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IMPROVING SCHOOL RESULTS IN BURUNDI USING THE CULTURO-TECHNO-CONTEXTUAL APPROACH

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Abstract: This article proposes an innovative solution to the educational crisis in some countries by introducing the Culturo-Techno-Contextual Approach as an inclusive, relevant, and high-quality teaching/learning method adapted to the student's needs. The aim is to produce competent individuals by taking advantage of learners' and teachers' socio-cultural, local, and digital contexts. The study was conducted at the University of Burundi, Applied Pedagogy Institute, French Department, Baccalaureate 2 class, during the academic year 2021-2022. Thirty students were selected to participate in the experiment. They were divided into two groups: an experimental group taught using the Culturo-Techno-Contextual Approach and a control group taught using the lecture method. The results showed a significant improvement in the academic performance of the experimental group, with a pass rate of 89.33%, compared to the control group, which achieved a pass rate of 66.66%. This represents a significant difference of 22.67% between the two groups. The introduction of the Culturo-Techno-Contextual Approach in the classroom has demonstrated its effectiveness in improving students' academic results in Burundi. These results suggest that this approach could be a promising solution to the educational crisis observed in certain countries worldwide, particularly in Africa, including Burundi.

Keywords **- socio-cultural context, digital environment, inclusive teaching/learning, academic achievement**

I. INTRODUCTION

The teaching/learning of a foreign language should be linked to the socio-cultural knowledge of the teacher and the learner and the local and digital context. In other words, knowledge of the concepts of a target language and their meanings requires indigenous socio-cultural knowledge. Ogbonna argues that language learning is not about internalizing linguistic elements, but rather a developmental process that enhances communication and social interaction [1]. This means that considering the sociocultural context is an important parameter in acquiring linguistic meaning [2].

Indeed, a language is both an evolving system of linguistic and non-linguistic signs (vocal, visual, gestural, graphic, olfactory, tactile, and gustatory) [3] and a socio-cultural fact of a given community that meets the need for communication between individuals [4]. Thus, we assert that language is the main means by which a culture transmits its myths, representations, norms, beliefs, traditions, values, and artefacts [5]. According to Bibeau, language not only has cultural, cognitive, affective and social properties, but also an astonishing openness to the past and the future [6].

In our case, the study focuses on the French language in Burundian higher education. The central objective of our research is to analyze the contributions of the Culturo-Techno-Contextual Approach and those of the Magistral Method in the classroom, in Burundian educational structures.

Higher education systems should normally be able to adapt to the societies in which they are embedded, as students respond to their needs by applying knowledge and ideas that enable them to master their socio-cultural, material, and technical environment. Language teaching/learning should not be limited to methodological interventions in the classroom, but should also take account of the world outside the classroom, taking account of indigenous knowledge to provide students with what the best classroom in the world could not provide. In other words, when students express themselves inside and outside the classroom, there is a polyphony of voices, each bringing their socio-cultural context, identity, and preferences, which enriches the educational environment for all. While it is true that the classroom is a privileged place for the development of language skills, the fact remains that extra-curricular activities offer students opportunities to experience the full social and cultural dimension of the language. This means that teachers must not close the door to external social influences and web resources; on the contrary, they must integrate into their teaching the context in which learners and teachers evolve. What's more, the teaching methods developed by the teacher can be extended outside the classroom, for example by setting up a school creative club or publishing a school magazine.

Other researchers agree, stating that it is generally recognized in language teaching that learners need not only grammatical knowledge and skills but also the ability to use the language in given socio-cultural situations [7]. In the same vein, sociocultural education aims to train students to appreciate the different cultures present in their environment and therefore to accept contact with other cultures so that artefacts, culturally this diversity becomes a positive element that enriches the social, cultural and economic life of the community.

To do this, the teacher must encourage learners to look beyond particularisms, discover commonalities, be tolerant of differences, and value positive attitudes. It's about opening up to other cultures and developing one's own identity. Maana supports this assertion when he says that the aim of foreign language teaching in an intercultural approach is to focus on the learner's identity and the harmonious development of his or her personality in response to the enriching experience of cultural and linguistic expectation. The learner learns acceptance of others, tolerance, and cultural and linguistic diversity[2]. This type of development therefore involves learning to know, to be, to know how, and to live. The aim is to create learning environments that facilitate social interaction between students, encouraging them to transcend conventional stereotypes and folkloric elements. In addition, it seeks to equip students with the skills needed to navigate cultural mediation. In other words, the aim is to help broaden students' socio-cultural horizons and improve their understanding of the world around them and their interactions with it. In the context of increasing interaction with individuals from diverse cultural backgrounds, the challenge is to successfully navigate and thrive in a multicultural environment. It is therefore crucial to integrate the new information and communication technologies, as well as the sociocultural and digital environment, into the curriculum of secondary schools and universities.

In essence, foreign language teaching should facilitate students' experimentation with new systems of meaning and associated values, enabling them to acquire new skills and reflect on their cultural systems [5].

II. STATE OF THE ART

The Magistral method, also known as the traditional method, the expositive method, the grammar/translation method, and the reading/translation method [8] has its roots in the teaching of ancient languages (Greek, Latin, and some Hebrew).

This method involves a teacher presenting his or her knowledge to a passive audience. This is the transmission approach, in which programs are presented in the form of lists of subject content to be passed on to learners. Teaching practices are generally predictable and static [9]. The teacher is the sole possessor of knowledge, while the learner is ignorant and lacks prerequisites. The learner's memory resembles a blank page, a funnel, or an empty container into which the teacher pours his knowledge. This model places the teacher at the center of learning: it's master-centrism.

However, teaching/learning should never be the result of a simple knowledge transfer process, usually a one-way street between teacher and learner. It is preferable to consider the learner not as a passive recipient, but as an active person who constructs his or her knowledge according to his or her needs and interests. The learner should be at the center of learning. Some researchers have noted that at university, the lecture is the main method of transmitting knowledge between an omniscient teacher and students who are both listeners and scribblers [10]. Although the Magistral method is described as economical, especially when dealing with large classes, it is ineffective, inappropriate, and criticized for its many limitations. Bruter admits that the massive failure of students in the first years of higher education has drawn attention to a subject long neglected by research: teachers' practices.

Recent years have seen the emergence of pedagogical, sociological, and linguistic studies that attempt to analyze the factors behind this failure, and in which the lecture is often in the dock [11]. In a sociocultural context that emphasizes scientific, linguistic, and technological training as a tool for adaptation and social integration, the many failures and difficulties encountered by students in their studies pose major challenges for the government, the university institution, curriculum designers, researchers, educators, teachers, and trainers. Ndayizamba bears witness to this when he states that for many years, the phenomenon of failure at university in general, and in Burundi, in particular, has been a cause for concern because of its scale. He says that the results obtained at university are far from commensurate with the investments made by the government, given the large number of students who fail. The databases available at the University of Burundi in 2011-2012 show that the overall success rate in the first year was around 40% [12].

Nevertheless, university teachers should realize that lectures have become unsuitable for today's students and are causing serious pedagogical problems! Wouldn't the best solution be to manage these complications better to reduce the failure rate at university? Although the trend is still towards the archaic method, there are nonetheless a variety of approaches that can be used to improve the teaching/learning of lessons. Duguet and Morlaix concur, pointing out that the failure and success of learners seem to be taken in hand by teachers, not from a guilt-ridden perspective, implying that they are the cause of failure, but by emphasizing that the quality of their teaching practices can be decisive in fostering success, with constant requirements [13].

It is with this in mind that, in this article, we have used the Culturo-Techno-Contextual Approach (CTCA) so that it can support the Magistral and active methods generally used in teaching/learning lessons at the University of Burundi. Moreover, Nyandwi points out that the teaching method often used at the University of Burundi is the Magistral method, frequently appearing in evaluations that focus only on the retention of resources and do not call for reasoning and critical analysis [14].

In short, this new approach could be a building block for meaningful learning of science and languages, particularly French, in the French semantics course.

III. ORIGIN, DEFINITION, AND STAGES OF THE CULTURO-TECHNO-CONTEXTUAL APPROACH

3.1. Origin and definition of the Culturo-Techno-Contextual Approach

The Culturo-Techno-Contextual Approach is a teaching/learning method invented by Peter Akinsola Okebukola in 2015 [15]. It is built on a foundation consisting of three pillars, namely *the sociocultural context of the learners and the teacher*, *the geographical context*, and *the digital environment*.

Peter Akinsola Okebukola defines the Culturo-Techno-Contextual Approach as follows:

"The approach is an amalgam, drawing on the power of three frameworks- (a) cultural context in which all learners are immersed; (b) technology-mediation to which teachers and learners are increasingly dependent; and (c) locational context which is a unique identity of every school and which plays a strong role in the examples and local case studies for science lessons." [15].

In other words, it is a pedagogical approach that offers the learner the ability to learn the subject in a digital context, not as an abstract concept, but as a body of knowledge that exists in his or her local, academic and socio-cultural environment and that is linked to his or her everyday activities.

3.2. The stages of the Culturo-Techno-Contextual Approach

According to Okebukola, the initiator of the Culturo-Techno-Contextual Approach, and Oladejo, the application of the Culturo-Techno-Contextual Approach follows a process of five main stages: the introduction, the reconstitution of the groups, the presentation of the work, the summary of the lesson and the sending of the summary to the learners. The session lasts 80 minutes, i.e. 1 hour 20 minutes [15], [16].

During the first introductory stage, the teacher announces the subject of the lesson and invites the learners to think about and draw on their indigenous knowledge of resources associated with the subject. Using their androids or other internet-connected devices, they search the internet. Awaah puts it this way:

"Students should be informed to use their mobile phones or other internet-enabled devices to search the web for resources relating to Politics [....]. This introduces students to the technological aspects of the CTC Approach" [17]. In other words, students need to be informed that they can use their mobile phones or other Internet-connected devices to search the web for resources relating to the lesson. This allows students to become familiar with the technological aspects of the Culturo-Techno-Contextual Approach.

The second stage is to reassemble the groups. The learners are divided into groups so that they can share their thoughts. Once the task has been completed, each group sends its work to the teacher via SMS or WhatsApp.

The third stage is for the group leaders to present their thoughts to the class.

The fourth stage coincides with the lesson summary, where the teacher concludes by sharing his or her indigenous knowledge and cultural practices relating to the subject, without forgetting to include the digital context. The fifth and final stage involves sending the summary to the learners. The teacher sends the lesson summary to the learners via SMS or WhatsApp.

In summary, the cultural-techno-contextual approach helps to develop students' socio-cultural skills when they obtain information available in their immediate environment, linked to their local contexts; from parents or other resource persons; before coming to class to share ideas with their classmates (peers) during group exchanges. Sociocultural theory therefore includes a relationship between teacher and student, based on social interaction. When using the Culturo-Techno-Contextual Approach, teachers help their students to become more involved in their learning.

IV. MATERIALS AND METHODS

On the empirical side, a mixed methodology was adopted, making it possible to combine qualitative, quantitative, and comparative data collection and analysis methods. Qualitative, in the sense that we asked students to answer closed questions individually; quantitative, because the results obtained were quantified in terms of the number of students and the teaching/learning method applied; and comparative, because we compared the results obtained by the students after having been taught using the Culturo-Techno-Contextual Approach on the one hand and the lecture-based method on the other.

The actual survey was carried out as follows: we did a pre-test with a sample of 188 students out of 189 in the baccalaureate 2 class. The pre-test showed us that there are semantic concepts that the majority of students do not understand. We randomly selected semantic concepts and asked the students to tick the ones they understood. We found that three concepts were not understood by the majority of students. These concepts are isosemia, semantic isotopy, and meso-semantics. To achieve a good understanding and distinction of these concepts, we opted for a lesson on them. To avoid overcrowding, we opted for a small, non-overcrowded class of no more than 30 students. During the teaching/learning process, we set up two groups of students: the experimental group we taught using the Culturo-Techno-Contextual Approach, made up of 15 students, and the control group taught using the lecture method, made up of 15 students. We also created two WhatsApp groups corresponding to the two classes. The main aim of creating these WhatsApp groups is simply to facilitate vertical and horizontal communication. In addition, the students send their practical work to the group and the teacher sends a summary of the lesson to the group, especially for teaching/learning via the Culturo-Techno-Contextual Approach. At the end of the lesson, the students were assessed using an online questionnaire set up on Google Forms. The evaluation was done on WhatsApp by clicking on the link sent to them. All the students did the same assessment, sitting together, under the same conditions, only the link was different. After assessment, the results obtained by the two classes were compared to see which class obtained the best scores.

V. SEARCH RESULTS

The responses to the pre-test sent to students via a questionnaire administered on Google Forms reveal that some semantic concepts are difficult for students. Below is an illustrative diagram.

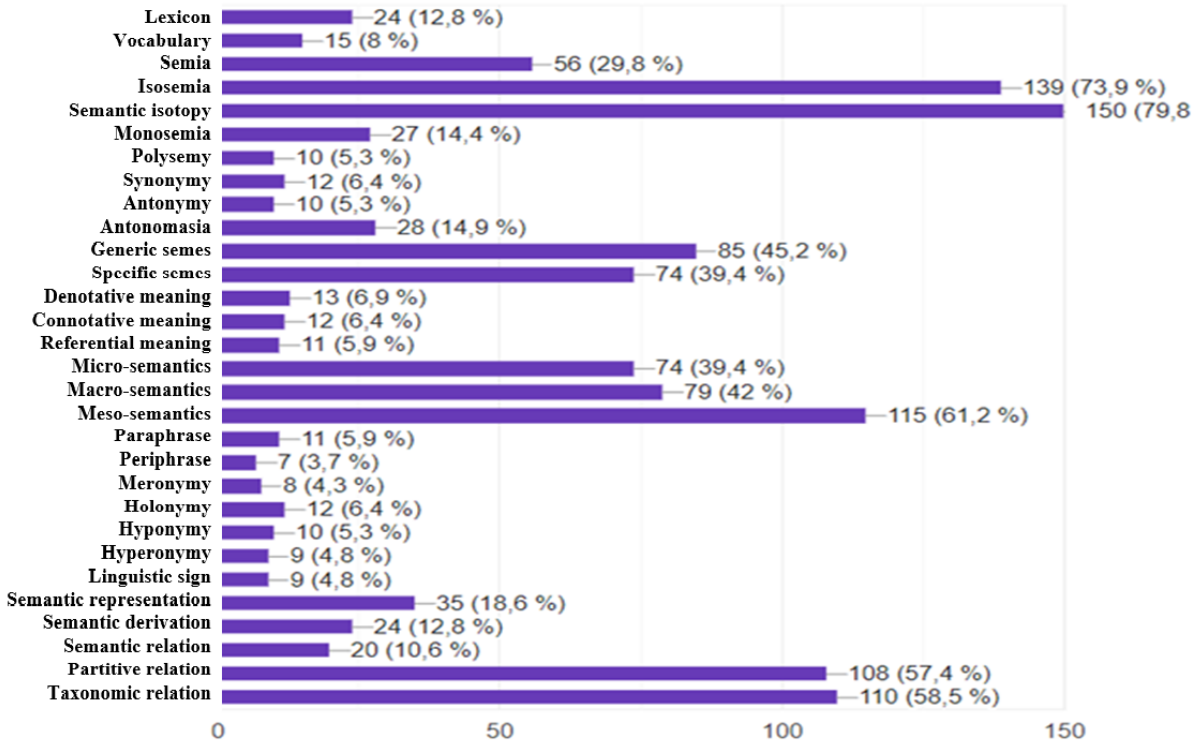

***Figure 1. Some** difficult concepts for students*

The figure above shows that there are semantic concepts that are difficult for a minority of students, namely *semantic isotopy* (150 students out of 188, i.e. 79.8% do not understand the term), *isosemia* (139 students out of 188, i.e. 73.9% do not understand the meaning of the concept), *meso-semantics* (61.2%), *taxonomic relation* (58.5), *partitive relation* (57.4), *generic semes* (45.2%). The rest of the concepts were difficult for a minority of students.

This finding shows us that students at the Applied Pedagogy Institute in the French department need a teaching/learning method that could make it easier for them to understand and internalize these difficult semantic concepts.

It is for this reason that we opted to teach a lesson relating to the first three most difficult concepts (semantic isotopy, isosemia, meso-semantics), using two different methods: The Magistral method and the Culturo-Techno-Contextual Approach. The aim of using these two approaches was to see if there would be any dissimilarity in students' results when taught using different methods. The lesson was chosen because we found that students have difficulties, misconceptions, confusion, and inconsistent knowledge about these concepts. The main objective of the lesson is to understand and distinguish semantic concepts and to know how to use them in everyday communication.

The success rate after the lesson has been dispensed with is shown in the table below:

Table 1. Comparison of student success rates

Groups taught	**Success rate**
The control group taught using the lecture method	66.66%
The experimental group taught using the Culturo-Techno-Contextual Approach	89.33%

We find that the success rate for the magistral method is 66.66%, while the success rate for the Culturo-Techno-Contextual Approach is 89.33%.

VI. DISCUSSION OF THE RESULTS

If we analyze the results of the research in the table above, we can see that students taught using the Culturo-Techno-Contextual Approach achieved higher results than those taught using the traditional or Magistral method, with a final difference of 22.67%. The figure below illustrates this difference.

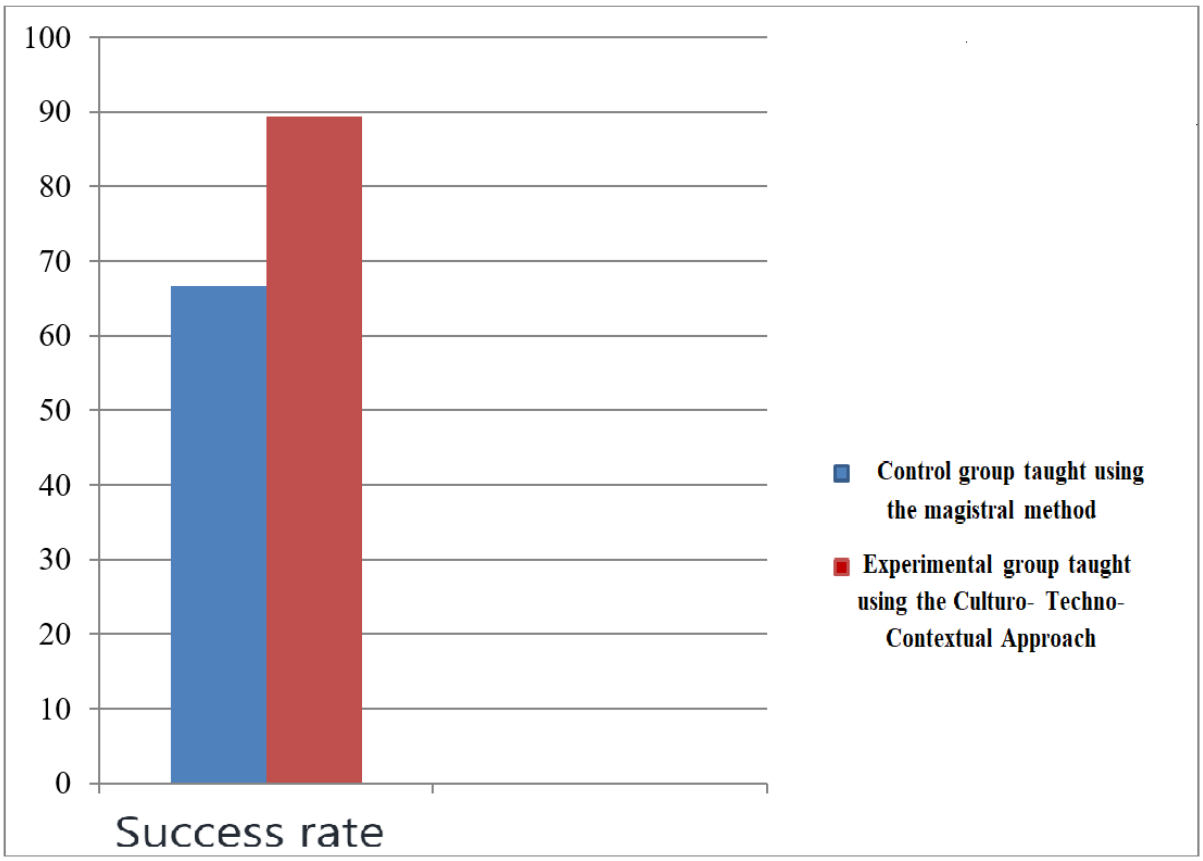

Figure 2. Comparison of the results of the control group with those of the experimental group

The results obtained show that the Culturo-Techno-Contextual Approach has proved to be more effective and more profitable than the Content Approach. This shows that it can provide added value to the lecture-based method often used in post-secondary education in most countries in the world, including Burundi. The Culturo-Techno-Contextual Approach can help to enrich students' lexical baggage and improve their results. It will also enable students to understand, internalize, and master notions relating to the meaning of French language concepts because it is an approach based on the student's socio-cultural environment, the geographical context in which they find themselves, and the digital world around them.

VII. CONCLUSION AND SUGGESTIONS

This article shows that the teaching/learning of a resource should take place in a socio-cultural and geographical context using Information and Communication Technology (ICT). Students have an identity, an entourage, a school and extracurricular environment, a family, a digital environment, and people they care about. Teachers should not limit themselves solely to transmitting resources; rather, they should play their role as coaches, facilitators, and guides, sharing their intellectual talents with their students! In this way, the Culturo-Techno-Contextual Approach linked to the method of teaching in small groups of mutual aid (peer teaching) would be the essence of higher education throughout the world. Duguet and Berthaud reveal that, even in France, university lecturers have for several years been motivated to train more in pedagogical innovation relating to everything that does not come under the heading of frontal or Magistral teaching [18]. It was with this in mind that the Culturo-Techno-Contextual Approach (CTCA) was introduced to support the archaic lecture-based method. CTCA has added value to the expositive method, as it has contributed to the enrichment of lexical baggage and the understanding, internalization, and mastery of notions relating to the meaning of French language concepts. It proved to be more efficient, more cost-effective and more effective in improving students' results in the French semantics course. This is not a personal experience, but a shared one. Over the years, several researchers have demonstrated the effectiveness of the Culturo-Techno-Contextual Approach on student results. A study conducted by Okebukola and his colleagues concluded that using the Culturo-Techno-Contextual Approach as a teaching/learning strategy produces higher academic results among learners than using the lecture method. Oladejo and his colleagues, for their part, studied the effect of the Culturo-Techno-Contextual Approach on the results of chemistry students. The study revealed that students taught using the Culturo-Techno-Contextual Approach achieved significantly better results than their counterparts taught using conventional teaching methods.

Akintola conducted a study on the effect of the Culturo-Techno-Contextual Approach on the academic performance of ecology students, based on data collected from the achievement test and questionnaire, and found that the Culturo-Techno-Contextual Approach, when used as a teaching/learning strategy, improves students' academic performance because it enables active participation

in learning and the removal of misconceptions. In addition, students taught using the Culturo-Techno-Contextual Approach achieved better results than their peers taught using the transmissive model [19]. Even in other scientific and non-scientific disciplines, the current trend is for CTCA to stand out as a quality teaching/learning method in Africa and other parts of the world [20].

In short, there is a strong need for post-secondary education courses around the world to move away from a lecture-based approach towards one that encourages student consultation and participation, whether in the exact sciences or in the humanities and social sciences.

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