

Curriculum Evaluation and the Democratic Republic of the Congo Self-defense: A Way to Peace

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ABSTRACT

The war in the East of the Democratic Republic of the Congo has revealed that this country needs weapons for its self-defense and development. Education can solve this problem if it provides appropriate knowledge, which can endow students with abilities to defend and develop their country. Education is the basis of the development of any country. The backbone of education is curriculum. This one must be well-designed so as to endow students with skills to defend and develop the country. This article aims to analyze the DRC civil engineering curriculum so as to see whether it can help the DRC to develop its armament. To reach this objective, this article attempts to answer the question "Does civil engineering curriculum provide the Congolese students with appropriate knowledge for weapon manufacture for their self-defense?". After the analysis of some courses planned in the civil engineering curriculum, the results indicate that the curriculum is well designed, but it lacks government support. As a consequence, the country cannot manufacture its own weapons.

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I. INTRODUCTION

The Democratic Republic of the Congo (DRC) has been a victim of external threats and internal

conflicts for many years. During these horrible external threats and internal conflicts, many Congolese, in the Eastern Part of the DRC, have been killed, and many women and young girls have been violated. This horrible situation shows clearly

that the Democratic Republic of the Congo has to reinforce its defense. What can make a country powerful and able to defend itself is its own weapon manufacturing. Therefore, the DRC needs a well-designed curriculum in its universities and colleges so that its students can be trained in manufacturing weapons in collaboration with the DRC army. The objective of this investigation is to analyze the DRC civil engineering curriculum so as to see whether it can help the DRC to develop its armament. The DRC must become a powerful country so as to afford all sorts of external threats and internal conflicts. The question that guides this investigation is 'Does the DRC civil engineering curriculum provide Congolese students with appropriate knowledge for weapon manufacture for country defense?' The DRC, as an independent country, must have a civil engineering curriculum that contributes to its defense. To confirm or reject this assertion, some courses in the DRC civil curriculum are analyzed with the Content Analysis Method.

II. BACKGROUND

No country in the world can be at peace if it does not have its own means of self-defense. To have its own means of self-defense, the country has to implement appropriate and adapted curricula in its universities and colleges because good education is a solution to the country's problems. This is supported by Adelayo and Olusegun (2022: 49), who argue that "curriculum planning emphasizes that education should serve to enable society to achieve its needs and aspirations". This is to say that a well-designed curriculum offers education which is indispensable for the country's defense and development. Pangestu and Sukardi (2019:173) support this idea when they say that "education for a country is a quite significant matter in improving human resources to be able to compete with other countries". This is true because there are countries that, with regard to their powerful army and economy, want to keep their position of superiority over other countries. These countries are right. It is up to each country to enhance its army and economy. This is possible if the country focuses on the education of its people. Ayeni and others (2024:65) add "the role of university education is germane in enhancing the socio-economic development of society". The Democratic Republic of the Congo is one of the biggest African countries. Its soil and undersoil have plenty of ores.

The presence of important ores in the DRC undersoil causes and will always cause external threats and internal conflicts. Therefore, the DRC curriculum must enable Congolese people to establish peace, which is the current need for the country, by contributing to the development of the DRC army.

III. LITERATURE REVIEW

3.1 Curriculum

Curriculum frames education. Sa'dullah (2023:410-411) says that "curriculum and education are inseparable, as it is well known that a curriculum guides education administration. Education cannot be carried out without a curriculum, and education goals will not be realized". This is to say that curriculum designers have to be aware of the real needs of the country so as to plan courses which bring the country to its self-defense and development. Sa'dullah (2023: 410) adds "a curriculum must be able to develop something new by development that occurs and the needs of society in the present and the future". Any country's problem has its solution if the education of this country is well framed by the curriculum. In the case of the Democratic Republic of the Congo, the curricula in different universities and colleges of the country should have prepared Congolese to find solutions to the problem of many external threats and internal conflicts.

3.2 Role of Government

A curriculum can be well designed or well implemented, but if it lacks government support, the results cannot be efficient. Nuryanto et. al. (2023:1218) assume that "the government is also expected to be responsible for ensuring education is relevant to the needs". The DRC government needs to support education by providing both professors and students with all the means needed, such as laboratories, workshops, etc. Furthermore, a government that wants to defend and develop its country is expected to build industries and factories where the students, who have completed their studies, can produce what the country needs. This means that the government has to fund education. Abdullah et. al. (2017:738) say that "the government spending on education is important to increase the number of skilled labour to fulfill labour requirements". For Aubakar et. al. (2020:78), "funding of education in a country with a well-organized and productive educational system

is beyond payment of salary and purchasing of educational materials. It includes, among others, development of school infrastructures: funding of teacher training and re-training programmes, provision of facilities and equipment such as laboratories, libraries, books, ICT facilities, etc. The DRC government has to fund education and research in all sectors of the country, mainly the military sector, for the defense of the country against external threats and internal conflicts.

3.3 Political Influence on Curriculum

The politics of a country is for the development of the country. The development of the country includes, among many, a powerful army. Therefore, the RDC politicians should converge their views on the protection of the country by supporting the national curriculum, which is designed for the development of the country. Politics plays an important role in the success of curriculum implementation. In the DRC, it is politicians who have power and who rule the country. They affect all sectors of the country, including education. Putri and Suhardi (2023: 4390) stipulate that "politics affects education resources such as teacher salaries, infrastructures to support learning activities, and teacher training". This is to say that the DRC politicians have to support education by providing universities and colleges with all the means for the good of the country.

3.4 Factors That Make A Country Powerful

Factors that make a country powerful and developed are useful education, a strong army, a strong economy, diplomacy, independent national justice, a high sanitary system, and sports.

3.4.1. Useful Education

Useful education is different from 'education'. If education is not useful, the country cannot be powerful and developed. Useful education solves problems that the country faces. For useful education, Pal (2023: 10) says that "education is acknowledged as the most important tool for socioeconomic development in a country". Although there are kindergarten schools, primary schools, high or secondary schools, colleges, and universities in the Democratic Republic of the Congo, the country remains weak and poor. It is as if education in this country is not useful for the defense of the country. But, it is clear to notice that the problem is not with education, but with political leaders who do not provide enough means for

research and practice. In former times, the DRC engineers were able to produce explosives, small bombs, and other munitions in Likasi, one of the DRC cities. Unfortunately, political leaders do not provide these engineers with the means to do more. Professors and students are able to provide the country with solutions to its problems, but they cannot do anything because of the political culture of Congolese leaders, which is characterized by selfishness and a lack of patriotism. The budget for research is insufficient for researchers to conduct their investigations. Each year, term papers, memoirs, and theses are written, and useful solutions for the development of the country are suggested, but the political leaders do not even pay attention to the results of investigations and researchers' suggestions.

3.4.2. Strong Army

Apart from war or fight strategies and techniques, firearms, munitions, and war machines make an army strong. Universities' responsibility is to find solutions to the problems of the country. Bouhajeb and the others (2018) say that "higher education is considered as an engine for development and growth in the knowledge society". This is to say that the faculty of polytechnics and sciences needs a curriculum that endows students with the ability to think of the production of firearms, munitions, armored vehicles, fighter planes, bombs, bombardiers, etc. It is possible to manufacture all these things, but the political governors do not provide researchers with the means. The curriculum has planned appropriate courses for that. This is to say that if the country lacks strong self-defense, it is not because Congolese students are not well trained, but it is because of the political culture of the DRC leaders who do not provide colleges and universities with appropriate means for research and manufacture. By means, I mean appropriate laboratories, workshops, and funds for research.

3.4.3 High Economy

A country that does not produce its own wealth will remain poor, and it will always depend on the countries that have strong economies. The role of curriculum designers is to plan courses that enable students to enhance the economy of the country. The courses planned in the curriculum of the faculty of economics can enhance the DRC economy. The factor that destroys the DRC economy is the political culture of the DRC leaders.

The economy of the country relies on the production, equitable distribution, consumption, and conservation of wealth. In the DRC, on the one hand, wealth is not equitably distributed, and on the other hand, it is not conserved. This situation weakens and fragments the national economy of the country.

3.4.4 Diplomacy

A balanced diplomacy is possible only between countries of the same level, strength, or category. If a poor country negotiates with a rich one, it is the rich country that has many advantages. Although the DRC can pretend to have good diplomacy, it is still a loser because the powerful countries still make a profit from the DRC's wealth. The best thing to do is to implement a good curriculum so as to enhance education, research, and the development of the country. Before using diplomacy, a country should strengthen its education, army, and economy.

3.4.5 Independent National Justice

Any place where injustice is not punished cannot be developed because development is a product of justice. Naturally, the law should be above anyone and any institution. When people act above the law, anarchy takes place. As a consequence, authorities are not respected by their people. This situation cannot favor the development of the country.

3.4.6 High Sanitary System

Sick people cannot do as it is required. Unfortunately, anyone can fall sick. The country needs to have its own sanitary system, but not a poor one. It is frequently noticed that many Congolese authorities go abroad for medical care. This means that there is no high sanitary system in the DRC. Therefore, it is time for the political leaders to understand that the DRC needs to enhance education by supporting an effective curriculum in the medical domain.

3.4.7 Sports

Sport plays an important role in enhancing the economy of a country, but it requires an acceptable infrastructure. The DRC needs to design a curriculum that enhances sports. Furthermore, the country's government has to build sports infrastructure to increase its economy.

IV. METHODOLOGY

In this section, the focus is on the courses planned in the Electromechanics Department in the Democratic Republic of the Congo. Some of the skills that the Electromechanics Department wants to develop are design, manufacturing, and mechanical construction. To reach this aim, this department has planned many courses. But in this paper, only some courses are analyzed so as to ensure that the students in the Electromechanics Department can help the country strengthen its self-defense against exterior threats and interior conflicts by manufacturing, in collaboration with the DRC army, weapons, munitions, etc. In the following lines, each course is examined.

Manufacturing Technology

This course enables students to apply different metal removal, finishing, super finishing, and component production. The students attending this course are expected to be able to improve the quality, efficiency, and productivity of components. As far as the manufacture of weapons, munitions, etc. These students can help the country if the government provides them with enough means. As the DRC has enough ores that can be used in manufacturing items to strengthen the DRC army, this course in manufacturing technology is very important in the curriculum.

Fitting

Fitting aims at producing metal pieces. This course is also involved in manufacturing metal pieces. This means that on completion of this course, the students will be able to produce metal pieces. This implies that these students can support the army by manufacturing metal pieces used in war. If this course is given to students in equipped laboratories and workshops, these students can design and adapt metal pieces to contribute to support the DRC army and the development of the country.

Mechanical Construction

This course aims at constructing machinery. This course trains students in constructing machines. Machines are also used during war. That is, the students taking this course are capable of constructing machines used during war: ground vehicles, air vehicles, naval vessels, and weapon systems such as artillery, missiles, and small arms. To manufacture these machines, ores such as steel

alloys, titanium, ceramics, synthetic fibers, aluminum alloys, magnesium, etc. All these ores exist in the Democratic Republic of the Congo. Among the ground vehicles, battle tanks and armored vehicles can be cited. The ores which can be used to manufacture these ground vehicles are steel alloys, titanium alloys, ceramics, composite materials, synthetic fibers, etc. The air vehicles, such as the fighter planes, can be made with aluminum alloys, titanium, composite materials, etc. The naval vessels can be made of steel, aluminum alloys, etc. Missiles are manufactured with aluminum, steel, magnesium, titanium alloys, etc. Firearms or small arms are also made of aluminum, steel, titanium, etc.

Electronics and Electrical Measurement

This course aims to set techniques of measuring electrical quantities in designing, testing, or maintaining electrical or electronic systems. This course contributes to manufacturing since it trains students in measuring with precision. The students taking this course seriously are able to contribute to the defense and development of the Democratic Republic of the Congo. This course is effective if the students take it as it is required and if it is taken in a well-equipped laboratory. This is to say that the government must provide these students with a well-equipped laboratory and workshop for practice, design, and manufacture.

Mechanical Manufacturing

It aims at designing, assembling, manufacturing, etc. This course provides students with knowledge in studying the behavior of solid objects, analyzing the movement of fluid, motion of objects, energy, heat transfer, creating functional designs for mechanical systems and components, and various techniques for shaping, etc. This course enables students to contribute to the security and development of the country. What they need is the support of the government in order to use their knowledge for the good of the country.

Applied Mechanics

It aims at designing and manufacturing different industrial devices. This course provides students with knowledge in the design of structures and machine elements. Applied mechanics in the curriculum is very important since the students taking it can design devices that can be used by the DRC army for the protection of the country.

Mechanical Production

It aims at manufacturing pieces. This course enables students to create machines, tools, systems, etc. This shows that the DRC students in the Electromechanics Department are able to contribute to the security and development of their country if they are well-trained and equipped.

Digital Control of Machines

It aims at controlling the interaction with machines and other devices. The students taking this course study how to interact with different machines. This interaction facilitates autonomous actions between machines. This knowledge can help design and manufacture drones that are useful for the army.

Modern Electrical Engineering

The modern electrical engineering course is about training students in designing, analyzing, implementing electrical systems, devices, and technologies, and maintaining electrical systems to solve practical problems.

Thermomechanics

The course in thermomechanics enables students to study the behavior of bodies. That is, the students taking this course study the behavior of energy and matter in systems. With this knowledge, the students understand temperature, energy, heat, and how these elements change under different conditions.

V. DISCUSSION

The Democratic Republic of the Congo is a big country. Its soil, undersoil, flora, and fauna are rich enough. This wealth is envied by many other countries. This can be a permanent cause of war, external threats, and internal conflicts. Therefore, the Democratic Republic of the Congo must be prepared to defend itself. The DRC universities and colleges already have well-designed curricula. Students are taught to solve the problems of the country. The government has the responsibility to support the effectiveness of the implementation of these curricula. The Democratic Republic of the Congo should not rely only on diplomacy. Peace is not a result of diplomacy, but power. To be powerful requires powerful weapons, munitions, warplanes, warships, bombs, missiles, rockets, etc. The Democratic Republic of the Congo can manufacture

all these items because it has the ores and materials which are required.

VI. SUGGESTIONS

The DRC decision-makers are advised to endow universities and colleges with different laboratories and ateliers where students can think, experience, and design any means for the protection and defense of the country. The DRC's ores need to be exploited and transformed in the country to ensure military and economic independence. These are the facts that will lead the country to its security and peace. Diplomacy can be used in the sense that the DRC, as a part of the world, can collaborate with other countries. One should retain that diplomacy between powerful countries and weak countries is for the benefit of the powerful countries. If the Democratic Republic of the Congo keeps using diplomacy for its peace, it will be a battlefield. To avoid this disastrous situation, the DRC decision-makers must understand that the country's peace and development are in self-defense.

VII. CONCLUSION

The war in the East of the Democratic Republic of the Congo led people to think about the effectiveness of curricula in the DRC universities and colleges, since the universities and colleges have to find solutions to the problems of the country. The analysis of some courses in the electromechanics curriculum has pointed out that the curriculum is well designed. If universities and colleges do not provide solutions that the country needs, it is because the government and political leaders do not support the effectiveness of the implementation of the curriculum. Considering the courses planned in the curriculum, the students are able to contribute to the defense and development of the DRC if the DRC decision-makers provide universities and colleges with appropriate equipment. For this reason, it has been suggested to the DRC decision-makers to offer to universities and colleges different types of laboratories and ateliers so as to help students think, experience, and design what is useful for the country. It has also been said that the country should not rely on diplomacy. It should first of all become powerful by manufacturing its own weapons, munitions, warplanes, warships, bombs, missiles, rockets, etc., because diplomacy between powerful countries and weak countries is in favor of powerful countries.

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