either be on phone or through online media such as Email, WhatsApp etc. Apart from this category of students, there is no such arrangement for individual time between lecturers and the students. According to one of the interviewee (a lecturer), such an opening can be very dangerous and can cause a havoc in the educational setup. So, in terms of other aspect of studies, everything is done in class and within the class sessions.

3.1.4. Monitoring the academic progression and feedback of students by lecturers

Student-centred learning and teaching ecosystem requires assessing the extent to which students have achieved the intended learning outcomes, which in turn, provides essential feedback to the students as well as to the teacher (European Commission, EACEA/Eurydice, 2018, p. 55). The lecturers in this regard, are to guide the students through the process of supporting and encouragement, check and feedback, accountability of students and students' participation in their courses design and assessment (Noorda et al., 2020, p. 356). Therefore, throughout the course in question, lecturers are to encourage and support learners by playing the role of academic adviser from time to time and equally by making resources available to them (ADEA et REESAO, 2008, m. 4, p. 9).

Also, Learners must find advice from lecturers allowing them to persevere and complete their training. In this sense, lecturers must be able to discuss the training project with learners and offer them the necessary support for the success of this project. Lecturers are to evaluate the learning outcome of students through formative assessment and through constant checking of their academic works and correction of their errors (ADEA et REESAO, 2008, m. 4, p. 9). Thus, we have as indicators here, lecturer discussing training project with learners, playing the role of

advisor to students, supporting students with academic materials, evaluate student learning outcome through formative assessment, and through constant checking of their academic works and correction of their errors. These indicators enable us to evaluate the effectiveness of monitoring and feedback of students in both selected departments

3.1.4.1. Monitoring and feedback of students in both departments

As already seen above, lecturer discussing training project with learners, playing the role of advisor to students, encouraging and supporting students with academic materials, evaluate student learning outcome through formative assessment, and through constant checking of their academic works and correction of their errors (check and feedback), accountability of students and students' participation in their courses design and assessment, are only done within the circle of class sessions. But the coverage of these aspects, are impossible as a result of the class size as disclosed above (3.1.2.1).

From observation, the gap between lecturer-student ratios, is too high that it is practically impossible to achieve the above mentioned indicators. Therefore, throughout the course in question, lecturers encouraging and supporting learners by playing the role of academic adviser from time to time and equally by making resources available to them, is done at the general class level and not individually. The stage where this can be possible at the individual level, is the stage of project realisation. That is, the stage whereby students are having project to realise at the end of their studies and are given a supervisor such as, masters and doctorate students. At this stage, there is a drastically reduction of class size which could enable the monitoring and feedback of students especially in the department of Electrical and Telecommunication Engineering. Thus, this aspect, to some extent, can said to be effective only at the stage of project realisation.

3.2. EFFECTIVENESS OF THE PROCESSES FOR STUDENT PROFESSIONALIZATION

As already seen above, professionalization correspond to a spirit of adding to training opportunities, an experience in the professional environment basing on the professional project of the learner and the realities about the vast market, which must cut across all training courses. In other word, professionalization of student at the university level *means that the promising courses to be set up at the university should correspond to the need of focusing all training on the professional projects of the learners* (ADEA et REESAO, 2008, m. 4-Ter, p. 8). We have discussed the aspect of mechanisms that could enable the carryout of this professionalization in chapter two but here, we are going to discuss the process under which this professionalization are carried out.

Moreover, we are going to discuss in this subchapter, the process of equipping students with all necessary information, students and their academic advisers or supervisors, students and the formulation and achievement of their professional project and students and their professional experiences and integration knowledge of the job market. Through the process of interview and questionnaires administered to selected lecturers and students, we are able to collect data that enable us evaluate the effectiveness of the above mentioned in both selected departments

3.2.1. Matching the training offers with professional projects

Through the orientation and reorientation services, students must, in fact, ensure that their training projects match with their professional project, which also need to be constantly revised. The training plan should take into account the logic of the tutored projects: That is to say, the content of the training should rhyme with the job market and also in close connection with professional projects and self-creation of employment: The focusing of all training need to be done through learning objectives and activities need to be carried-out in terms of the required competence. Thus, for professionalizing path, as student progresses, they need to grasp the convergences that exist between the training paths and their professional projects (ADEA et REESAO, 2008, m. 4-Ter, p. 3). Therefore, students must adjust their training course as long as they are in the training process.

The advisers who work in these services and lecturers, play a particular important role with students in difficulty or failure, because it is necessary to help them find bridges and additional training, allowing them to proceed to the end of a training course and therefore continue to build a professional project despite the partial failure. When learners approach a cycle of studies for the first time, the lecturer in charge of the learner must be able to present to him the training paths of the institution basing on the characteristics of this learner rather than on the logic of route design. Also, ensure the pedagogical coherence of the course, promote the success of the learners' matching process by discussing the training project with the learner and modifying and individualizing the training as much as possible (ADEA et REESAO, 2008, m. 4-Ter, pp. 8-9).

3.2.1.1. Matching the training offers with professional projects in both departments

As disclosed in chapter two of this work, in Philosophy department, students don't have professional project nor undergo internship, so, nothing exist here under professionalization except academic project which only exist at the level of masters and doctorate degree. On the other hand, professional project exist in the department of Electrical and Telecommunication Engineering,

which is considered here as a professional school. From our observation and interview, training plan in this department do take into account the logic of the tutored projects. That is to say, the content of the training, as can be seen from what has been disclosed above, rhyme with the job market and also in close connection with the professional projects of students and self-creation of employment. We are able to code from the interview we had with the students of that department that their training offers based on learning objectives and activities are carried-out in terms of the required competence. But as already seen above, students have no capacity to adjust their training course as long as they are in the training process because they don't partake in the structuring of the training course which is static.

3.2.2. Students and their professional project advisers or supervisors

The lecturers in this regard, must find advice from lecturers allowing them to persevere and achieve their professional project. In this sense, lecturers must be able to discuss the professional project with learners and offer them the necessary support for the success of this project. Lecturers are to evaluate the progressive process of students' professional projects through constant checking and correction of their errors in the work and demanding for constant accountability on the progress of the project (ADEA et REESAO, 2008, m. 4, p. 9). These indicators enable us to evaluate the effectiveness of the relation between students and their professional project advisers or supervisors in both selected departments.

3.2.2.1. Students and their professional project advisers/supervisors in both department

As to the aspect of advisers and lecturers meant for the guidance of student, we can categorically, as disclosed above, assert that it does not exist in both department except at the stage of project realisation whereby students are given a supervisor. At this stage in both department, the lecturer, who are placed as the supervisors, do promote the success of the learners' project matching process by discussing the project to be realised with the learner and modifying and individualizing the project as much as possible. But this is not the case at the level of the training project or course, which is already structured right from the beginning and is static.

Also, as already presented above, the aspect of professionalization does not exist in Philosophy department, but it exist in the department of Electrical and Telecommunication Engineering as a Government professional school. Here, Lecturers placed as the supervisors, do discuss the professional project with learners and offer them the necessary support for the success of this project. The supervisors evaluate the progressive process of students' professional projects

through feedback checking and correction of their errors in the work and demanding for constant accountability on the progress of the project until the project is realised.

3.2.3. Students' formulation and the realisation of their projects

As seen in chapter two (2.3.1), professionalization requires mechanisms under which students are equipped with all necessary information and guides that enable them formulate and achieve their training offer and professional project but the question here is how? First and foremost, it has to do with welcoming and equipping the incoming students with all necessary information, followed by helping the student to clarify his professional project and setting up a training project adapted both to his needs and aptitudes by academic advisers and must base on contextual realities. The next stage is a reorientation process whereby the initial trainings and professional project are reoriented according to what is discovered about the space in which they live by revising and updating them accordingly (ADEA et REESAO, 2008, m. 4, p. 9).

From the above perspective, introducing teaching units for the preparation of professional projects and constant recourse to a tutor for an assistance become a necessity. Therefore, students need a constant recourse and account to their various tutors or supervisors, who in turn, needs to provide them with the necessary guides, advising and encouraging them towards the realisation of the project according to the initial number of years provided for the training programme. These indicators enable us to evaluate the effectiveness of the formulation and achievement of their professional project in both selected departments.

3.2.3.1. Students' formulation and realisation of their projects in both department

As already presented above, welcoming and equipping the incoming students with all necessary information, helping the students to clarify their professional project and setting up a training project adapted both to their needs and aptitudes by academic advisors, don't exist in both departments. Students are given academic advisors or supervisors only at the level of project realisation and not at their entrance into the field of study and students don't partake in the drafting of their training offers. Also, professional project does not exist in Philosophy department and on the other hand, academic project does not exist in the department of Electrical and Telecommunication Engineering. More so, the aspect of reorientation process whereby the initial trainings and professional project are reoriented according to what is discovered about the actual space and time (contextual realities) by revising and updating them accordingly, is equally a reality that exist only at stage of project realisation.

From our observation and interviews, we discovered that in both department, there are teaching units meant for preparing students towards the drafting and achievement of their projects at the stage of project realisation, which can be academic or professional projects depending on the department. Here, constant recourse to a tutor (supervisor) for an assistance becomes a matter of disposal of the student to the realisation of the project and the availability of the supervisor. From our interview with the lecturers and students at the stage of project realisation, we discovered that few students are really disposed to pursue the realisation of their project as a result of engagement on other activities outside of their education.

Table 4: Data on the disposal of students to the realisation of their projects

Departments	**Yes**	**To some extent**	**No**
Students of Philosophy department	11	79	26
Students of the department of Electrical and Telecommunication Engineering	17	22	04

Source: Field data, 2023

From the above presentation of data, it shows that in Philosophy department, the highest percentage of students think that to some extent, they are disposed to pursue the realisation of their project while the lesser percentage categorically agree that they are disposed to pursue the realisation of their project. On the other hand, it shows that in the department of Electrical and Telecommunication Engineering, the highest percentage of students think that to some extent, they are disposed to pursue the realisation of their project while the lesser percentage of students said that they are not disposed to pursue the realisation of their project. Therefore, most students are not dispose to constantly recourse and account to their various tutors or supervisors as they were supposed to, especially in Philosophy department.

On the other hand, supervisors, to some extent, provide students with the necessary guides, advising and encouraging them towards the realisation of the project but not according to the initial number of years provided for the training programme. This is so because, we realised that most lecturers work according to the rhythm of the students without putting any pressure on them in relation to the realisation of their project in time. This is perceptible from our interview with a lecturer, who categorically asserts: “Running behind the students for the realisation of their projects? Lecturers don’t have only that to do”. This shows that some lecturers are occupied with certain preoccupations that could not permit them mount pressures on students, to bring the students into realising their projects in time.

3.2.4. Students and their professional experiences and knowledge of job market

As already seen in chapter two (2.3.3.) Training favouring professionalization requires a professional project, company visits and internships of various kinds and knowledge on how to integrate into the job market which necessitate the introduction of teaching units for these aspects. The verification of the presence of these teaching units does not entail the effectiveness of the process which is the experience itself. This calls to mind the necessity of verifying the process under which they are carried out. That is to say, it is important to know if students, as part of their training offer, receive any training on how to look for a job, to prepare for a job interview and to integrate into the job market, do they receive or have any visiting experience to any company, and do they receive or have any internship experience. The presence of these indicators were verified in the training offer of the two chosen departments.

3.2.4.1. Students' professional experiences and knowledge of job market in both departments

Our observation from the training plan of both departments, does not take into account the logic of training that could enable students know how to look for a job, to prepare for a job interview and to integrate into the job market. On the other hand, it shows that the training plan of the department of Electrical and Telecommunication Engineering do have programmes for working experience such as long term internships, creation of company visits and internships of various kinds and working experience on school campus. But this not the case in Philosophy department where all of the above are absent.

In the department of Electrical and Telecommunication Engineering, there exist short term internship and long term internship experiences and creation of company visits which goes according to the academic yearly programme. In the 4th years of studies, there exist a 3-month compulsory internship to enable the student to get initiated into the industrial world. Another compulsory internship of four to six months is programmed at the end of their degree programme during which the students realised their professional project under a dissertation or thesis.

3.3. THE EFFECTIVENESS OF THE PATTERN OF STUDENT LEARNING PROCESS

Whether pre or post graduate, academic or professional student, the student probably must acquire the behaviours that will transform him to the requirements of the LMD system. To this effect, one has to follow the path of the following axes: getting to know oneself, motivations, getting information and necessary means of studies and preparing to take multiple learning paths which has to do with the disposition of students (REESAO, 2008, Module 4, p. 6). This subchapter

therefore, aimed at evaluating these axes of student learning process in the two selected department of this research study. To achieve this, we administered interview and questionnaires on selected students to enable use collect sufficient data for this evaluation analysis.

3.3.1. Students' training and the knowledge of oneself

To know oneself in LMD system is very necessary, which has to do with one having a professional project right from the last years of high school during a process of progressive orientation in series and options. It is from this professional project that the student's training project will be derived, which will be gradually carried out in the higher educational degree process. In addition to this, the student need to have tastes, aspirations, difficulties and academic assets and should be able to express them to his academic adviser or supervisor. It is from all these elements that the adviser or supervisor would be able to help the student build a training project based on a coherent and realistic professional project (REESAO, 2008, Module 4, p. 6).

3.3.1.1. Students' training and the knowledge of oneself in both departments

From our interviews and questionnaires administered to students, it shows that none of the students, from the beginning of their studies, nursed a professional project right from the last years of high school nor during the progressive orientation in series and options which in itself, does not exist in both departments. It equally show that students start nursing or setting a project when they reach the stage of project realisation such as masters and doctorate level. In other word, students start having tastes and aspirations when they reach the level of project realisation. So, it is at this level that they are given a supervisor and it is equally at this level that they could express their difficulties and academic assets to their academic supervisors. This show a great lacking on the aspect of students in terms of the effectiveness of their studies and achievement.

3.3.2. The motivations behind students' choice of study and its achievement

From the perspective of Walberg (2003) the most important and vital aspects of learning are the opportunity and willingness to concentrate ones learning capacity. It is from this perspective that he derived the nine psychological causes of learning which he equally referred to as the nine educational productivity factors. The first group of these factors is student aptitude factors which include the motivation behind students' choice and willingness to persevere intensively on learning tasks (Walberg, 2003, p. 8).

For an effective learning, there must be a reason behind the learning which has to do with the interest that leads to the learning and which obviously directs the student's training and learning paths. Motivation at this stage is further influenced by the student better understanding of the training and learning paths and furthermore, by the well and coherent presentation of the training contents which enables an easy comprehension. In addition to these are, discipline environments and incentives which keeps the student away from distractions and instil challenging spirit in the student's learning ability respectively (ADEA et REESAO, 2008, m. 4, pp. 6-7; Walberg, 2003, pp. 6 - 9). These indicators enable us to assess data on this domain.

3.3.2.1. The motivations behind students' choice of study and achievement in both departments

For motivation behind students' choice of study in both departments, using interview with students, we were able to code the following: The desire to become a lecturer, an engineer, to make an impact in the world of technology, to increase their chances in the job market, as a prestige, to join priesthood, and for "concours".

Table 5: The motivations behind students' choice of learning/study

Departments	Become a lecturer	Become an engineer	Make an impact	Increase their chances	as a prestige	For Priest-hood	For "concours"
Students of Philosophy department	8	0	5	54	14	12	23
Students of the department of Electrical and Telecommunication Engineering	0	13	9	17	4	0	0

Source: Field data, 2023.

From the above table, we see that in both departments, the interest of the majority is to have a better job for a luxurious life. In Philosophy department, only few students want to make an impact in the world of technology. On the other hand, in the department of Electrical and Telecommunication Engineering, only few students study to increase their value as a degree holder. Motivation at this stage is further influenced by the better understanding of the training and learning paths which can say to influence students' willingness to persevere intensively.

Table 6: The degree of student understanding of the training and learning paths

Departments	***Better understanding***	***A bit better understanding***	***Less understanding***	***Not understanding***
Students of Philosophy department	23	39	45	11
Students of the department of Electrical and Telecommunication Engineering	12	23	8	0

Source: Field data, 2023.

From the above table, majority of students in Philosophy department, have less understanding of the training offer while less number of students are not understanding the training offer. On the other hand, majority of students in the department of Electrical and Telecommunication Engineering, are having a bit better understanding of their training offer while less number of students have less understanding of their training offer and no students are having no understanding of their training offer.

Furthermore, it shows that there is some lacking in the well and coherent presentation of training contents in Philosophy department which could not permit an easy comprehension of the training offer. In addition to these, from our observation, comfortable and disciplined environments and incentives are equally lacking more in Philosophy department than in the department of Electrical and Telecommunication Engineering. And this to some extent, is leading to distractions and instilling lack of challenging spirit in the student's learning ability.

3.3.3. The disposition of students to take multiple learning paths

Preparation to take multiple learning paths, is an invitation to take ones responsibility at hand, diversify and manage oneself in research. The semesters of LMD system have a limited duration and a student who wants to succeed hardly has spare time for fun. Student have to start working from the first hour of teaching in LMD system, and have to learn to manage their time well. Moreover, students who are contented with lessons given by lecturers will have difficulties in the area of acquiring the expected competences because the teaching-learning process is designed in such a way that they are expected to know how to use the course materials (hand-outs, online courses, bibliography) and also all the resources that exist (libraries, computers, Internet). In short, in LMD system students are invited to take responsibility in the completion of their training course. Thus, the learner no longer expects everything from the lecturer whose duty is to simply guide students in their learning process and as such, gives great importance to personal work which requires disposition (ADEA et REESAO, 2008, m. 4, pp. 6-7).

From the above perspective, the disposition of students to their studies, is one of the important aspect of learning process which involves having home curriculum (home studying programme) as time management and disposal to the teaching-learning process of the institution. Personal research to improve one's knowledge on the various teaching units is the basic ground of student centred learning and teaching ecosystem (SCLTE) which cannot be achieved without home curriculum.

3.3.3. The disposition of students to take multiple learning paths in both departments

We discovered the following, from the questionnaires we administered to students in both departments, on the disposition of students to their studies and having home curriculum (home studying programme) as time management and for personal research to improve one's knowledge on the various teaching units as well as their study mode. Those with home curriculum here, are those who do not totally depend on what the lecturer are giving them in class, so they create time to carry-out their reach and study while those without, is the contrary.

Table 7: Disposition of students to take multiple learning paths

Indicators	***Students of Philosophy department***		***Students of the department of Electrical and Telecommunication Engineering***	
	Study in group	***Study alone***	***Study in group***	***Study alone***
Fully disposed and have a home curriculum (Home programme)	5	8	5	18
Fully disposed but not having a home curriculum	13	5	6	4
Disposed to some extent and not having a home curriculum	4	14	0	2
Disposed to some extent but have a home curriculum	3	12	2	7
Not disposed and not having a home curriculum	6	26	0	0
Not disposed but have a home curriculum	0	22	0	0
Total	31	87	13	41

Source: Field data, 2023.

The table above shows that majority of students study alone and majority of students in Philosophy department to be precise, are not disposed to their studies nor have home curriculum and most of them study alone. Thus, most learners in Philosophy department expect everything from the lecturer whose duty is to simply guide them in their learning process and as such, is a pollution to the LMD system whereby the teaching-learning process supposed to base on SCLTE. On, the other hand, majority of students in the department of Electrical and Telecommunication Engineering are disposed to their studies, and majority of them don't totally depend on what the lecturers are giving them in class while minority of them totally depend on the provision of their lecturers which is opposite to that of Philosophy department.

3.3.4. The disposition of conducive and available means for studies and research

To get informed in education refers to the ability of student getting all the necessary information that surrounds the training he/she receives. This therefore requires the provision of all the course materials and it equally requires skills in all the fields that has to do with university work such as note taking formulating ones notes, documentary research in libraries and online and those of computer science.

More than in the traditional system, the student must know the requirements of the education he receives such as the important dates, contents of the teaching units, bibliography to browse, evaluation system, and so on. This is because this information, to be taken in several departments, from different lecturers, is different for each student as a result of alternative and free choice teaching units. As such, students should no longer be contented with what others have said, they must also check, as their training progresses, that their professional project are still adapted to the realities of the job market (ADEA et REESAO, 2008, m. 4, p. 6).

3.3.4.1. The disposition of conducive and available means for studies in both departments

As already presented above in chapter two (2.1.2.), the departments, under the faculty and institution they function, can said to have libraries and laboratories and class halls that enable the carrying out of academic activities. And as disclosed in the above subchapter (3.1.1.), lecturers provide students with the necessary academic material for their studies.

Table 8: The disposition of conducive and available personal means for studies and research

Indicators	***Students of Philosophy department***		***Students of the department of Electrical and Telecommunication Engineering***	
	Those who have	***Those who don't have***	***Those who have***	***Those who don't have***
Android phone	102	16	54	0
Personal Formulated notes	31	87	33	21
Computers	79	39	54	0
Means of carrying a documentary research in libraries	23	95	37	17
Internet disposal	98	20	54	0
Skill on computer science	23	95	54	0
Means of Carrying a documentary research online	109	9	54	0
Most of the above	79	39	54	0
All the above	23	95	33	21
None of the above	9	109	0	54

Source: Field data, 2023.

The table above shows that all students in the department of Electrical and Telecommunication Engineering have most of the means for personal studies and research while no student has none of the means for personal studies and research. On the other hand, majority of students in Philosophy department have most of the means for personal studies and research while there are some students who have none of the means for personal studies. These students are those who could not pay their school fees in time and as such, could not have access to the library and are not equally having android phones.

3.4. EFFECTIVENESS OF THE CONSTITUENTS AND PROCESSES OF EVALUATION

Evaluation marks the course of the student in the training process allowing the student him/herself, the teachers and the university institution, to decide on his/her continuation in the training course, on the reorient of his/her professional and training projects, on his/her completion of the training, on his/her validation of the training units, on his/her validation of semesters and on the awarding of certificate to the student. At the end of all, evaluation gives the necessary elements to guarantee the professional value of the student at the end of the course, which therefore requires a check throughout the course if the presents the required capacities. In other word, the sets of capacities corresponding to his professional project and the training offer thus, setting two main form of evaluation in LMD assessment: Learning assessment and a competency-based assessment (ADEA et REESAO, 2008, p. 7). Capacities should be seen as tools enabling competence: That is, the test is to know whether students can effectively use what they have learned to succeed in a task, and as such, the evaluation of learning itself should be excluded from the evaluation of competence (ADEA et REESAO, 2008, m. 4-Bis, p. 8).

From the above perspective, it requires the examination of the nature of evaluations and the manner in which they are carried out, the contents of evaluations and the criteria and standards used, provisions for evaluations and the conditions in which they are carried out, and the concentration of evaluations and student performance. These factors which are the main bases of student-centred assessment employed by LMD system (Noorda et al., 2020, p. 54), enable us determine the effectiveness of LMD assessment in the two selected department. To achieve this, we used observation method and administer interviews on administrators, lecturers and students and also, questionnaires on students to collect data for our examination analysis.

3.4.1. Nature of evaluations and the manner in which they are carried out

The evaluation should not be of the form "What do we need to know? But what can we do with what we know in a real context?" It must determine projects that professionals, clients and citizens encounter in their real lives. The assessment methods for each teaching unit are to be defined by the teaching team and the tests can be written, oral or practical. The evaluation may relate to lectures, tutorials, practical works, internships and field trips, reports and dissertations, online training, and personal work. Evaluations should contain the most favourable situations where the expected tasks arise and should correspond to the level of competence expected of graduates (ADEA et REESAO, 2008). Also, the performance criteria should base on each of the tasks used to determine the expected competency. Thus, intrigues, debates, trials, role-playing can sometimes present challenges that make it possible to assess the expected skills. In the assessment of competence, students must demonstrate that they are capable of thoughtful action based on an intention and not that they know this or that. Isolated items, questionnaires on various issues, are therefore inappropriate (ADEA et REESAO, 2008, m. 4-Bis, pp. 8-9).

3.4.1.1. The Nature and manner of evaluations in both department

From our interview with the lecturers and observation from the question papers, we discovered that evaluation in both departments base on competence assessment. That is to say, the questions base on real life situation and on problem solving. The assessment methods for each teaching unit are defined by the lecturers themselves and the CAs are both written and practical while the general exams are in written form. Evaluations here, contain the most favourable situations whereby the expected tasks arise and they correspond to the level of competence expected of graduates. Also, the performance criteria base on each of the tasks that determine the expected competency such as the task of discovering the problem and providing solutions.

Evaluations in Philosophy department, relate to lectures, tutorials, dissertations and thesis which involve the discovery of problems, argumentation, critical analysis and providing solutions as well as a methodical and coherent presentation. On the other hand, evaluations in the department of Electrical and Telecommunication Engineering relate to lectures, tutorials, practical works, internships and field trips, reports, dissertations, and thesis. In the assessment, students are to demonstrate that they are capable of thoughtful action based on an intention. Questions, especially in Philosophy department, are not in the form of questionnaires but in the form of dissertation.

3.4.2. Contents of evaluations and the criteria used

On the area of contents, the questions here are: Do the assessments reflect the expected progression from the lower to the upper level of Bloom's taxonomy of learning objectives (i.e. apply, analyse, evaluate, and create)? Or again encourage students to make connections to other fields or topics? (Noorda et al., 2020, p. 54).

And on the aspect of criterion, the first step is to establish the expected level for each assessment and then the use of performance indicators to describe the tasks that reveal the expected competencies and by making it possible to observe their presence or absence. The context must give the impression of "reality" in terms of the challenge posed and above all, it must be a meaningful task for the student. Indeed, a task can be stimulating without being immediately useful (ADEA et REESAO, 2008, m. 4-Bis, p. 8). Describing tasks that reveal the competency therefore corresponds to identifying the real challenges and the real stimulating and representative tasks. Competence is necessarily associated with judgment, decision, and choice.

3.4.2.1. Contents of evaluations, the criteria and standard used in both departments

From our observation, evaluation in both departments progresses from the lower to the upper level of Bloom's taxonomy of learning objectives, which as seen above, involve application, analysis, evaluating, and creativity (provision of solutions). Also, the assessments are structured in such a way that students are required to make connections to other fields or topics. There are expected level set for each assessment as disclosed already above (3.4.1.1.) and most of them are marked on twenty. The use of performance indicators to describe the tasks that reveal the expected competencies whereby it is possible to observe their presence or absence, are not common in Philosophy department since most of the questions are essay questions. But they are common in the department of Electrical and Telecommunication Engineering

In terms of the context, the questions, especially in the department of Electrical and Telecommunication Engineering, give the impression of "reality" in terms of the challenge posed and the task are equally meaningful. The task correspond to stimulating and representative tasks and they are necessarily associated with judgment, decision, and choice as these are what characterise questions that base on problem solving and dissertation.

3.4.3. Provisions for and the conditions in which evaluations are carried out

Every exam comprises of provisions and conditions under which the exam is carried out. These aspects count much on students' performance and they are determined by the organisers. In

short, in LMD system, the moment of evaluation must be chosen in such a way that the provisions and conditions favour the best possible performance in students (ADEA et REESAO, 2008, m. 4-Bis, p. 4). This means that in these aspects, the exam environment and halls and the moment chosen for the exam must be conducive for the successful performance of students. Also, the conditions under which the exams are written such as the availability of exam papers and answering sheets, the absent of pressure and threats.

3.4.3.1. Provisions and conditions under which evaluations are carried out in both departments

The provisions and conditions under which students are evaluated in both departments, involve the publication of exam time table that contain the days, the halls and the time for the writing of the various teaching units, so as to enable the students prepare ahead of time. The first semester exams are written in January and can extend to February each year and second semester exams are in June and could extend to July. In Philosophy department, the exams are all written at once in one day within the exam period, which to some extent, is too stressful and does not favour the best possible performance in students. But in the department of Electrical and Telecommunication Engineering, about two (2) to three (3) courses are written per day and there are no lectures during this period.

The institutions provide the exam papers with questions and booklets in which the answers are written. But in the academic year 2022-2023, Philosophy department didn't provide exam question papers which equally does not favour the best possible performance in students. The institutions also provide invigilators to invigilate the exam sessions which are categorised into three namely, the general supervisors, the main invigilators and their assistants. The assistants are often PhD or masters students from the institution in question.

Students leave their bags outside or in front of the exam hall to be sure that they bring no illegal material into the exam hall. Questions are mostly in French which is the main language of instruction, but students can respond in any language except of course in the French Language course. Students caught cheating could be expelled and further disciplinary measures could be taken against such students at the level of the University administration. No student is allowed to leave within the first 15-20 minutes of the exams. After that, a student can drop their exam copy with the invigilators and leave. Otherwise, when time runs out, the invigilator asks everyone to stop, drop pens and maybe stand and they collect the copies. Therefore, to some extent, the

provisions and conditions of evaluation in Philosophy department, is lacking as seen above but not the case in the department of Electrical and Telecommunication Engineering.

3.4.4. The concentration of evaluations and student performance

LMD teaching-learning process seeks to maximize students' chances of success and allow the training path to lead to a professional project thus, it has the following as the concentration: The evaluation system should be used to enhance student competence. The culture of the evaluation should be that which promote success. The effort prepared for weak students should be at maximum. The values to defend should be that of autonomy and responsibility and the functions to prioritize should be that of guidance, regulation, and certification. Any evaluation under LMD system must therefore meets the values that the LMD reform wants to promote (ADEA et REESAO, 2008, m. 4-Bis, p. 3).

3.4.4.1. The concentration of evaluations and student performance in both departments

From our observation and what has been presented above, effort prepared for weak students, in both department can said to be at maximum because as presented above, there is a resit for students who fail their semester exam and deliberation to pass mark (admission) for students who have close to pass marks in their annual results.

Table 9: The 2022 -2023 annual results (PVR) of students

Levels studies	***Students of Philosophy department***				***Students of the dep. Elect. and Telecom***			
	Those who passed		***Those who failed***		***Those who passed***		***Those who failed***	
	First results	***Del'ted results***	***First results***	***Del'ted results***	***First results***	***Del'ted results***	***First results***	***Del'ted results***
Level one	55	157	189	87	-	-	-	-
Level two	35	124	150	58	59	68	14	5
Level three	52	110	105	47	62	70	18	10
Level four	97	-	11	-	45	54	26	17
Level five	-	-	-	-	37	40	7	4

Source: Field data, 2023: From the PVR of both departments

Also, from the 2022-2023 annual results (PVR) of students in Philosophy department, we discovered that majority of undergraduate students (Level 1, 2 and 3) failed and minority of students passed while on the other hand, majority of Master students passed and minority failed. It was in the deliberated (Del'ted) annual result that the majority of undergraduate students succeeded to pass. This shows that the culture of the evaluation of undergraduate students poses a question on the aspect of promoting success. But this is not the case in the department of Electrical

and Telecommunication Engineering, where in all the levels of studies, majority of students passed, only few student failed especially in the first and last levels.

On the aspect of the values of autonomy and responsibility, from what has been presented above, we can say that they are not present in both department since students are not responsible for the choice of the teaching units they are evaluated upon. Even though they do have optional questions to choose the ones to answer but they don't have optional teaching units (OTU) to choose the ones to be evaluated upon since the TUs are static. But the functions prioritized in both departments are that of guidance, regulation, and certification.

The above presentation seeks to evaluate and analyse the effectiveness of the teaching-learning process of LMD system in the University of Yaoundé I. From the above presentation, it shows that the teaching and guidance process is lacking in both departments on the area of class size and lecturer - students ratio, flexibility of the training offer, and project realisation at the lower level (undergraduate) of the study especially in Philosophy department and as well as lacking in the practical aspect of the reform. Whereas, the system of LMD seeks, as its main concentration, to harmonise both academic and professional aspects of education, to make students the master of their teaching-learning process with the value of autonomy and responsibility. Judging from the theory of competence and that of education effectiveness and ineffectiveness, the teaching-learning process of LMD system in the University of Yaoundé I can said to be ineffective. Even though the teaching-learning process is ineffective, but it may possibly produce the envisaged productive graduates as far as the aims and objectives are achieved. Thus, the need to examine and analyse the implication of LMD system in terms of producing productive graduates.

CHAPTER 4
THE IMPLICATIONS OF LMD PRODUCTION IN THE UNIVERSITY OF YAOUNDE I IN TERMS OF PRODUCTIVE GRADUATE

Bologna Process was a revolution in the domain of higher education, which aimed at improving the stake of higher education on the area of producing productive graduates, as seen in the general introduction. And LMD system which is a derivative of this Bologna process, has the potential of achieving this goal. Thus, the implementation of the LMD system ought to have implications, that is, a possible effects or results which can said to correspond to the expectations or not (effective or ineffective). It is in this light that this chapter aimed at evaluating and analysing the implications of LMD system in the University of Yaoundé I, in terms of producing productive graduate. Thus, this chapter is based on the question: What are the implications of the teaching-learning process for graduate degree programme of LMD system in the University of Yaoundé I in terms of producing productive graduate?

In this light, this chapter is partitioned into four subsequent subchapters with the first basing on the achievement of the expected competences in terms of productive graduates. The second will base on the analysis of the production of productive graduates under the LMD system, the third shall disclose the obstacles to the realisation of productive graduates under LMD system in the University of Yaoundé I, while the fourth shall be consecrated to proposing solutions that could enable the realisation of productive graduates under LMD system in Cameroon higher education.

4.1. THE ACHIEVEMENT OF THE EXPECTED COMPETENCES

The productivity of graduate as seen above, in the general introduction, is the capacity that graduates acquired during their education process as inputs, to yean greater outputs in their engagements in the society. This capacity can be measured basing on the effectiveness of the inputs which are the acquired or the expected competences. These competences can be visualised from four perspectives namely, the expectations of the institution, students, educational system and the country in question. That of institution has to do with the competences expected to instil in students through the training offer and that of the students has to do with the competences the students wants to achieve at the end of their studies. The expectations of the educational system on its own part, has to do with the main objectives of the system to educational achievement in general and those of the country in question, has to do with the competences expressed in the educational policy. The achievement of these expected competences, entails the capacity of students yeaning

a greater output in their engagement in the society and as such, the expectations and their achievements shall be the focus of this subchapter.

4.1.1. Students' expectations and their achievement

From the interview we had with students and questionnaires administered to them in both departments on the motivation behind their choice of study, what they expect to achieve and the achievement of their expectation, we were able to code their expectations and collect data on the achievement of the expectations. The interview and questionnaires on the students' expectations involved all the sampled students while on the aspect of achieving their expectations, we only consider the level 3, 4, 5, 6, 7, 8 and 9 sampled students who have completed either the first circle, second circle or the third circle of their studies.

4.1.1.1. Students' expectations and their achievement in Philosophy department

In Philosophy department, we coded four realities of students' expectations which are: The expectation of acquiring the capacity of a lecturer, the capacity of a researcher, the capacity of an administrator, and the certificate of a degree in Philosophy. In a general manner, the first category of students want to acquire all the necessary competences in philosophy that could enable them transmit the discipline to others. The second category of students, some of whom belong to the first category, want to acquire the competences of authorship: that is, to be authors of books, ideologies and academic works. The third category of students want to acquire the competences that can enable them work as administrators in both private and public sectors. The last set of students are those whose main concerns are on the certificate for the further pursuit of their quest such as priesthood and concourse.

Table 10: The achievement of Students' expectations in Philosophy department

Students	***The capacity of a lecturer***		***The capacity of a researcher***		***The capacity of an administrator***		***The certificate of a degree***	
	Achieved	***Not achieved***	***Achieved***	***Not achieved***	***Achieved***	***Not achieved***	***Achieved***	***Not achieved***
Level 3	3	2	1	0	2	4	9	4
Level 4	2	1	1	0	1	3	1	2
Level 5	3	0	3	0	1	2	3	0
Level 6	2	0	2	0	0	2	1	0
Level 8	2	0	2	0	1	-	-	-
Total	12	3	9	0	5	11	14	6
Total of the achieved =		40/60 = 67%		Total of the non-achieved =			20/60 = 33%	

Source: Field data, 2023.

From the above table, we can discover that the majority of students achieve their expectation and the minority of students didn't achieve their expectations. But among those who achieve their expectations, the majority of them are those who want certificate while the minority are those who want to acquire administrative competences. We can equally identify that the majority of those who didn't achieve their expectations, are those who want to acquire administrative competence while the minority are those who want the competency of a lecturer without expecting that of a researcher.

4.1.1.2. Students' expectations and their achievement in the department of Electrical and Telecommunication Engineering

In this department, we coded three realities of students' expectations which are: The capacity of an Electrical engineer, the capacity of a Telecommunication engineer, and the capacity of an inventor. In a general manner, the first category of students want to acquire all the necessary competences that could permit them function in the domain of electrical. The second category of students want to acquire all the necessary competences that could permit them function in the domain of telecommunication. The third category of students, all of whom belong to the first and second categories, want to acquire the competences of a good mastery of those various domains of engineering so as to be inventors.

Table 11: The achievement of Students' expectations in Electrical and Telecommunication department

Students	***The capacity of an Electrical engineer***		***The capacity of a Telecommunication engineer***		***The capacity of an inventor***	
	Achieved	***Not achieved***	***Achieved***	***Not achieved***	***Achieved***	***Not achieved***
Level 5	9	-	12	-	1	4
Level 6	6	0	7	0	2	3
Level 7	1	0	-	-	0	1
Level 9	-	-	1	0	1	0
Total	16	0	20	0	4	8
Total of the achieved =		40 = 83%	Total of the non-achieved =			8 = 17%

Source: Field data, 2023.

From the above table, we can discover that the majority of students achieve their expectation and the minority of students didn't achieve their expectations. But as for those who want to achieve the capacity of an inventor, the majority are those who haven't achieve their expectations while the minority are those who have achieved their expectations. We can equally identify that none of the first two categories haven't achieve their expectations. Which means, at the level of the first two categories, all students are satisfied except at the level of inventor.

4.1.2. The expected competences of the training offer and their achievement

From our observation on the notes and interview with the administrators and lecturers, we were able to code some competences on the expectations of each of the departments in terms of the competences expected to instil in students at the end of their studies. For the verification of the achievement of these competences, we administer questionnaires to students of the first and second circles and interview with the third circle (doctorate students)

4.1.2.1. The expected competences of the training offers of Philosophy department and their achievement

As for Philosophy department, we coded the following competences: To be critical and logical in thought, to have a rigorous and scientific mind, to have the capacity of problem discovery and provide solutions, the capacity of contextualisation and of a systematic (methodical) presentation of contents and the ability of making rational decisions and orient oneself in various domain of life. These, according to one of the lecturers, is the general expected competences, which are to be applied in various specialties which are Ethics and Political philosophy, Epistemology and Logic, History of philosophy and African Philosophy, and Ontology and Metaphysics. The possession of all the above mentioned competences, in turn make student a specialist in that domain of speciality in terms of job market across the globe.

Table 12: The achievement of the expectations of Philosophy department

Expectations of training offers	***Undergraduate students (level 3 & 4)***			***Masters students (level 5 & 6)***			***Doctorate students (level 8)***		
	yes	***Some extent***	***No***	***yes***	***Some extent***	***No***	***yes***	***Some extent***	***No***
Critical and logical thought	4	31	3	6	5	3	2	0	0
Rigorous and scientific mind	3	23	8	6	5	3	2	0	0
Philosophical Problem discovery	1	19	14	2	11	1	2	0	0
Providing philosophical solutions	0	24	10	1	8	5	2	0	0
Contextualisation and systematic (methodical) presentation of contents	0	8	26	0	6	8	2	0	0
Rational decisions and self-orientation	7	18	9	9	5	0	2	0	0
Total of occurrences	15	123	70	24	40	20	12	0	0
The percentage of each category:	8%	63%	36%	28%	48%	24%	100%	0%	0%
Achievement percentage:	Achieved		17%	Some extent		53%	Not Achieved		30%

Source: Field data, 2023.

From the above statistics, it show that the majority of students think that to some extent, they achieve the various competences. The phrase, “to some extent”, denotes uncertainty and as such, it portrays that high percentage of students are not certain of acquiring the competences the department aimed at instilling in them. Also, it equally shows that the minority of students believe to have achieved the various competences and most of them belong to the third and second circles. It equally show the competences are much better achieved in the third circle as hundred percent of them approved to have achieved the competences. The outcomes, obviously, is a correspondence with the programming of the training offers as disclosed above.

The programme, according to what we gathered in the field, shows that the department aimed at introducing the level one, two and three students into the different aspects of Philosophy starting with the primary aspect of the above mentioned competences. The master students are deepen into the various aspects of Philosophy and specialties with the fully introduction into the above mentioned competences while the doctorates are taking fully into becoming a master in their various domain of specialty and of the above mentioned competencies. But from our interview and questionnaires with students, we discovered that the undergraduate students were not informed or aware of the competences expected of them at the end of the training offer (degree programmes)

4.1.2.2. The expected competences of the training offers of the department of Electrical and Telecommunication Engineering and their achievement

The department of Electrical and Telecommunication Engineering has two specialties namely, telecommunication and electrical engineering. Telecommunications engineering is the branch of engineering that deals with the design and operation of electrical communications systems which includes both wired and wireless systems. While electrical engineering on its own part, is the branch of engineering that deals with the design and operation of electrical systems. The department has two stages of study namely, conceptual and practical: conceptual is for the first two years students while practical commence as from year three upward. In this department, we coded the following competences as presented in the table below.

Table 13: The achievement of the expectations of Elect. And Telecom. Department

Expectations of training offers	**Engineering students** *(level 5)*			**Masters students** *(level 6 & 7)*			**Doctorate students** *(level 9)*		
General Competences	***yes***	***Some extent***	***No***	***yes***	***Some extent***	***No***	***yes***	***Some extent***	***No***
Skilled in Maths and Physics	8	13	0	12	2	0	1	0	0
Skill on VoIP and VoIP enabled device	5	14	2	6	8	0	1	0	0
Understanding and operating various types of networks: IT support skills	2	19	0	5	9	0	1	0	0
Engineering design and capacity	12	9	0	9	5	0	1	0	0
Understanding and operate telephony	14	7	0	10	4	0	1	0	0
Understanding and building of Data	18	3	0	12	2	0	1	0	0
Skills on the use of Fibre optics & cable	19	2	0	12	2	0	1	0	0
Technical support ability to customers or other users	17	4	0	12	2	0	1	0	0
Project Management: Planning, budgeting and installation	16	5	0	14	0	0	1	0	0
Installation and maintenance ability	6	15	0	11	3	0	1	0	0
Associate Creative Director skills	8	7	6	4	10	0	1	0	0
Proficiency with Matlab: A graphical programming for design performance	3	13	5	8	6	0	1	0	0
Mastering of Programming Languages (C, C++, VHDL and HDL etc.)	16	5	0	12	2	0	1	0	0
Sub-total of occurrences	146	116	13	127	55	0	13	0	0
The occurrence percentages:	53%	42%	5%	70%	30%	0%	100%	0%	0%
For Telecom engineer specialty	***yes***	***Some extent***	***No***	***yes***	***Some extent***	***No***	***yes***	***Some extent***	***No***
Understanding and Constructing telecommunication networks	10	2	0	8	0	0	1	0	0
Developing and managing wireless networks	3	7	2	6	2	0	1	0	0
Designing Unified Communications	0	10	2	3	5	0	1	0	0
Sub-total of occurrences:	13	19	4	17	7	0	3	0	0
The occurrence percentages:	36%	53%	11%	71%	29%	0%	100%	0%	0%
For Electrical engineer specialty	***yes***	***Some extent***	***No***	***yes***	***Some extent***	***No***	***yes***	***Some extent***	***No***
Understanding, designing, building and managing electrical system	9	0	0	6	0	0	-	-	-
Electrical troubleshooting	9	0	0	6	0	0	-	-	-
Test Engineering: skills for quality assurance and quality control	0	9	0	4	2	0	-	-	-
Sub-total of occurrences:	18	9	0	16	2	0			
The occurrence percentages	67%	33%	0%	93%	7%	0%	-	-	-
The total of occurrences	177	144	17	160	64	0	16	0	0
The Achievement percentage:	Achieved		60%	Some extent		36%	Not Achieved		4%

Source: Field data, 2023.

From the above statistics, it show that the majority of students in both circles believe to have achieved the various competences, while a little majority of students think that they didn't

achieve all the competences. Though there is exception at the specialty level, the specialty of telecommunication to be precise, where the majority of students think that to some extent, they have achieved the various competences.

4.1.3. The expectations of LMD system and their achievement

From what we have illustrated in chapter one (1.4.3.) above, the objectives, the action lines and the agenda of LMD system also known as BP in Anglo-Saxon subsystem of education, as presented by Vuban, can be perceived from three angles namely the EHEA, the CEMAC and Cameroon Ministry of Higher Education (MINESUP) and our main concern here, is those of MINESUP. First and foremost, Cameroon Ministry of Higher Education remarked that one of the objective of LMD system is to harmonise the dual-degree structure that was in function in Cameroon higher education and addition to this, are three broad and nine specific objectives. The three broad objectives of LMD system in Cameroon Higher Education are to enhance social, cultural, and human development through senior staff training with a strong sense of citizenship and respond to the challenges of the Millennium from both Central African sub-regional and national levels: To ensure national economic development and graduate employability: And to promote research to aid outreach in partnership with the private sector.

The specific objectives of LMD system in Cameroon include: 1) Ensuring that training offers are internationally flexible and comparable: 2) Fostering student mobility: 3) Ensuring certificate equivalences: 4) Fostering understanding of training grades and levels of professional integration: 5) Fostering the possibility of professional integration among students by establishing efficient applied and academic disciplines: 6) Promoting transversal skills including mastery of ICT and modern languages: 7) Developing new methods of teaching while integrating distance learning, alternating training, electrical (e-learning) and ICT: 8) Instituting reforms in teaching programmes to ensure diversification of training courses in potentially lucrative fields; and 9) Forming a new generation of productive graduates who can adapt in a fast dynamic global context (Ministry of Higher Education, 2007, pp. 2 – 3).

From the first and three main objectives of LMD as set by MINESUP and from observation, we can confirm to some extent, the realisation of the first objective but not the three main objectives because as demonstrated in the problem that led to this research, the first and the second of the main three are not achieved, which is the reason for this research. From what has been presented in the above chapters, in terms of the other nine objectives, we can deduced that number

two and three can said to be achieved, number one, four, five, six, seven and eight are controversial because there is no harmony in their implementations. From the discoveries above, it shows that they are implemented in some domain while in others, they are not and with the absent of Quality Assurance, their harmonious implementation remain a problematic. Thus, to some extent, they are not achieved and the non-achievement of these entails the non-achievement of the ninth.

4.1.4. Cameroon higher education policy expectations and their achievement

Higher education is a national priority that the State organises and controls through the Ministry of Higher Education, and according to the policy put in place, *the higher education realm shall be assigned a basic mission of producing, organizing and disseminating scientific, cultural, professional and ethical knowledge for development purposes* (The Republic of Cameroon, 2001). According to the University-Industry Partnership Charter *the universities are assigned two additional missions: counselling and professional integration of students* (Doh B. and Doh P., 2016, p. 127). Thus, it shows that the principal mission of State's Universities on one part, consists of innovation, research and development through counselling and orientation, diffusion and transmission of knowledge and professional integration of students. On the other part, it consist of ensuring the production of competent human capital of high level, in respect to their offers of formation and should accord with the market workforce demand (Messanga, 2020, p. 47). That is to say, higher education is mainly to produce productive graduates capable of bringing about development in all aspects and domains of life.

However, though there are certain achievement on the area of research, diffusion and transmission of knowledge but from what has been discovered above, to some extent, the mission of ensuring the production of competent human capital of high level, in respect to their offers of formation and suiting with the market workforce demand, is quite limited. Thus, can said not to be achieved because of lots of contrariety in the formation system (LMD system)

4.2. THE ANALYSIS OF LMD PRODUCTION IN TERMS OF PRODUCTIVE GRADUATES

The breaking down of the comprising issues, involving the production of graduates capable of assisting in bringing about sustainable development in the country, shall be the focus of this subchapter. The production intended here, is not the quantitative aspect of production but rather, the qualitative aspect of production in terms of LMD system formal production process. This subchapter therefore, aimed at disclosing the effective and ineffective aspects of the various

graduate production process of the selected departments as well as their comparison. This in turn, will enable the determination of the state of the LMD system in the University of Yaoundé I.

4.2.1. The production of productive graduates in Philosophy department

The analysis of the production of capable graduates in Philosophy department, will be done in two perspective namely the positive and the negative aspects. The positive perspective of the production process of the LMD system, are the effective aspects which could permit the production of capable graduates and on the other hand, the negative perspective are the ineffective aspects which could jeopardised the production of capable graduates. The various analyses are respectively presented below.

4.2.1.1. The Effective aspect of the production process

From what is portrayed above, in terms of the strong-point aspect of graduate production process in Philosophy department, the structure of the production process can said to respect the structural reform of LMD system. This can be seen from the presence of the three circle degree programmes and the structure of the degree programmes into semesters and Teaching Unites (TU) in respect to ETCS. The partitions of the TUs into different domain of competences is a further merit on the organisation of the degree programmes. Also, the presence of evaluation mechanism, to some extent, can equally said to follow in accordance to the provision of LMD system such as formative and summative assessments and the credit value system (ETCS) in terms of grading. Though diagnostic assessment mechanism is absent and the focus of the formative assessment is deviated from its right purpose of weighing student learning process.

In terms of the teaching-learning process of LMD system, the teaching and guidance process, the quality of instructional experience, and the follow-up process of students with academic project to realise at the end of their studies, can said to base on Student-Centred Learning and Teaching Ecosystem (SCLTEs). That is to say, teaching based on the use of modern pedagogical techniques taking learners as adult actors, responsible for their training. This could enable students to become an active learner through the importance given to personal work, individual tutoring and guidance, an effective and continuous initiation to documentary research and to scientific investigation, and the provision of course materials. Equally, Students, to some extent, are disposed with some conducive and available means of studies and research as well as conducive evaluation programmes, even though with some flows in the process.

4.2.1.1. The Ineffective aspect of the production process

To begin with, the leaving out of students in the implementation of the LMD system and in the structuring of the training offers, is a violation to the dynamic aspect of LMD obstructing the aim whereby the system seeks to make students fully adult actors responsible for their training and supporting them in acquiring knowledge, skills and competences that best meet their self-development goals. There are three aspects of LMD that are meant for this purpose namely, the participation of student in the implementation of the system, structuring of their training offers (the TUs) and teaching-learning process basing on SCLTEs. Thus, two aspects are left-out with the consideration of only one aspect and as such, destabilised the dynamism of the system in terms of producing competent and capable graduate that could bring about the sustainable development.

Also, the insufficient time provision for the workload, lack of coverage of classroom teaching-learning in terms of credit values as seen in the second sub of chapter two, and the training offers not reflecting or involving all the characteristics of LMD training courses, violate LMD prescriptions in terms acquisition of competence. When the training offers don't involve all the characteristics of LMD training courses, it shows that the aim of acquiring diversify competence are not fully respected and as such, limiting the competence students are supposed to acquire in their formation programme. On the other hand, the amount of time and classroom teaching-learning provided, are of great important for understanding and acquisition of competence (Walberg, 2003, p. 45). That is to say, the credit values are designed according to amount of time, in classroom teaching-learning that could permit students acquire the expected competences in a TU. So, limitation in these aspects are violation to the credit value system and equally result to limitation in the acquisition of competence.

More so, the total absent of the aspect of professionalization and the limitation of academic project realisation to the second and third circles, dealt a serious blow to the main aim of LMD system which aimed at removing the distinction between academic and professional and bring harmony into the field of education by enabling professionalization to cut across all field of higher education. (REESAO, 2008, m. 4-Ter, p. 3). This is to enable multiplication of opportunities and the acquisition of professional experience before leaving university in all domain of study. In other word, apart from the academic aspect, each degree programme in all domain, supposed to have a professional project to be realised at the end of the study. This aspect is of great important in LMD

system and leaving it out is a big violation and corruption to the system. This is the case in Philosophy department and is a big obstruction to the production of competent graduates.

Furthermore, the class-size, and the incoherent reality between most students' behaviour and the requirement of LMD, are obstructions to the production of competent graduates. The aspect of class size that could enable free interaction between the lecturers and students and the participation of all students in the class teaching-learning process, is clearly a major issue as from level one to three in Philosophy department. According to the theory of educational effectiveness and ineffectiveness, large class-size is an increase in the quantity production of graduates and a decrease in the quality and as such, is an obstruction to the production of competent graduates. Also, the behaviours of the majority of students are not corresponding to the requirements of the LMD system in terms of their mind sets, disposal and motivations to studies as seen above (3.3.). Students being the centre of teaching-learning, make them the auto-determinant of themselves and as such, render this aspect a huge barrier to the production of competent graduate

Lastly but not the least, the absent of diagnostic evaluation and orientation, lacking in the provision for class teaching-learning and of evaluation as well as the concentration of evaluations, are equally obstructions to the production of capable graduates. Diagnostic evaluation enables the discovery of students' aptitudes for the purpose of better orientation which in turn could enable the students develop better aspirations and better direct their studies toward the acquisition of the competences that suit their aptitudes and aspirations. Thus, the absent of these aspects is a violation to the LMD background process of producing competent graduate. On the other hand, the concentration of evaluation base on sanction and selection as seen in student performance and lack of provisions as disclosed above. Whereas under LMD, evaluation primarily is to enhance and not to sanction or select. In other word, all aspects of LMD, including evaluations, are basically for learning and acquisition of competences and for the success of students. That is to say, under LMD, success is maximised in such a way that students are considered the auto-determinant of their studies whereby other academic actors are mainly to orient and direct them towards the determination and achievement of their determinations.

4.2.2. The production of productive graduates in the department of Electrical and Telecommunication Engineering

The analysis of the production of graduates here, will equally be done in two perspectives as presented above. That is, the positive or the effective aspects which could permit the production

of capable graduates and on the other hand, the negative or the ineffective aspects which could jeopardised the production of capable graduates, as will be respectively presented below.

4.2.1.1. The Effective aspect of the production process

Just like in Philosophy department, the structure of the production process can said to respect the structural reform of LMD system. And in terms of the teaching-learning process of LMD system, the teaching and guidance process, the quality of instructional experience, and the follow-up process of students with academic project, can said to base on Student-Centred Learning and Teaching Ecosystem (SCLTEs). Also, there is sufficient time provision for the workload coverage and of classroom teaching-learning, in terms of credit values as seen in the second sub of chapter two, and the training offers reflecting or involving almost all the characteristics of LMD training courses. All the above mentioned aspects, respect LMD prescriptions in terms of acquisition of competence. When the training offers involve all the characteristics of LMD training courses, it shows that the aim of acquiring diversify competence are fully respected and as such, could lead to the acquisition of the competences students are supposed to acquire in their formation programme. On the other hand, the amount of time and classroom teaching-learning provided, are of great important for understanding and acquisition of competence (Walberg, 2003, p. 45).

Furthermore, the class-size, sufficient provision for class teaching-learning and the coherent reality between most students' behaviour and the requirement of LMD, could enable the production of competent graduates. The aspect of class size that could enable free interaction between the lecturers and students and the participation of all students in the class teaching-learning process, is moderate in most of the classes of the department. According to the theory of educational effectiveness and ineffectiveness, such a class leads to increase in the quality and decrease in the quantity and as such could enable the acquisition of competence. Also, the behaviours of the majority of students here, correspond to the requirements of LMD system in terms of their mind sets, disposal and motivations to studies as seen above (3.3.). Students being the centre of teaching-learning, make them the auto-determinant of themselves and as such giving the department the high possibility of producing competent graduates.

More so, the total presence of professionalization and professional project realisation, respect the professionalization aspect of LMD system but not the main aspect that seeks to remove the distinction between academic and professional aspects of education. This is because educational activities here, totally base on professionalization with the exclusion of academic

aspect and this violate the main aim of bring harmony to bath educational aspects (ADEA et REESAO, 2008, m. 4-Ter, p. 3). This is to enable multiplication of opportunities and the acquisition of professional experience before leaving university in all domain of study. In other word, apart from the academic aspect, each degree programme in all domain, supposed to have a professional project to be realised at the end of the study. This harmonisation is of great important in LMD system and leaving one aspect out is a big violation and corruption to the system.

4.2.1.1. The Ineffective aspect of the production process

To begin with, the leaving out of students in the implementation of the LMD system and in the structuring of the training offers, is a violation to the dynamic aspect of LMD obstructing the aim whereby the system seeks to make students fully adult actors responsible for their training and supporting them in acquiring knowledge, skills and competences that best meet their self-development goals. There are three aspects of LMD that are meant for this purpose namely, the participation of student in the implementation of the system, structuring of their training offers (the TUs) and teaching-learning process basing on SCLTEs. Thus, two aspects are left-out with the consideration of only one aspect and as such, destabilised the dynamism of the system in terms of producing competent and capable graduate that could bring about the sustainable development.

In addition, the absent of diagnostic evaluation and orientation and the concentration of evaluation, are equally obstructions to the production of capable graduates. Diagnostic evaluation enables the discovery of students' aptitudes for the purpose of better orientation which in turn could enable the students develop better aspirations and better direct their studies toward the acquisition of the competences that suit their aptitudes and aspirations as seen above. Thus, the absent of these aspects is a violation to the LMD background process of producing competent graduate. On the other hand, the concentration of evaluation base on sanction and selection as seen in student performance table disclosed above. Whereas under LMD, evaluation primarily is to enhance and not to sanction or select. In other word, all aspects of LMD, including evaluations, are basically for learning and acquisition of competences and for the success of students as already disclosed above.

4.2.3. The possible comparison of the production of graduates in both departments

The two departments disposed some certain similarities and differences in terms of the production process of graduates. These similarities and differences could be seen in both aspects of effectiveness and ineffectiveness as will be presented below.

4.2.3.1. The similarities in the production process of the two departments

From the above analysis on the effective aspect of graduate production process, both departments are similar in terms of the structure of the production process which can said to respect the structural reform of LMD system as already explained above. Also, the partitions of the TUs into different domain of competences is a further similarity in terms of the organisation of the degree programmes in both departments. Equally, the presence and situation of evaluation mechanism are the same in both department, which to some extent, can said to follow in accordance to the provision of LMD. In addition, there are similarity on the aspects of teaching and guidance process, the quality of instructional experience, and the follow-up process of students with projects to be realised, which can said to base on Student-Centred Learning and Teaching Ecosystem (SCLTEs) in both departments. That is to say, learners are taking in both departments as adult actors responsible for their training as presented above. To some extent, students are disposed with some conducive and available means of studies and research as well as conducive evaluation programmes in both departments, even though with some flows such as the absent of diagnostic assessment mechanism and the focus of the formative assessment deviated from its right purpose of weighing student learning process.

On the aspect of ineffectiveness, we can deduce high misinterpretations of the system in both departments in terms of academic and professional projects and professionalization resulting from Cameroon education policy with an adverse effect on the implementation and production process of LMD in Cameroon higher educational system. Equally, in terms of student participation in the implementation of the LMD and the structuring of their training offers and on the aspect of evaluation which has to do with adaptation process whereby many aspects of the production process are left-out. The leaving out of students in the implementation of the LMD system and in the structuring of the training offers, is a violation to the dynamic aspect of LMD as already disclosed above. In addition, the absent of diagnostic evaluation and orientation and the deviation of the concentration of evaluation toward sanction and selection instead of enhancing learning process as explained above, are common in both departments.

4.2.3.1. The dissimilarities in the production process of the two departments

To begin with, in Philosophy department, there are insufficient time provision for the workload coverage leading to lack of coverage of classroom teaching-learning in terms of credit values as seen in the second sub of chapter two, and the training offers are not reflecting or

involving all the characteristics of LMD training courses, which are not the case in Electrical and Telecommunication department. More so, there is a total absent of professionalization in Philosophy department and academic project realisation is limited to the second and third circles, which are not the case in Electrical and Telecommunication department where professionalization and project realisation cut across all circles but with the total absent of academic project realisation.

Furthermore, there is a high class-size, and incoherent reality between most students' behaviour and the requirement of LMD system in Philosophy department, which on the other hand, are moderate in Electrical and Telecommunication department. Also, there are some lacking in the provision for class teaching-learning and evaluation in Philosophy department which are not the case in Electrical and Telecommunication department where there are enough provision for class teaching-learning and evaluation.

From the above presentations, we can deduce high misinterpretations of the system in both departments in terms of academic and professional projects and professionalization, in terms of student participation in the implementation of the LMD and the structuring of their training offers and on the aspect of evaluation with an adverse effect on the implementation and production process of LMD system. Also, in terms of the absent of diagnostic evaluation and orientation and the deviation of the concentration of evaluation toward sanction and selection instead of enhancing learning process in both departments.

As for Philosophy department, we can deduce failure in the structure of training offer, failure on the aspect of workload coverage in terms of credit value, failure on the aspect of class atmosphere as a result of class-size and provisions, failures on the aspect of students themselves which dealt the final blow as they are at the centre of the production process. This can be seen in their performance which can be considered as side effects. While on the part of Electrical and Telecommunication department, we can deduce some failure on the structure of training offer and the aspect of students themselves.

According to the theory of educational effectiveness and ineffectiveness in the light of LMD, from constantly encountering failures in the implementation, high misinterpretations and negative effects arousing from an educational system, one can deduced ineffectiveness of the education system and as such, cannot said to meet-up with the required output. Therefore, basing on this theory, the production process of graduates in Philosophy department can said to be ineffective and as such cannot produce productive graduates while to some extent, the production

process of the department of Electrical and Telecommunication Engineering can said to be effective and as such, can meet-up with the required output: Can produce productive graduates.

4.2.4. The state of LMD system in the University of Yaoundé I, in terms of producing productive graduates

From the above presentation and analysis, we can see that the implementation and production process of LMD system in the University of Yaoundé I are done in respect to the educational policy that set aside two aspects of education namely, general and professional education. From this, we can deduce high misinterpretations of the system in terms of academic and professional projects and professionalization. These misinterpretations could be traced from Cameroon education policy which, under the LMD system, still maintain the traditional oppositions (such as professional/general, long sector/short sectors and even, professional paths/research paths) in higher education. This aspect of policy had negative effect on the implementation and production process of the LMD system in Cameroon higher education.

As a result of the respect of this policy, the professionalization process is totally out of hand due to the distinction placed in the system which separate the professional aspect of education from the academic aspect whereby, at the stage of project realisation and achievement, the former obtained a professional certificate while the latter obtained academic certificate. Thus, all the aspects of professionalization don't exist in most faculties except in professional schools of higher learning and vice versa and as such rendering professionalization process ineffective.

Also, the implementation and production process of the LMD varies in the University of Yaoundé I depending on the faculty or the school of higher learning in question and the aspect of education (academic or professional) that it operates. Though they have certain realities in common in terms of the production process of LMD system such as the structural reform in terms of degree circles, semester and credit value. Also, the exclusion of student participation in the implementation of the LMD and structuring of their training offers and on the aspect of evaluation whereby diagnostic evaluation and orientation are ignored, the concentration of evaluation is twitted towards sanction and selection instead of enhancing learning process.

Furthermore, it can be seen from the above analysis that due to lack of provisions for class teaching-learning, the time given for the workloads of the degree programmes in terms of credit value, are not sufficient for the coverage of the workloads. This can said to be common in faculties where the number of students are higher than the provisions and as such, resulting to a large class-

size and lack of moral class atmosphere. Also, the pattern of student learning process can equally said to be greatly lacking on the area of students' aspirations, motivations of students' choice of study and achievement and disposition of students to their studies as well as the disposition of conducive and available means of studies and research.

All the above are corruptions to the system of LMD which seeks, as its main concentration, to harmonise both academic and professional aspects of education and to make students the centre and master of their teaching-learning process with the value of autonomy and responsibility. It equally aimed at making the production process of higher education dynamic and flexible as well as giving students the chance of having both theoretical and practical experience so as to instil in them what Giddens (1979, p. 5) called *discursive consciousness and practical consciousness*. In the theory of Competence mobilised here, Perrenoud (1999) refers to this as the stage of competence whereby learners carry out task in complex situation without difficulties. As seen in the above finding, the practical aspects which could lead to what Giddens (1979) called *practical consciousness* are not at all effective as a result of the traditional opposition that is maintain in the system. This portrays the impossibility of producing graduates with the expected competence.

Also, from the aspect of higher educational policy and curriculum, it can be seen that state universities, which includes the University of Yaoundé I, are maintaining the same teaching values for the past 20 to 25 years now. This portrays that since then, the state universities are producing the same category of graduates, which infers that the state Universities are out to answer the question: "what are we good at?" Whereas under LMD system, Universities are meant to answer the question: "What are we good for?" because the issue is not what they are able to give but rather, how they could satisfy the society needs and requirement. (Noorda et al., 2020, p. 364). This violates and obstructs the LMD system's aim of rendering the production process of higher education dynamic and flexible and leading to what Bourdieu and Passeron (1990) referred to as "habitus" whereby the process of producing graduates has become a habit and can only be repeating itself.

In terms of what has been demonstrated above, the theory of educational effectiveness and ineffectiveness mobilised for this research, holds that misinterpretation, failures and side effects is a system of education, renders the system ineffective and are obstacles to the realisation of its output. Thus, judging from this theory and that of competence, even though there are some aspect of LMD system that are effective in the University of Yaoundé I, most especially in professional

higher institutes of learning, but as for producing productive graduates, the state of the production process of LMD system in the context of Cameroon higher education and precisely in the University of Yaoundé I, to a greater extent, can said to be ineffective.

4.3. OBSTACLES TO LMD PRODUCTION PROCESS OF PRODUCTIVE GRADUATES

The discovery of the problems that lead to situation permits the resolution of the situation and advancement in life. It is in this light that Gaston Bachelard holds the view that a scientific spirit is the ability of constant discovery which in turn permits new revolutions. The presentation and analysis right from the first chapter to this fourth chapter portrays ineffectiveness in the deployment and implementation, function and production process of LMD system in the context of the University of Yaoundé I in terms of producing productive graduates. This shows that there are obstacles to the realisation of the LMD system production process and envisaged graduates who could be capable of bringing about sustainable development. That is to say, there are aspects in the higher educational system that are obstructing the production process of the LMD system in terms of producing capable and competent graduates as will be disclosed below.

4.3.1. Obstruction from the higher education system and policy of Cameroon

From the above analysis, it can be seen that Cameroon education system and policy placed a distinction between professional and academic or general education and it is maintained in the application of the LMD. This means that Cameroon does not apply the LMD as thought by its founders since the LMD system in the context of Cameroon higher education is deprived of harmonising the professional and academic degrees as it is clearly perceptible even in the process of formation. This normally contradicts the purpose of LMD system which aimed at closing or harmonising these aspects of higher education through the process of professionalizing all training offers (field of studies). Thus, the production process aimed at by LMD is that whereby certain necessary numbers of traditional oppositions such as professional and general education, long term and short term and even, professional paths and research paths are harmonised to create a path under which the public are trained to acquire diversify competences (ADEA et REESAO, 2008, m. 4-Ter, p. 8). This can never be a reality in the LMD system that is in function in Cameroon higher education as a result of this distinction and cannot produce the kind of competent graduates the reform aimed at producing.

It is from the above perspective that Bomda, et al., (2022, p. 1), quest to know the pertinent of LMD system in terms of its mission of professionalising academics and of closing the gap between professional certificates and those of academics. In this work, they discovered that workers from professional higher institutes are more competent in the field than those from general education thus, showing the vagueness of such mission of LMD in Cameroon. Therefore, the presence of these traditional structures, which are obvious in Cameroon higher education system, are obstacles to the full function of LMD system in the University of Yaoundé I because it is obstructing the professionalization harmony and process of the system.

4.3.2. Obstacles from the adoption process of LMD system to Cameroon higher education

The selective nature of the LMD system that is in function in Cameroon, diffused from CEMAC region, poses a problem on the full function of the reform in question as seen in chapter one. The adoption of LMD system at the CEMAC level, based on a selective process which started with France who is signatory member of the Bologna Process and then extend to CEMAC member states through diffusion. Cameroon being a signatory non-member state of the Bologna Process, has many unresolved quality concerns in its Higher Education system which still exist because the Bologna Process has been adopted on a selective basis whereby some action lines have been adopted while others are neglected or have not been adopted: for instance Quality Assurance (QA). This refers to Quality Management body with principles as a workable strategies used in solving quality problems in Higher Education.

In Cameroon Higher Education, Quality Assurance is a neglected pillar of the Bologna Process because it has not featured among any of the action lines in the CEMAC context of adoption. This makes the LMD system that is in function in CEMAC region and in the University of Yaoundé I in particular, an event instead of a process (Vuban, 2019, p. 134). This is visible in the static structure of the state university curriculum, the training offers and degree programmes as well as the exclusion of students in the implementation of the LMD and the formulation of their training courses as disclosed above. This selective nature of LMD that is in function in most of Cameroon higher education and in the University of Yaoundé I to be precise, is an obstruction to the dynamism of LMD system and as such could not permit the production of the kind of competent graduates the reform aimed at.

4.3.3. Failures in the implementation mechanism of the LMD system

On the aspect of implementation, there are three factors obstructing the production process of LMD system in terms of producing the envisaged competent graduates. The first is the exclusion of students in the implementation of the LMD and the formulation of their training courses which is the main centre and dynamic aspect of the LMD system as already discussed above. Thus, this factor is obstructing the aim whereby the system seeks to make students fully adult actors responsible for their training and supporting them in acquiring knowledge, skills and competences that best meet their self-development goals. In other word, it forces the desired knowledge, skills and competences on student and equally prevent them from going after other competences that they could desire for their self-development goals.

The second factor is the lacking in provisions for teaching-learning: That is, lack of human, economic and academic resources as pointed out in chapter one. This second factor equally involve time factor whereby due to the congestion of students with a limited provisions, class teaching-learning are often reduced to limited days and time for the coverage of the degree programmes. This limited days and time provided for the coverage are not often enough for the class teaching-learning that could be equal to the credit value attributed to the TU and the degree programme as seen above in chapter two. The lacking in provisions and insufficient time for the class teaching-learning obviously shorten the amount of knowledge, skills and competences students are to acquire in a normal full coverage of workloads that is equal to the attributed credit value.

The third factor is the lacking in the professionalization mechanisms such as professional projects and work-study programme, student orientation towards the vast market, diversification of competence, and activities on school campus for the professionalization of students even in the professional schools of higher learning. This shows that professionalization of higher education and students desired by the government has never been effective as a result of the absent of a well-defined curriculum that accord with job markets and the socioeconomic needs of the country for its growth and development (Guiaké and Zhang, 2019, p. 125). In other word, the ignorant of this aspect often lead to the acquisition of competences that may not accord with the job markets and the socioeconomic needs of the country for its growth and development.

4.3.4. Violations in the teaching-learning process of the LMD system

Violations obstructing the LMD envisaged production of competent graduates, can be seen from four perspective which are diagnostic evaluation and orientation of students, moral class

atmosphere, the sphere of students having individual time with lecturers, and student pattern of learning. The aspect of evaluation ignore diagnostic evaluation and orientation which supposed to build the background studies of students to enable the discovery of students' aptitudes for the purpose of better orientation and development of student aspirations. Also, the concentration of evaluation is twitted towards sanction and selection instead of enhancing student learning process and to better direct their studies toward the acquisition of the competences that suit their aptitudes and aspirations. Unfortunately, the leaving out of this aspects of evaluation is an obstruction to the production of the envisaged competent graduates as students are forced to go after what is beyond their aptitude as a result of their ignorant to other possibilities.

More so, lacking in moral class atmosphere such as large class-size and low student acquaintance to the class teaching-learning, is an obstruction to the envisage production of competent graduates. Where the number of students are higher than the provisions is tantamount to result to a lacking in moral class atmosphere which includes a large class-size, elimination of individual time with lecturers and low student acquaintance to the class teaching-learning. These could result to lack of class democratic atmosphere that could enable equal opportunity and freedom of learning in class, free interaction between the lecturer and students and the participation of all students in the class teaching-learning process.

Also, the behaviour of most students not rhyming with the pattern of student learning process as set by LMD, is a great obstruction to the realisation of the LMD system envisaged production of competent graduates. This involves students' aspirations, motivations of students' choice of study and achievement and disposition of students to their studies as well as the disposition of conducive and available means for personal studies and research. The fact that students are the ones to be transformed in the productions process put them at the centre of the possible achievement. Thus, lacking in this domain stands as a great obstruction to the production of the envisaged competent graduates.

4.4. PROPOSED SOLUTIONS TO THE REALISATION OF PRODUCTIVE GRADUATES

The above discovery of obstructions hindering the production process of LMD system in the context of the University of Yaoundé I, in terms of producing competent graduates that could enhance sustainable development in the country, call for solutions. It does not infer that the University of Yaoundé I does not produce competent graduates, but rather, most of the produced graduates are not vest with the envisaged knowledge, skills and competences that could permit

them to achieve their life in every circumstances and that could accord with the job markets and the socioeconomic needs of the country for its growth and development. In other word, those who possess such competences are far limited to those who don't and as such, bringing imbalance and stagnation in the development process. Most of the problems leading to this situation result from the production process of human capital as disclosed above. Thus, the discovery of the problems is a great path that could lead to the discovery of solutions.

These solutions will be proposed in line with the areas of the discovered problems. Therefore, we will be proposing solutions on the area of educational system and policy, the area of professionalization, the area of provision and evaluation and on the area of student pattern of learning process as will be seen below.

4.4.1. Proposed solutions on the area of educational system and policy

The first necessary solution to the obstructions, is a call for the amelioration of the higher education system and policy of Cameroon, which is still holding unto traditional opposition in education. There is a need of uprooting by harmonisation, all these oppositions such as, academic or general education and professional education, research path and professional path, integration and non-integration into public service. There harmony could enable students to acquire diverse competences that could permit them achieve their life in every circumstances and that could accord with the job markets and the socioeconomic needs of the country for its growth and development. Thus, to set-up a promising production process capable of producing envisaged productive graduates, it will be necessary to drop the traditional oppositions in education by allowing professional projects and professionalization to cut across all training offers in all domain of higher education without exceptions (ADEA et REESAO, 2008, m. 4-Ter, p. 3).

Also, there is a need of employing LMD system in its full function without neglecting any aspect of it. The adoption of the LMD system was done in a selective manner which is maintained till present leading to a static or fixed function of the system. Whereas the system is not made to be static but rather, it is a process, flexible and dynamic. The selective nature of its adoption, put aside the Quality Assurance (QA) aspect which manage the quality output of the system with policies that could solve quality problems in Higher education. Thus, for the full function of LMD system, there is a need of inclusiveness in the education policy making and as seen in chapter one, an effective educational policy must be inclusive in all ground in such a way that no category of those concern are left-out. Such is the case even in the implementation process whereby the reform

need to be adopted in full. LMD is a system that is inclusive and requires inclusiveness for its full function and it is the QA that enables the system to be and remain a process with constant amelioration of its curriculum in accordance to the context, space and time.

Furthermore, as already seen above, there is a need of revising state university's curriculum in the process of inclusiveness and in the light of LMD system. Some educational actors are not taking into consideration during the adoption and implementations of the LMD reform whereas, as far as LMD is concern, curriculums requires constant revising through QA involving all educational actors concern. In this light, students are educational actors whose involvement in the implementation process and revising of curriculum is a necessity. In a clear tone, an effective implementation of LMD system does not only involve students in the implementation process but it equally make them the author of their training offer. That is to say, their involvement is not limited at the level of the choice of faculty, department and the specialty they wish to study but it goes beyond that to include the formulation of the TUs that make up their training courses and the curriculum. Also, the need of harmonising syllabus in both subsystems. This stage of revising the curriculum and inclusiveness in all the process, is what makes the flexibility and dynamism of LMD system and is necessary for its effectiveness and for the production of the envisaged competent graduates capable of enhancing sustainable growth and development in the country.

4.4.2. Proposed solutions on the area of professionalization

As pointed out by Guiaké and Zhang (2019, p. 125), professionalization has never been effective in Cameroon as a result of the absent of a well-defined curriculum, which means that there is a need of a well define curriculum on the aspect of professionalization in higher education. But the LMD system mobilised for higher education, has a define guide for professionalization which need to be taken into consideration. This guide can be analysed into four main parts which are, student orientation towards the vast market, having professional projects and work-study programme, diversification of competence, and activities on school campus for the professionalization of students. On the part of student orientation towards the vast market, institutions are required here, to provide the new students with academic tutors or advisers who could evaluate and orient the student towards all the options and opportunities in the job markets and professional project that accord with the student aptitudes.

Also, on the diversification of competence, it means that the structure of the training offer need to be diversified towards the acquisition of competences in different social dimension as well

as acquiring a transversal competence which can cut across many domains of life. That is, training courses should be able to enable students grasp the convergences that exist between the training paths and their professional projects and should base on the required competences, working conditions and the job market in the global sense and not limiting at the social context of students. Thus, as presented in the Bologna Process Anniversary round table:

> *There is a growing need for the engagement of the universities with societies towards the creation of a globally sustainable communities, highlighting the central role of students as trackers of the success as a part of the quality assurance committees (Noorda, et al., 2020, p. 363).*

In other word, the focus of universities is no longer on what they are good at, but rather, on what they are good for. That is to say, the issue is not what they are able to give but rather, how they could satisfy the society needs and requirement. That is, society needs should characterise the training offers of higher education as presented above, which is the characteristics of LMD training offer.

In addition, having professional projects, and work-study programme accompanied with company-university alternatives are of great necessity in terms of producing productive graduates and professionalization of students cannot be achieved without these aspects. In this context, it is a necessity to introduce into the training offer, course teaching units for the preparation of professional projects, for the knowledge of professional environments, and for knowing how to look for a job, to prepare for a job interview and to integrate into the job market. That is to say, the training plan should take into account the logic of the tutored projects by students having a professional project. Also, the evaluation of the internships in capitalisable credits through the creation of company visits and internships of various kinds and the knowledge on how to integrate into the job market through teaching units that enable students to know how to look for a job, to prepare for a job interview and to integrate into the job market.

Furthermore, activities on school campus for the professionalization of students are another vital aspect of student formation and information towards the achievement of their training. To have an effective activities on school campus for the professionalization of students, the following needs to be taken into consideration: The need for student association and mutual funds, managing certain aspects of university life: There should be an association of ex-working students who often come and share their experience with current students on how they succeed and guide them towards their own success: Students should be recruited as instructors or tutors and in other areas

of the University affaires: The need for business office on campus providing information on companies and their job offers: There should be a committees made up of teams of academics and representatives of the world of work and economic operators for better orientation of students on global job market. Thus, Doh B. and Doh P. (2016, p. 131), asserts: *there is a need for more opportunities for interactions between the university and the socio-professional world to build trust and facilitate collaboration*.

4.4.3. Proposed solutions on the area of provision and evaluation

An effective educational production requires the provision of all education necessities both human, economic and academic resources that could enable the fully accomplishment of class teaching-learning of students in accordance with the credit value allocated to each TU and to the degree programme. In other word, workloads and time to cover the workloads should be equal to the credit value allocated, with all the necessary resources required for their accomplishment. The provisions need to take into an account the class-size and all the requirements needed for the professionalization, orientation and evaluation of students in a conducive atmosphere. The class-size should be determined in such a way that it could permit class democratic atmosphere that enable equal opportunity and freedom of learning in class, free interaction between the lecturer and students and the participation of all students in the class teaching-learning process.

In terms of evaluation and its concentration, diagnostic evaluation and orientation needs to be taken very seriously at the beginning of academic years and semesters to enable the recognition of students who have and those that do not have the necessary aptitude required for the training. It should be taken for learning orientation whereby students are submitted to a training programme that corresponds to their aptitudes and needs following the discoveries made during the assessment (ADEA et REESAO, 2008, m. 4-Bis, p. 4). on the other hand, formative evaluation should be that whereby all students are evaluated according to the same criteria with the aim of measuring the follow-up of students and revealing the student's degree of mastery of the envisage knowledge, skills and competences. And finally, evaluations need to be based on enhancing students' learning and acquisition of knowledge, skills and competences and not towards sanction and selection.

4.4.4. Proposed solutions on the area of student pattern of learning

Student pattern of learning refers to the probably manner in which students, whether pre or post graduate, must behave in order to meet up with the requirements of LMD system. In other word, the behaviour students must acquire in order to achieve the LMD envisaged knowledge,

skills and competences. To this effect, students are to follow the path of the following axes: getting to know oneself in terms of aptitude, aspiration and vision, having motivations towards the vision, readiness to get information and necessary means of studies and the disposition of students to their studies (ADEA et REESAO, 2008, m. 4-Bis, p. 6).

To know oneself in LMD system is very necessary, and it has to do with the mastery of one's tastes, aspirations, difficulties and academic assets under which students are to develop a professional project right from the last years of high school or during the process of progressive orientation in series and options. Thus, students should be able to express them to their academic advisors or supervisors because it is from this professional project that the student's training offers are to be derived or formulate. The professional project is to be gradually carried out in the higher educational degree process under a supervisor who will then guide its realisation.

For an effective learning, there must be a reason behind the learning which has to do with the interest that leads to the learning and which obviously directs the student's training and learning paths. This cannot go without discipline of oneself which keeps the student away from distractions and instil challenging spirit in the student's learning ability respectively. It is from this perspective that Walberg (2003) holds the view that the most important and vital aspects of learning are the opportunity and willingness to concentrate ones learning capacity. Students lose concentration here when what they are engaging on seem to be forced on them that is why they are to be involved in the formulation of their training courses so as to accord with their aptitudes.

Preparation to take multiple learning paths, is an invitation to take ones responsibility at hand, diversify and manage oneself in research. The semesters of LMD system have a limited duration and a students who want to succeed have to start working from the first hour of teaching in LMD system, and have to learn to manage their time well. Students are not to be contented with lessons given by lecturers, if not, they will have difficulties in the area of acquiring the expected competences because teaching-learning process in LMD is designed in such a way that students are expected to know how to use the course materials such as bibliography, hand-outs, online courses, and all the resources that exist including libraries, android phone, computers, Internet, laboratory etc. It equally requires skills in all the fields that has to do with university work such as note taking, formulating ones notes, documentary research in libraries and online and those of computer science. In short, in LMD system students are invited to take responsibility in the completion of their training course. Thus, the learner no longer expects everything from the

lecturer whose duty is to simply guide students in their learning process and as such, gives great importance to personal work requiring disposition (ADEA et REESAO, 2008, m. 4-Bis, pp. 6-7).

From the above perspective, the disposition of students to their studies, is one of the important aspect of learning process which involves having home curriculum (home studying programme) for time management and disposal to the teaching-learning process of the institution. Personal research to improve one's knowledge on the various teaching units is the basic ground of student centred learning and teaching ecosystem (SCLTE) which cannot be achieved without home curriculum. More than in the traditional system, the student must know the requirements of the education he is to receive such as, the important dates, contents of the teaching units, bibliography to browse, evaluation system, and so on. This is because this information, to be taken in several departments, from different lecturers, is different for each student as a result of alternative and free choice teaching units. Thus, students are not to be contented with what others have said, but must also check that their professional project are still adapted to the realities of the job market as their training progresses (ADEA et REESAO, 2008, m. 4-Bis, p. 6).

The above presentation seeks to evaluate and analyse the implications of LMD system in the University of Yaoundé I, in terms of producing productive graduate. The above presentation shows that the expected competencies on the aspect of the department, the LMD system and the educational policy, to some extent, are not achieved. On the other hand, as for the University of Yaoundé I in general, the production process can said to be ineffective in terms of producing the envisaged competent graduates. To this effect, we discovered that there are obstacles from the higher education system and policy that still maintain traditional opposition in education, the adoption process of LMD system as a selective reform that undermine other part of its functions, the implementation of the LMD system in terms of student involvement, provision and professionalization and finally, the teaching-learning process in terms of diagnostic evaluation and orientation, class-size and student pattern of learning. These discoveries enable the proposition of some solutions in accordance to the problems discovered.

GENERAL CONCLUSION

This work aimed at discovering the reason why LMD system, in the context of Cameroon higher education, is not meeting up with the envisaged visions and expectations in terms of producing productive graduates that could bring about sustainable development in the country. Thus, why LMD system, in the context of Cameroon higher education, is not meeting up with the envisaged visions and expectations? How conducive are the context of higher education in the University of Yaoundé I and the diffusion of LMD system in Cameroon, to the effective implementation of the LMD system? What are the state of the implementation of the mechanism and processes of teaching-learning for graduate degree programmes of LMD system in the University of Yaoundé I? What are the implications of the production process of LMD system in the University of Yaoundé I in terms of producing productive graduate?

Our hypothesis holds that LMD system of education, in the context of Cameroon higher education, has not been able to meet up with the envisaged visions and expectations in terms of productive graduates that could bring about sustainable development because of malfunctions in the system. In other word, to a greater extent, the context of Cameroon higher education and the diffusion of LMD system in Cameroon are not conducive for the effective implementation of LMD system because there are misinterpretations and failures in the adoption and introduction of the LMD production. Also, the implementation and the process of teaching-learning for graduate degree programmes of LMD system in the University of Yaoundé I, are ineffective because there are failures and negligence in the implementations and formation process. Equally, the production process of LMD system in the University of Yaoundé I in terms of productive graduates, has a negative implication because it has not been able to meet-up with the expectations of the system in question, the expectations of Cameroon policy for higher education, and the expectations of the department and those of the students.

In this light, this research work has as objectives to know the reason why LMD system of education, in the context of Cameroon higher education, is not meeting up with the envisaged visions and expectations in terms of productive graduates that could bring about sustainable development. To know the effectiveness of the implementation of LMD system in the context of Cameroon higher education, precisely in the University of Yaoundé I. That is to say, to know if the implementation of LMD system is effective or ineffective. Also, to know the extent to which the teaching-learning process for graduate degree programme under LMD system, in the context

of the University of Yaoundé I, is capable of producing productive graduates that could bring about sustainable development. Equally, to know the implications of LMD reform in Cameroon higher education in terms of productive graduates for the development of Cameroon.

To achieve this research work, LMD referential framework was used, derived from the combined provision of ADEA et REESAO and in combination with the theory of competence and that of educational effectiveness and ineffectiveness. Also, mixed research method was used in such a way that where the collection of required data will be difficult with quantitative method, qualitative is employed and vice versa. Equally Stratified random sampling was used so as to maintain the characteristics of the sampling population and Yaro Yamane's formula was used to determine the size of the samples and proportional allocation was used to get the sample sizes for different stratum and their characteristics. And finally, on the method used, documentary research, interviews, observation and questionnaire techniques were used to collect data, and content, descriptive and comparative analysis were used in the presentation of this work.

This work is partitioned into four chapters. The first chapter aimed at portraying the context of Cameroon higher education and the adoption process of LMD system into Cameroon HE in order to evaluate and analyse their conduciveness for an effective implementation and function of LMD system in terms of the University of Yaoundé I. From the evaluation and analysis made in respect of the theory of competence and that of educational effectiveness and ineffectiveness, we discovered that the context of Cameroon higher education and the adoption process of LMD, are not conducive for an effective implementation and function of LMD system as far as the University of Yaoundé I is concern. This is due to certain obstructive realities in the system such as education traditional opposition and exclusiveness that are still present in Cameroon HE system and policy and the selectiveness in the adoption process of the LMD, which contradict the system. Thus, these realities cannot permit an effective implementation and function of LMD.

To verify the reality of the discovery made in chapter one in terms of effective function of LMD, it calls for the need of evaluating and analysing the implementation state of the mechanisms of teaching-learning process for graduate degree programmes of LMD system in the University of Yaoundé I, which is the focus of chapter two. Our finding in this chapter, portrays that there is a discrimination in the system that set aside professional degrees from the academic ones, the dynamic aspect of the LMD whereby students are allowed to participate in the implementation and formulation of their training offer are excluded, and there is limitation of time provision for the

workloads coverage that violate the credit value. All these contradict the system of LMD which seeks, as one of its main concentration, to harmonise both academic and professional aspects of education and making students the centre of the teaching-learning. Therefore, in respect of the theory of competence and that of educational effectiveness and ineffectiveness, the implementation processes of LMD system in the University of Yaoundé I are ineffective, which is in line with our hypothesis. But the state of the implementation process alone does not totally entail the state of the production process in terms of the envisaged productive graduates thus, the need for the effectiveness of the production process.

Since the teaching-learning processes are the functional aspect that deals with the quality production process of graduates, the Chapter three therefore seeks to evaluate and analyse the effectiveness of the teaching-learning process of LMD system in the University of Yaoundé I. In this aspect, we discovered that there is a problem of large class size and lecturer - student ratio, lacking in the provision and flexibility in the training offer and evaluation, lacking in the pattern of student learning process that violate the dynamic aspect of the LMD, no project realisation in the first circle (undergraduate) and the persistence of the discrimination that set aside professional degrees from the academic ones. All these violates and contradict the system of LMD and as such, in terms of the theory of competence and that of educational effectiveness and ineffectiveness, the teaching-learning process of LMD system in the University of Yaoundé I is ineffective. Even though the teaching-learning process is ineffective, but it may possibly produce the envisaged productive graduates as far as the aims and objectives are achieved. So, this calls for the necessity of verifying the implication of the LMD in terms of producing productive graduates.

It is from the above perspective that chapter four on its own part seeks to evaluate and analyse the implications of LMD system in the University of Yaoundé I, in terms of producing productive graduate. Our discovery shows that the expected competencies on the aspect of students, which in themselves have flaws, can said to be achieved to some extent while on the aspect of the department, the LMD system and the educational policy, the expected competencies to some extent, are not achieved as far as the University of Yaoundé I is concern. Thus, we discovered that the production process is ineffective in Philosophy department but to some extent, it is effective in Electrical and Telecommunication department. But on the other hand, as for the University of Yaoundé I in general, the production process is controversial because there is no harmony in the implementation and function of the LMD system, there is static curriculum which

has never been revised for the past 20 to 25 years, and the presence of education traditional opposition and inclusiveness. Therefore, the production process can said to be ineffective in terms of producing the envisaged competent graduates. It does not infer that the University of Yaoundé I does not produce competent graduates, but rather, most of the produced graduates are not vest with the envisaged knowledge, skills and competences that could permit them to achieve their life in every circumstances that could accord with the job markets and the socioeconomic needs of the country. In other word, those who possess such competences are far limited to those who don't and as such, brings imbalance and stagnation in the development process.

To this effect, we traced the obstacles that could prevent the production of the LMD envisaged competent graduates. These obstacles comprises of obstructions from the higher education system and policy that still maintain traditional opposition in education, obstructions from the adoption process of LMD system as a selective reform that undermine other part of its functions, obstructions from the implementation of the LMD system in terms of inclusiveness of students in the implementation process, provisions for the teaching learning-learning process and professionalization of students and finally, obstacles from the teaching-learning process in terms of diagnostic evaluation and orientation, class-size and student pattern of learning. The discoveries enable the proposition of some solutions in accordance with the problems discovered.

This work therefore enables the discovery of the fact that the implementation and function process of LMD system in the University of Yaoundé I, are not effective enough to produce the envisaged competent graduates that could enhance the socio-economic development of the country. Also, it discovered the obstructions that stand as obstacles to the production of LMD envisaged competent graduates. With the discovered obstacles, this work went further to propose solutions which includes calling for the removal of the traditional oppositions in the higher education system and policy, full adoption and inclusiveness in the implementation process of the LMD reform, sufficient provisions for teaching-learning process, the application of the LMD professionalization guide in all field of studies, circles and levels in higher education and the need to strengthen the student pattern of learning process to correspond with the demand of LMD.

A research of this magnitude cannot be void of limitations confronted in the field. These limitations were varied and diverse but only the relevant ones will be discussed.

The topic: "The teaching-Learning process for degree programmes and productivity of graduates in LMD system: The case of the University of Yaoundé I." was too broad and complex

to study. This is because the topic does not really distinguish the ground of study and it does not tie down to a particular context, faculty or department since the University of Yaoundé I is made up of many school of higher learning and faculties. Besides, they are further break down into arts and science, professional and none professional, integrated and none integrated and even semi-professional and are made up of departments. It was difficult to really manage these complexities so as to get a perfect research finding.

To mitigate this limitations, the topic was maintained simply as "The teaching-Learning process for graduate degree programmes of LMD System and the productivity of graduates in the context of Cameroon higher education: The case of the University of Yaoundé I." In terms of the vastness of the field of research, two departments were chosen in respect to the characteristics that constitute the University of Yaoundé I. Interview guide and questionnaires were then prepared in both French and English to get both Francophone and Anglophone students, lecturers and administrators involved in a general study.

Getting a theory that could match with LMD system was a very difficult task since there is no theory available for study. LMD system is in itself a complicated field to study in the fact that the system is a French derivative of BP and as such creating a dilemma of LMD system in French zone and BP in English giving the impression of two system. Also, the reform was a revolution in EHEA which has extended to Africa in a selective adoption and as such, create a dilemma on under which ground to base the research. To mitigate these situations, LMD conceptual framework was used derived from the combined provision of ADEA et REESAO in combination with the theory of educational effectiveness and ineffectiveness.

The nature of the study is very complex with the fact that it involve the implementation and the teaching-learning process. Also, the personnel involve in the samples posed a problem on the possibility of getting the required data. To mitigate these problems, mixed research was used in such a way that where the collection of required data will be difficult in quantitative, we use qualitative and vice versa and the same in the analysis. And WhatsApp was used to send interview questions and questionnaires to those we could not have face to face sitting with or those that are busy to provide us with the required data instantly.

The sample size was two hundred and thirty five in the two departments but at the end, only one hundred and ninety two responded to the questionnaires and interviews. This is because, most lecturers and students at the doctorate level claimed to be busy especially in the department

of Electrical and Telecommunication engineering. Some students have a certain attitude towards filling questionnaires of research. That was another major difficulty faced but to mitigate this effect, hypothesis had to be tested with the data collected from the 192 accessible population.

The results of this research work is of great importance as far as the production of graduates with the envisaged knowledge, skills and competences that could permit them to achieve their life in every circumstances and that could accord with the job markets and the socioeconomic needs of the country for its growth and development is concern. This will be of great help to educational policy makers in terms of reviewing their consideration in educational policy making. In fact, it is of great necessity to reach all educational actors such as education administrators and researchers, lecturers and all category of teachers, students and even parents because it contain results and information that could trigger a positive revolution in higher education.

The topic can be further exploited by researcher basing on a comparative study of the implementation of LMD system in the two zones of Cameroon: The English and the French zones. This will enable the discovery of the state of the implementation of LMD system at the national level and the level of harmony in the implementation.

A research can equally be carried on the implementation of LMD system under the two subsystems of education in Cameroon in order to know if the effective implementation of LMD can be a reality or will remain a utopic under such a situation. It will equally enable one to know if the two subsystems are really bridged at the level of higher education as expected by MINESUP.

Also, a research can be carried on the full application of LMD system in general education, in order to know if the full implementation of the reform in this domain of higher education is a possibility or a utopia. It can equally help to know the possibility or the possible way in which LMD system could be effectively applied in these domain of higher education. Furthermore, a research could be carried on the professionalization of general education in terms of the possibilities of introducing professional education in that domain of education. This can mechanized an easy way of harmonizing the two aspects of education and so trigger a positive revolution that can bridge the two domain of education.

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APPENDIXES

APPENDIX 1: QUESTIONNAIRES

REPUBLIQUE DU CAMEROUN
Paix – Travail – Patrie
****
UNIVERSITE DE YAOUNDE 1
****
FACULTE DE SCIENCES DE L'EDUCATION
****
DEPARTEMENT D'ENSEGNEMENTS FONDAMENTAUX EN EDUCATION
****

REPUBLIC OF CAMEROON
Peace – Work - Fatherland
****
UNIVERSITY OF YAOUNDE 1
****
FACULTY OF EDUCATION
****
DEPARTMENT OF FUNDAMENTAL STUDIES IN EDUCATION
****

Research Questionnaire Meant for Students

I am Gabriel ANATOGU, a master II student of the faculty of Education. I am out for a research under the topic "The teaching-Learning process for graduate degree programmes of LMD System and the productivity of graduates in the context of Cameroon higher education: The case of the University of Yaoundé I". Your frank response to these questions will go a long way to accomplish the purpose of this study.

Thanks for your cooperation

Following the research topic above, read the statements steadily and chose the one that applies most to you by placing a tick (✓) on the answer box. The items abbreviated are: Level (L), Master (M), and Doctorate (D). The answer pattern is "Yes", "No" or to some extent (when it is partially done or not done as the case may be).

Theme I: Demographic Information									
N°	**Items: Questions**	**Options**	**Answer box**	**Options**	**Answer box**	**Options**	**Answer box**	**Options**	**Answer box**
01	**Gender & department**	**Male**		**Female**		**Telecom**		**Philo**	
02	**Academic Level**	**L 1**		**M 1**		**D 1**			
		L 2		**M 2**		**D 2**			
		L 3				**D 3**			

Theme II: Information on the Application of the LMD System

1. Structural implementation				
N°	**Items: Questions**	**Options / answer**	**Options/ answer**	**Options/Answer**
01	**Were you informed of the different modalities of LMD system at your enrolment?**	**YES**	**NO**	**To some extent**
02	**Were you informed of all the courses offered in the university at the beginning of your enrolment?**	**YES**	**NO**	**To some extent**
03	**Were you presented with optional teaching units of the whole university to choose the one suitable for your aptitude?**	**YES**	**NO**	**To some extent**
04	**Were there mechanisms through which you the students evaluate the lessons you receive?**	**YES**	**NO**	**To some extent**

2. Teaching-learning process in LMD system				
N°	**Items: Questions**	**Options / answer**	**Options/ answer**	**Options/Answer**
01	**Were you presented with a defined required competences of the courses you were taking?**	**YES**	**NO**	**To some extent**
02	**Were you informed of the requirements of each course with the provision of the course materials such as notes?**	**YES**	**NO**	**To some extent**
03	**Were the lessons you received matching with your abilities and interests**	**YES**	**NO**	**To some extent**
04	**Is there individual time provided by lecturers where you can share your difficulties with them?**	**YES**	**NO**	**To some extent**

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3. The professionalization process of students				
N°	**Items: Questions**	**Options / answer**	**Options/ answer**	**Options/Answer**
01	**At your enrolment, were you welcomed and equipped with all necessary information for your professionalization?**	**YES**	**NO**	**To some extent**
02	**Do you have a professional project you are working on or to be realised?**	**YES**	**NO**	**To some extent**
03	**Did you receive any orientation and reorientation services for the update of your training and professional project**	**YES**	**NO**	**To some extent**
04	**Is there any relation between the training paths and your professional project?**	**YES**	**NO**	**To some extent**
05	**Do your professional project accord with your aspiration and taste?**	**YES**	**NO**	**To some extent**
06	**Is there TUs on knowing how to look for a job, prepare for a job interview and to integrate into job market?**	**YES**	**NO**	**To some extent**
07	**Is there internships or working experience study in your course programme?**	**YES**	**NO**	**To some extent**
08	**Is there association of ex-working students who share their experience on their success with you students on campus?**	**YES**	**NO**	**To some extent**
09	**Is there any business office providing information on companies and their job offers on campus?**	**YES**	**NO**	**To some extent**

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4. Student pattern of learning The disposition of conducive and available personal means for studies and research									
Options	**Answer: Yes/No**	**Options**	**Answer: Yes/No**	**Options**	**Answer: Yes/No**	**Options**	**Answer: Yes/No**	**Options**	**Answer: Yes/No**
Android phone		***Personal Formulated notes***		***Computers***		***Internet disposal***		***Skill on computer science***	

Means of carrying a documentary research in libraries		***Means of Carrying a documentary research online***		***Have Most of the above***		***Have None of the above***		***Have All the above***	

Student based process of learning				
N°	**Items: Questions**	**Options / answer**	**Options/ answer**	**Options/Answer**
	Do you used to get your information by yourself in terms of your training offers: teaching-learning programmes?			
	Do your supervisor provides you with the required attentions and orientations for the accomplishment of your project?			
01	**Are you disposed to your studies having no any other preoccupations except your studies?**	**YES**	**NO**	**To some extent**
02	**Do you have a group of students you study with?**	**YES**	**NO**	**To some extent**
03	**Do you often carryout personal research to improve your knowledge on the various courses (the training-offers)?**	**YES**	**NO**	**To some extent**
04	**Are you having your home time table for study and carrying out research?**	**YES**	**NO**	**To some extent**

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5. The Evaluation process of LMD system				
N°	**Items: Questions**	**Options / answer**	**Options/ answer**	**Options/Answer**
01	**Did you receive any evaluation test at the beginning of your studies or each teaching unit for the purpose of orientation?**	**YES**	**NO**	**To some extent**
02	**During the classes, do the lecturers often give you people a test to evaluate your learning?**	**YES**	**NO**	**To some extent**
03	**Did you undergo any assessment that aimed at evaluating the competency you acquired during the learning process?**	**YES**	**NO**	**To some extent**
04	**Are the provisions for evaluation sufficient and conducive for the success of students?**	**YES**	**NO**	**To some extent**

Theme III: Motivations and the Achievement of Expectations

Have you achieved any of the following capacity? If none indicate yours in the empty space

Expectations of students							
Options	**Answer: Yes/No**	**Options**	**Answer: Yes/No**	**Options**	**Answer: Yes/No**	**Options**	**Answer: Yes/No**

The capacity of a lecturer		***The capacity of a researcher***		***The capacity of an administrator***		***The certificate of a degree***	
The capacity of Electrical engineer		***The capacity of a Telecommunication engineer***		***The capacity of an inventor***			
The Expectations the various departments **Department of Philosophy**							
Options	**Answer: Yes/No**	**Options**	**Answer: Yes/No**	**Options**	**Answer: Yes/No**	**Options**	**Answer: Yes/No**
Critical and logical thought		**Rigorous and scientific mind**		**Philosophical Problem discovery**		**Providing philosophical solutions**	
systematic presentation of contents		**Contextualising and methodical**		**Rational decisions**		**Self-orientation**	
Department of Electrical and Telecommunication engineering							
Skilled in Maths and Physics		**Skill on VoIP and VoIP enabled device**		**Understanding and operate telephony**		**Engineering design and capacity**	
Technical support ability to customers or other users		**Proficiency with Matlab: graphical programming for design performance**		**Project Management: Planning, budgeting and installation**		**Understanding and operating various types of networks: IT support skills**	
Skills on the use of Fibre optics & cable		**Understanding and building of Data**		**Installation and maintenance ability**		**Associate Creative Director skills**	
Developing and managing wireless networks		**Mastering of Programming Languages (C, C++, VHDL and HDL etc.)**		**Designing Unified Communications**		**Understanding and Constructing telecommunication networks**	
Managing electrical system		**Electrical troubleshooting**		**Test Engineering: skills for quality assurance and quality control**		**Understanding, designing, building electrical system**	

APPENDIX 2: INTERVIEW GUIDES

Interview Guides

With Administrator and Lecturers in the University Of Yaoundé I

Identification

Grade: ……..
Faculty: ……. Department: …….
Site of interview: …….. Date: ……../……/……
Starting Time: ……. Ending Time: …….. No: ……..

Theme I: Structural Implementation of LMD System

1. Involvement in the implementation of LMD system:

-Participation in the choice of new flow management / Knowledge of the reform

- Guidance and monitoring of students, / Administrative and pedagogical management of courses

-Information tools and the mastery of the tools / Teaching tasks and student information

-Evaluation and provision in the light of the reform

2. Profile and competence in LMD system:

-The competence that the learners must possess at the start and at the end of the training

3. Organisation of Teaching-Learning:

-Provision of bibliographical elements,

-Creation of course materials, questions and, times for welcoming students' worries individually

-Transparency (information of the requirements of each course, course outlines and summaries);

-The atmosphere that prevails in the classroom; the spirit in which assessment is carried out (the acquisition of competence)

Theme II: The Domain of Professionalization in LMD System

1. The Formation of students with the ability to orient themselves in a vast market.
2. Initial training of students in view of the space in which they live.
3. Training in view of the professional projects of learners.
4. Learning objectives and activities of the training-offers and the direction of the content
5. The possibilities of mobility and professional integration
6. Training favouring work-university and work-study programs
7. Committees of teams of academics/ representatives of the world of work and economic operators

Theme III: Supporting Students in their Professional Project.

1. Necessary information for their professional project / The drafting of their professional project.
2. The drafting of students' professional project / The drafting of students' professional project.
3. Professionalizing all training-offer / Accompanying students with their professional project.

Conclusion

1. The most important aspect of the implementation of LMD system.
2. The concentrated areas for the professionalization of students.
3. Criteria used to establish the performance expected in the exercise of the competency.

Interview Guide for Students of the University of Yaoundé I

Identification

Name and Surname: …….
Grade: ……..
Faculty: ……. Department: …….
Site of interview: …….. Date: ……../……/……
Starting Time: ……. Ending Time: …….. No: ……..

Theme I: Structural Implementation of LMD System

1. Involvement in the implementation of LMD system:

- The choice of optional teaching units; gateways arranged for reorientation needs;
- Getting information by oneself on all the courses and TU offered in the university;
- Given opinion on the whole reform;
- Recourse to academic advisers
- Mechanisms for the evaluation of the lessons that accompany the reform

Theme II: The Domain of Professionalization in LMD System

1. The Formation with the ability to orient oneself in a vast market.
2. Initial training of students in view of the space in which they live.
3. Training-learning in view of the professional projects.
4. Learning objectives and activities of the training-offers and the direction of the content
5. The possibilities of mobility and professional integration
6. Professional project, company visits and internships of various kinds in terms of TU

Theme III: The Teaching-Learning Process in LMD.

1. The teaching-learning materials / Class learning activities.
2. Relying only on the lessons and notes given by lecturers.
3. Lecturers giving research work / Individual time with lecturers
4. Class-atmosphere in terms of moral perception of classroom
5. Students' formulation and the realisation of their projects
6. The necessary guides, advice and encouragement from lecturers

Conclusion

1. Students' training and the knowledge of oneself
2. The motivations behind the choice of study and its achievement.

APPENDIX 3: OBSERVATION GUIDES

Observation Guide

I- teaching-learning process of LMD system

1. Categories of Teaching Unit (TU: 6 categories): Each TU comprises of lessons, animation of tutorials or/and practical work

-Fundamental teaching unit meant for all / -Complementary teaching units
-Optional teaching unit for in-depth study or professionalization/ -Refreshing course (not credited)
-Transversal teaching unit intends to give tools in accordance to the background
-Planned free teaching unit in accordance to individual taste and needs

2. Tools for presenting the training offer

a) Programme for each semester:
b) Course plan and summary

3. The Domain of Professionalization in LMD system

-The training plan accounting for the logic of the tutored projects
-Company-university alternation: the evaluation of the internships in capitalisable credits
-The possibility of acquiring professional experience at the university itself
-Adoption of a forward-looking vision which could offer students new pathways
-The knowledge of professional environments in the course teaching units
-Teaching units for the preparation of professional projects
-Teaching units that enable students to know how to look for a job, to prepare for a job interview and to integrate into the job
-The university itself as a place conducive for the acquisition of professional experience (student associations and mutual funds managing certain aspects of university life, leisure, reprography centres, catering areas, etc and recruitment of students as instructors or tutors).
-The existence of a structure that allows certain visibility of the professional world on the campuses (a business office providing information on companies and their job offers)

II- Evaluation in LMD System

1. Different forms of evaluation

-Learning orientation assessment: diagnostic evaluation at the beginning of the year or cycle
-Formative assessment (during the year): Criterion-based evaluation, Normative evaluation
-Certification assessment: Summative assessment mainly at the end of the semester or cycle

2. Preparation and Elaboration of Evaluations Process

-Communication tools (postal, verbal communication, social network) / Vocabularies used. / The risk of being expelled from the exam hall.
-The starting date of exam. / -The starting hour of exam. / -Type of exam (Diagnostic, Normative or Summative assessment) / -Conditions of access. / -Description of area. / -The quality of intervention. / -Conditions of supervision. /

-Nature of the exam (Questionnaires, written, oral or practical) / -Nature of the question (intrigues, debates, trials, role-playing, structural). / -The objective of the exam (the tasks and competence or capacities and aptitude).
-Estimation of the numbers of candidate. / -Identification of candidates. / -Nature of candidates. / -Other attitudes and significant comportment.
-Types of copies used. / -Quality of the writing material. / -Procedural order of exam questions. / -Deposition of copies.

APPENDIX 4: CAMEROON LABOUR AND ECONOMIC STATISTICS

Table 14: Cameroon Labour and Economic statistics as from 2010 to 2021

Years	Total Population of Cameroon	Labour force in Million (15yrs +)	Labour Participation rate: % of total pop ages 15+	Unemployment rate by %	Inflation rate %	GDP Growth rate %	Current Account Balance: % of GDP
2010	20.34M	8.45 M	76.28%	4.11%	1.28%	2.9%	-4.021%
2011	20.91M	9 M	76.22%	3.97%	2.94%	3.4%	-3.116%
2012	21.49M	9.25 M	76.21%	3.82%	2.74%	4.6%	-2.446%
2013	22.08M	9.5 M	76.20%	3.68%	2.06%	5.0%	-3.17%
2014	22.68M	9.77 M	76.17%	3.53%	1.83%	5.7%	-3.345%
2015	23.30M	10.1 M	76.14%	3.55%	2.69%	5.7%	-3.853%
2016	23.93M	10.4 M	76.12%	3.58%	0.86%	4.5%	-3.644%
2017	24.57M	10.7 M	76.08%	3.6%	0.64%	3.5%	-3.068%
2018	25.22M	11 M	76.04%	3.62%	1.07%	4.0%	-2.631%
2019	25.88M	11.35M	75.99%	3.64%	2.45%	3.5%	-3.526%
2020	26.55M	11.65M	75.27%	3.84%	2.44%	0.5%	-4.273%
2021	27.22M	11.95M	75.42%	3.87%	2.5%	3.5	-3.707%

Sources: Macro-trends (2022), https://www.macrotrends.net/cour. Consulted on the 26 and 30 August 2022 at 3:30 pm and 8:45am respectively.

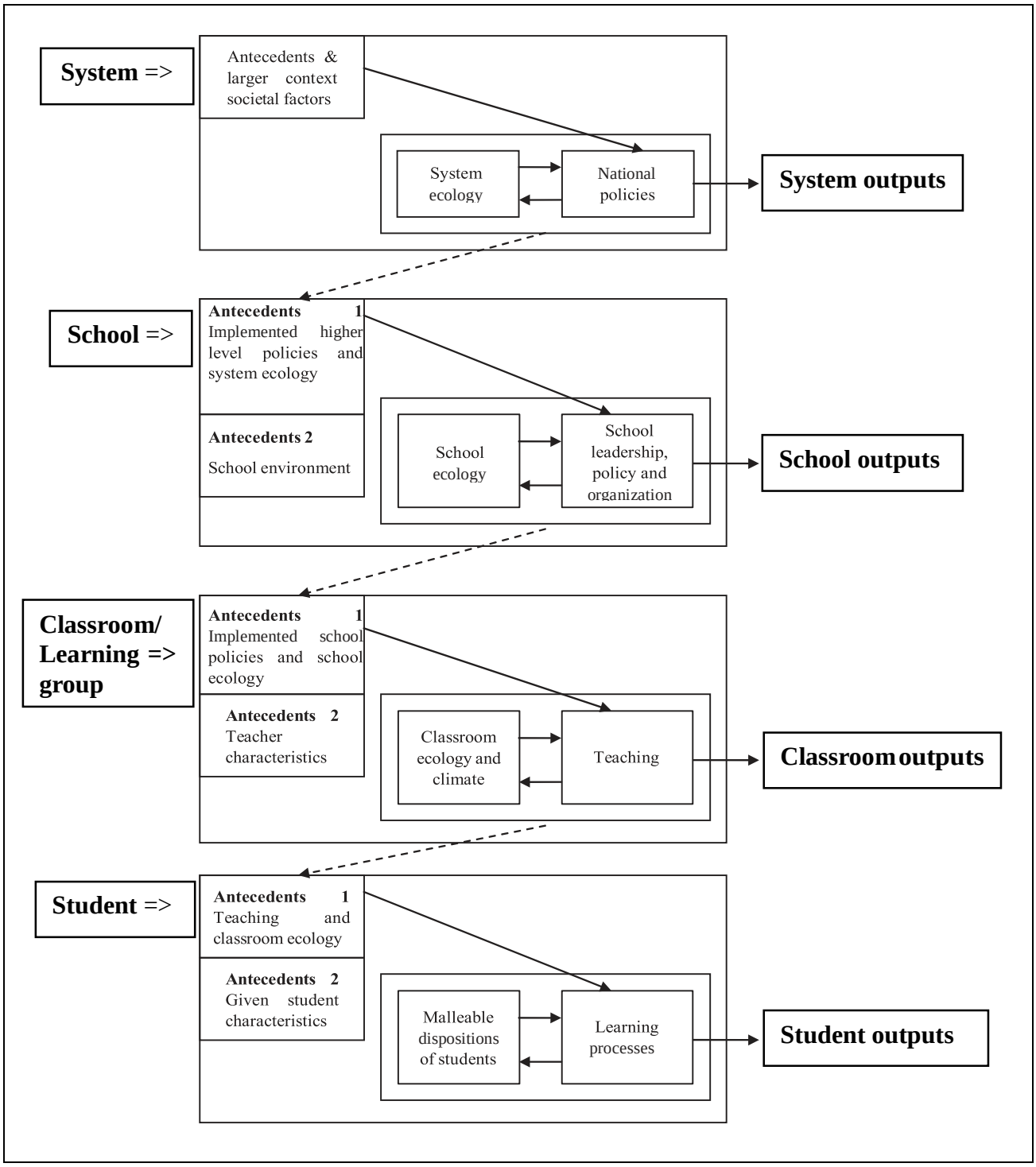
Trading Economics (2022), https://www.tradingeconomics.com/cameroon. Consulted on the 26 August 2022 at 3:30 pm.

O'Neill Aaron, (2022), Statista. https://www.statista.com/statistics. Consulted on the 26 and 30 August 2022 at 3:30 pm and 8:45am respectively.

National Institute of Statistics (2022), https://ins-cameroun.com/statistique. Consulted on the 26 and 30 August 2022 at 3:30 pm and 8:45am respectively.

APPENDIX 5: THE HIERARCHICAL LOOSELY EDUCATIONAL SYSTEM

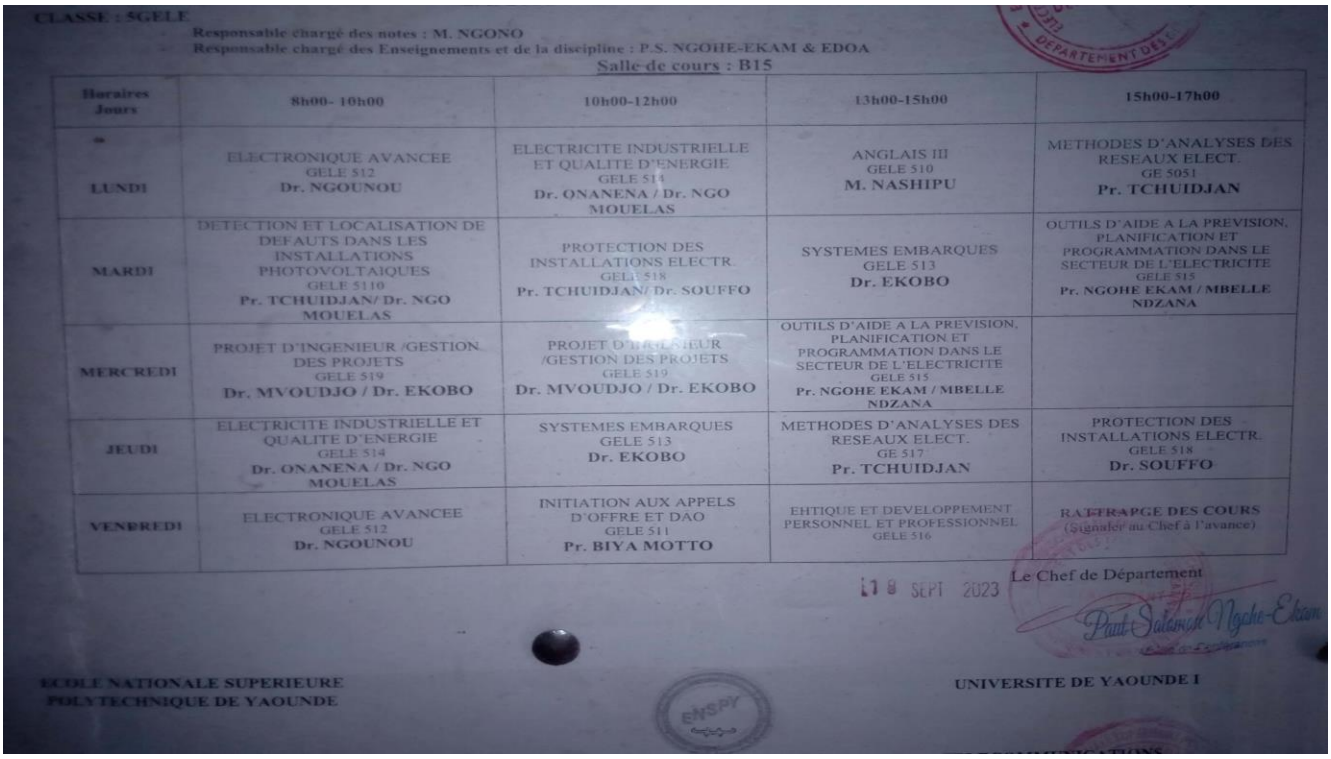
*Figure 3**: The hierarchical loosely and self-govern educational system***



***Source:** Scheerens, 2015, p. 13*

APPENDIX 6: SAMPLES OF TIME TABLE OF THE VARIOUS DEPARTMENTS

The Sample Time Tables of Elect. And Telecom. Department



CLASSE : 5GELE

Responsable chargé des notes : M. NGONO
Responsable chargé des Enseignements et de la discipline : P.S. NGOHE-EKAM & EDOA
Salle de cours : B15

Horaires / Jours	8h00- 10h00	10h00-12h00	13h00-15h00	15h00-17h00
LUNDI	ELECTRONIQUE AVANCEE GELE 512 Dr. NGOUNOU	ELECTRICITE INDUSTRIELLE ET QUALITE D'ENERGIE GELE 514 Dr. ONANENA / Dr. NGO MOUELAS	ANGLAIS III GELE 510 M. NASHIPU	METHODES D'ANALYSES DES RESEAUX ELECT. GE 5051 Pr. TCHUIDJAN
MARDI	DETECTION ET LOCALISATION DE DEFAUTS DANS LES INSTALLATIONS PHOTOVOLTAIQUES GELE 5110 Pr. TCHUIDJAN/ Dr. NGO MOUELAS	PROTECTION DES INSTALLATIONS ELECTR. GELE 518 Pr. TCHUIDJAN/ Dr. SOUFFO	SYSTEMES EMBARQUES GELE 513 Dr. EKOBO	OUTILS D'AIDE A LA PREVISION, PLANIFICATION ET PROGRAMMATION DANS LE SECTEUR DE L'ELECTRICITE GELE 515 Pr. NGOHE EKAM / MBELLE NDZANA
MERCREDI	PROJET D'INGENIEUR /GESTION DES PROJETS GELE 519 Dr. MVOUDJO / Dr. EKOBO	PROJET D'INGENIEUR /GESTION DES PROJETS GELE 519 Dr. MVOUDJO / Dr. EKOBO	OUTILS D'AIDE A LA PREVISION, PLANIFICATION ET PROGRAMMATION DANS LE SECTEUR DE L'ELECTRICITE GELE 515 Pr. NGOHE EKAM / MBELLE NDZANA	
JEUDI	ELECTRICITE INDUSTRIELLE ET QUALITE D'ENERGIE GELE 514 Dr. ONANENA / Dr. NGO MOUELAS	SYSTEMES EMBARQUES GELE 513 Dr. EKOBO	METHODES D'ANALYSES DES RESEAUX ELECT. GE 517 Pr. TCHUIDJAN	PROTECTION DES INSTALLATIONS ELECTR. GELE 518 Dr. SOUFFO
VENDREDI	ELECTRONIQUE AVANCEE GELE 512 Dr. NGOUNOU	INITIATION AUX APPELS D'OFFRE ET DAO GELE 511 Pr. BIYA MOTTO	EHTIQUE ET DEVELOPPEMENT PERSONNEL ET PROFESSIONNEL GELE 516	RATTRAPGE DES COURS (Signaler au Chef à l'avance)

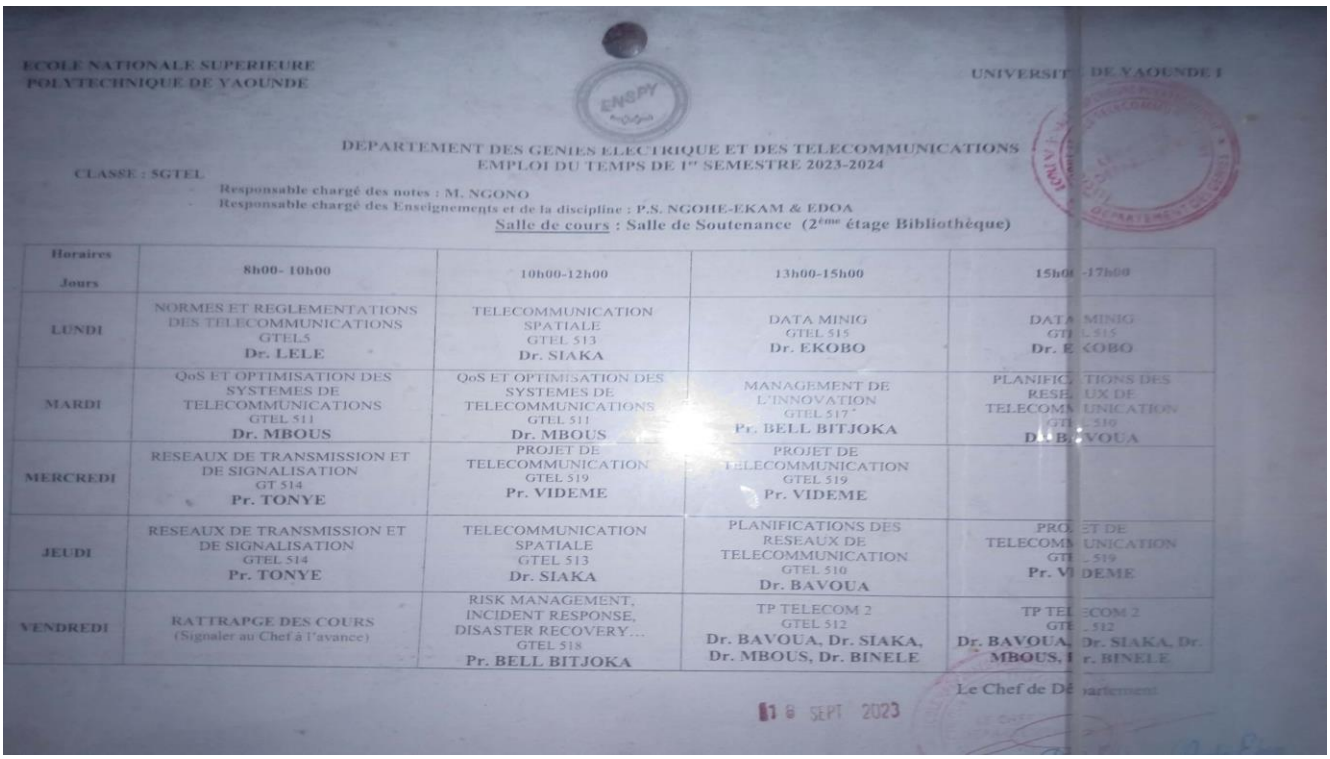
18 SEPT 2023

Le Chef de Département

Paul-Salomon Ngoh-Ekam

ECOLE NATIONALE SUPERIEURE POLYTECHNIQUE DE YAOUNDE

UNIVERSITE DE YAOUNDE I



ECOLE NATIONALE SUPERIEURE POLYTECHNIQUE DE YAOUNDE

UNIVERSITE DE YAOUNDE I

DEPARTEMENT DES GENIES ELECTRIQUE ET DES TELECOMMUNICATIONS
EMPLOI DU TEMPS DE 1er SEMESTRE 2023-2024

CLASSE : 5GTEL

Responsable chargé des notes : M. NGONO
Responsable chargé des Enseignements et de la discipline : P.S. NGOHE-EKAM & EDOA
Salle de cours : Salle de Soutenance (2ème étage Bibliothèque)

Horaires / Jours	8h00- 10h00	10h00-12h00	13h00-15h00	15h00 -17h00
LUNDI	NORMES ET REGLEMENTATIONS DES TELECOMMUNICATIONS GTEL5 Dr. LELE	TELECOMMUNICATION SPATIALE GTEL 513 Dr. SIAKA	DATA MINIG GTEL 515 Dr. EKOBO	DATA MINIG GTEL 515 Dr. EKOBO
MARDI	QoS ET OPTIMISATION DES SYSTEMES DE TELECOMMUNICATIONS GTEL 511 Dr. MBOUS	QoS ET OPTIMISATION DES SYSTEMES DE TELECOMMUNICATIONS GTEL 511 Dr. MBOUS	MANAGEMENT DE L'INNOVATION GTEL 517 Pr. BELL BITJOKA	PLANIFICATIONS DES RESEAUX DE TELECOMMUNICATION GTEL 510 Dr. BAVOUA
MERCREDI	RESEAUX DE TRANSMISSION ET DE SIGNALISATION GT 514 Pr. TONYE	PROJET DE TELECOMMUNICATION GTEL 519 Pr. VIDEME	PROJET DE TELECOMMUNICATION GTEL 519 Pr. VIDEME	
JEUDI	RESEAUX DE TRANSMISSION ET DE SIGNALISATION GTEL 514 Pr. TONYE	TELECOMMUNICATION SPATIALE GTEL 513 Dr. SIAKA	PLANIFICATIONS DES RESEAUX DE TELECOMMUNICATION GTEL 510 Dr. BAVOUA	PROJET DE TELECOMMUNICATION GTEL 519 Pr. VIDEME
VENDREDI	RATTRAPGE DES COURS (Signaler au Chef à l'avance)	RISK MANAGEMENT, INCIDENT RESPONSE, DISASTER RECOVERY... GTEL 518 Pr. BELL BITJOKA	TP TELECOM 2 GTEL 512 Dr. BAVOUA, Dr. SIAKA, Dr. MBOUS, Dr. BINELE	TP TELECOM 2 GTEL 512 Dr. BAVOUA, Dr. SIAKA, Dr. MBOUS, Dr. BINELE

18 SEPT 2023

Le Chef de Département

Source: Elect. And Telecom. Department information board, 2023.

The Sample Time Tables of Philosophy Department

UNIVERSITE DE YAOUNDE 1
Faculté des Arts, Lettres et Sciences Humaines
Département de Philosophie

THE UNIVERSITY OF YAOUNDE 1
Faculty of Arts, Letters and Social Sciences
Department of Philosophy

Emploi du temps licence 3 / Semestre I (2022-2023)

	7h30-9h30	9h45-11h45	12h-14h	14h15-16h15	16h30-18h30	18h45-20h45
Lundi						
Mardi						
Mercredi						
Jeudi	PHI 311/PHI 341 E. 114 NGAH	PHI 341 E. 114 MINKOULOU	PHI 331 E. 114 MAZADOU	PHI 321 E 114 OWONO	PHI 352 FB E 114	
Vendredi						
Samedi	PHI 321 E. 114 MENYOMO	PHI 331 E. 114 AZAB	PHI 311 E. 114 NGUEMETA	PHI 321 E. 114 FOUMANE	PHI 331 NB13 BIYA	

Le Chef de Département

Le Chef de Département

Maître de Conférences
DEPT / PHILO / FALSH / UY1

UNIVERSITE DE YAOUNDE 1
Faculté des Arts, Lettres et Sciences Humaines
Département de Philosophie

THE UNIVERSITY OF YAOUNDE 1
Faculty of Arts, Letters and Social Sciences
Department of Philosophy

Emploi du temps licence 1 / Semestre II (2022-2023)

	7h30-9h30	9h45-11h45	12h-14h	14h15-16h15	16h30-18h30	18h45-20h45
Lundi	PHI 142 A 300 ENYEGUE ABANDA	PHI 122 A 300 ENYEGUE ABANDA	PHI 112 A 300 MAZADOU	PHI 112 A300 AZAB/BOUNOU	PSY 161 A 300	
Mardi						
Mercredi	PHI 132 A 300 MOUCHILI	PHI 132 A 300 NGUEMETA/NLEND	PHI 122 A 300 OWONO	PHI 142 A 300 BIYA/BOUNOU		
Jeudi						
Vendredi						
Samedi						

Le Chef de Département

Le Chef de Département

Source: Philosophy Department information board, 2023.

APPENDIX 7: RESEARCH AUTHORISATION

REPUBLIQUE DU CAMEROUN
Paix – Travail – Patrie
*****
UNIVERSITE DE YAOUNDE I
*****
FACULTE DES SCIENCES DE L'EDUCATION
*****
DEPARTEMENT DES ENSEIGNEMENTS FONDAMENTAUX EN EDUCATION

REPUBLIC OF CAMEROON
Peace – Work – Fatherland
*****
UNIVERSITY OF YAOUNDE I
*****
FACULTY OF EDUCATION
*****
DEPARTMENT OF FUNDAMENTAL STUDIES IN EDUCATION

The Dean

N° 457 /22/UYI/FSE/VDSSE

RESEARCH AUTORISATION

I the undersigned, **Professor Cyrille Bienvenu BELA,** Dean of the Faculty of Education, University of Yaoundé I, hereby certify that **Gabriel ANATOGU,** Matricule **20V3049,** is a student in Masters II in the Faculty of Education, Department: ***FUNDAMENTAL STUDIES IN EDUCATION***, Option: ***SOCIOLGIE ET ANTHROPOLOGIE DE L'EDUCATION.***

The concerned is carrying out a research work in view of preparing a Master's Degree, under the supervision of **Dr. Albert NNA NTIMBAN.** His work is titled ***« The teaching-learning process for degree program and productivity of graduates in LMD system: the case of the University of Yaounde I ».***

I would be grateful if you provide his with every information that can be helpful in the realization of his research work.

This Authorization is to serve the concerned for whatever purpose it is intented for.

Done in Yaoundé, le 9 JUIN 2022

For the Dean, by order

UNIVERSITE DE YAOUNDE I
THE UNIVERSITY OF YAOUNDE I
FACULTE DES SCIENCES DE L'EDUCATION
THE FACULTY OF EDUCATION
Le Vice-Doyen

Source: The Faculty of Education, 2022.