

HIGH COGNITIVE ACTIVATION BY COMPLEX TASKS AS A TOOL OF DECREASING REPETITIONS AT TERTIARY LEVEL IN THE DEMOCRATIC REPUBLIC OF CONGO “Case of South Kivu Province”

AUTHORS

1. Pierre MURHULA KAHETO/M.A in education

M.A Murhula Kaheto Pierre is currently a teaching assistant of English at ULPGL/BUKAVU in South Kivu in the Democratic Republic of Congo. He studied at the TTC/Bukavu where he graduated as a ‘Licence’ in English since 2003 and has been teaching English as a foreign language in different higher learning institutions such as ISC/BUKAVU, ULGL BUKAVU, UNP/BUKAVU, ISP/IDJWI, ISP/KABARE, ISP/BUKAVU in the school of language(SOLAS) and ULPGL/BUKAVU. For his further studies, he studied his master programme in education quality in the OttoFriedrich University of Bamberg/ Germany (2015-2017) where he graduated as a M.A. in education quality and now he is a PhD researcher in education quality.

2. Ghislain KUMBUKA KALIHOFU, L2 In EDUCATION SCIENCES

Mr Ghislain Kumbuka Kalihofu is a Teaching Assistant of some courses of the faculty of Psychology at ULPGL/BUKAVU and ISP/IDJWI in the south kivu Province in the Democratic Republic of Congo. He studied at UAGO (UNIVERSTITE ADVENTISTE DE GOMA) and graduated in the Education Sciences as a “licencie” in Education planning since 2015 and has been teaching the courses such as planification de l’éducation, Administration de l’éducation in different high learning institutions.

3. Samuel CIMANUKA KARONGO, L.A in Teaching Didactics

Mr Samuel Cimanuka karongo is a Teaching Assistant of English language at ULPGL/BUKAVU in the South Kivu Province in the Democratic Republic of Congo. He studied at the teachers’ training college of Bukavu and graduated in the teaching Didactics as a “licencie” in English since 2011 and has been teaching English as a Foreign language in different high learning institutions such as ISP/KAZIBA, ULPGL BUKAVU,UCB and ISC/BUKAVU.

1. INTRODUCTION.

Pedagogical and psychological Research show that the teacher plays a determining role in helping students learn more during his or her studying process (Dembelé & Gauthier, 2004). The way the teaching sessions are handled methodological and presented by the teacher is one of the effective success of the learner considering both the student and the teacher as the best tool of cognitive activation. School authorities and educators around the country should then promote the teacher’s personal development with frequent in-service trainings around

because these are essential for quality education; so ensuring that teachers and educators are empowered and well-trained should get prominence for schools (World Education Forum, 2015). During our study, the question of quality teaching and learning will be raised and the cognitive activation by complex tasks will be focused on as one of the approaches which may increase repetitions by students. In so doing, a scientific inquisitiveness has led our analysis and a number of questions came up to the mind such as: Why do students around my city have to repeat classes although enrolled as permanent ones and attending the class sessions regularly? Can repeating a class give more chance to the learner to improve or no? Can high cognitive activation by complex tasks enhance the system quality by decreasing repetitions? Can cognitive activation by tasks reduce the repetitions at tertiary level? Do repetitions have advantages and disadvantages at tertiary level, if so, what are they? What are the consequences of repetitions at tertiary level in the DRC education system?

Regarding the questions mentioned above, we find worth to mention the context of the tertiary education in the DRC also give the problem statement related to higher education in the DR Congo.

1.1. Context of teaching in the Congolese higher education since 1954.

Since the establishment of the first university in the DRC, The National University of Zaïre, in 1954 (Dejean & Binnemans, 1971) the number of higher institutions and universities have fast increased, especially after 1991 after the national conference held in Kinshasa from September to December 1991. The teaching context was given in three perspectives, namely: organization, methods and techniques of teaching, and teacher training and performance in higher education. So far as the organization of teaching in higher education, is concerned the teaching and learning system which were directly determined and controlled by the central government through its national ministry were partly decentralized around the country to Higher learning institutions were given the responsibility for designing, the teaching and assessing programmes in the framework into the national curriculum of teaching and learning policies that govern higher education in the DRC. Also from that period private high education was accepted by the central government of the DRC and the started working privately in some provinces such South Kivu, Katanga, Equator etc. This means private higher institutions were recognised by the central ministry of higher education with possibility to add new system learning, process and materials on the national curriculum programme depending on the relevancy, mission and goals assigned by each institution but submitted to the national ministry before its reliance. Therefore, both private and governmental Higher

Education institutions became responsible for monitoring their teaching and learning process through different directorates of quality assurance at the institutional level. Concerning teaching methods and techniques, teacher-centred pedagogy and teacher figure dominant have dominated Congolese higher education (Mokonzi, 2009). In 2003 some South Kivu protestant schools coordination sponsored by... among which the CBCA and the Anglican schools around Bukavu found worth to start with some new changing methods and techniques by introducing the PAP which is a student-centred pedagogy – where students have to actively participate in the teaching and learning processes it means that he/she

practices more than the teacher – but also facilitating mobility for students in different education systems as a response to globalization and the internationalization of higher education (CBCA, 2010). The Ministry of Education advocated for studentcentred methods as a means to improve students' outcomes so as to effectively prepare students for successful employability and become engine of social and economic transformation process (CBCA, 2016). Today the Congolese Higher Education has got a fast spread and so many universities and colleges are functioning by practising some new ways of teaching and learning all over the country and the teaching staff is being trained both locally and internationally, the introduction of modular systems in higher education is being discussed but so far has not succeeded yet, the emphasis on student-centred pedagogy is the key discussion in the ministry of higher education, and the decentralization of higher education has succeeded but the question of quality teaching is of paramount usefulness.

One of the elements that we should point out is that the Congolese higher education system is still selective, it means that the system depends on the social class in which the learner is found. It is organised in the sense that only elitists are selected and others considered not very smart students (coming from low classes) are left out, therefore, so many students have to repeat years due to the social family. One of the causes of this high level of repetitions by students is the lacking in high cognitive activation by tasks.

1.2. Problem statement

Despite the awareness of student-centred pedagogy – which was introduced in the high education teaching system to improve the students' competences and practice teacher-centred teaching methods still dominates the Congolese higher education system (Mokonzi, 2009). This new system of so doing is characterized by the rote memorization; students are asked to mechanically swallow the content transmitted to them by teacher. Pedagogical and Psychological research show that the Congolese education is expanding quantitatively at every level particularly. Nowadays, the higher education sector presents a great assumption of quantitative growth as compared to the twentieth century around the country. Most of learners have access to education even at tertiary level quantitative growth is noticed. However, Nowadays' quality of education is still deteriorated at all educational levels (World Bank, 2005). This means that students' competences are still critical in creativity, entrepreneurship skills and risk-taking, problem solving, ICT, practical skills, and critical thinking. This is a big education gap since that the world of work for which the higher education prepares students is not reduced to ready-made problems with ready-to-wear solutions. It is complex and does not necessarily require copy-paste solutions to handle professional and life related challenges. If students are to be prepared for the complex world of work, the reflection on improving quality teaching in higher education should be focused on finding strategies to involve students in a complex learning. Only this will prepare them for the productivity required in the world of work and the thinking skills graduates need to become successfully employed. It is with this regard that this seminar paper intends to describe and discuss the meaning of high cognitive activation by tasks as a way of reducing repetitions in Higher education and also as one of the means to enhance quality teaching in higher education in the DRC.

Being one of the assistants teaching English at Universities of my country, the DRC, I notice that a great number of teachers at higher or tertiary education are not aware of how they can enhance their students' competences by the use of complex tasks in their teachings. They have no training related to teaching quality enhancement. The teaching system is still the use of the traditional approach that the DRC inherited from the Belgian colonisers in which the learner looks like a vase to fill with inputs so that he/she can step to output. The Congolese higher education did not develop; it has remained the same since it started in 1953 by Belgians. With this state of lack of development of the system, the major consequence is the presence of outputs without competences; and this lacking in cognitive activation by tasks which could help in enhancing students' competences in the tertiary education in DRC, results in so many repetitions on behalf of the students. The students are obliged to repeat schooling years and this came up as the right way of doing things and teachers find it as a way of showing their strength to their students, they even frighten students telling them that they will make them repeat the year.

What is astonishing is that even though so many students repeat the years for several times, they are far from reaching the expected knowledge and therefore their levels of competences are not enhanced by such repetitions in the DRC. So repetitions are rather punishments than education in the DRC.

1.3. Overview of the paper

This paper is based on the following four parts: The introduction, state of research, discussion and conclusion. In the introduction we have discussed about the context and the problem. In the state of research, we present the existing literature in which we try to define some key words; we show the usefulness and importance of high cognitive activation by tasks, the views of teachers and students toward repetitions and the consequences of repetitions in the society at tertiary level in the DRC. In the discussion we link the existing literature with the critical thinking on repetitions and quality teaching in the DRC. In the conclusion, we firstly conclude the paper by giving the summary of the findings and recommendations and secondly we state the perspectives.

2. STATE OF RESEARCH

In this section, scientific literature related to the definition of high cognitive activation, usefulness as well as the significance of high cognitive activation to quality teaching in higher education is described; views of teachers and students toward repetitions, consequences of repetitions in the tertiary level are also described.

2.1. Meaning of high cognitive activation by tasks and repetitions

From its origin, the word cognitive means: is a process that is connected to with recognizing and understanding things, and activation means: acceleration, making something start working (Macmillan University Press, 2002). This means that high cognitive activation refers to how the human brain is stimulated to think deeply on what is presented or encountered in professional or day to day life. In the context of teaching, high cognitive activation is related to strategies used to lead students to reflect on what they learn (Burge,

Lenkeit & Sizmur, 2015). The high cognitive activation refers to an essence, about teaching pupils' strategies that encourage them to think more deeply in order to find solutions and to focus on the method they use to reach the answer rather than simply focusing on the answer itself. I have to explain some of the characteristics of a complex task (**PISA, 2015**). A complex task is understood as a task which involves the learner into a learning process in which the task itself is linked to a real-life and the same task covers more than one level of competences. So to involve the learner into different levels of competences and in relation to his/her real-life. Repetition is understood as the act of repeating something, something that happens in the same way as an earlier event or again something happening or done many times in the way that it becomes boring (**Macmillan University Press, 2002**). Repetition has become a real fact in higher learning in the DR Congo.

2.2. Usefulness and significance of high cognitive activation by Complex tasks

The research report by ETS shows that complex academic tasks are crucial in teaching process in the sense that they help students enhance their competences because more reflection by them is related to their real world and this is quite well to link knowledge to the real and natural world (**Mary & Philip, 1996**). Deana explains some techniques which lay the foundation by showing students how to engage in the thinking process of producing and supporting claims as a critical aspect of understanding and deepening their content knowledge through tasks. "They prepare students for the rigour required for a new level of thinking: producing their own claims about content as well as generating and testing original hypotheses related to their content knowledge" (**Deana 2015, p2**).

Research shows that effective learning takes place when students are stimulated through cognitively challenging activities (**Adey, 1999**). Additionally, the human brain is not static, but rather it is dynamic. The brain "changes over time depending on how it is stimulated and used" (**Rogers & Horrocks, 2010, p.89**). The authors show that "parts which are stimulated are developed whereas those which are not stimulated stay undeveloped and atrophied" (p.89). This research shows that students need to be given challenging activities to help them learn.

Therefore, complex tasks are a necessity. Methods of cognitive activation include, but are not limited to, discussion, summarizing, questioning, mapping opinions and attitudes, role plays, group or partner work (**Burge, Lenkeit & Sizmur, 2015**). Within this regard, description and reflection on the meaning and characteristics of complex tasks is of paramount importance so as to help students learn effectively.

2.3. Views of teachers and students toward repetitions

Research has shown that a great majority of the teachers viewed repetition as very advantageous for all of the students in particular as regards students' academic achievements. Repetition is viewed as a preventive measure for future academic failure, and as an effective means for students who do not get home support in their studies. Besides, according to teachers, after repetition students get better results the second time and catch-up with their peers (**Anita, 2013**).

In addition to prevention to future failure, repetition is viewed as an opportunity for improving results because the student is given a second chance to do better and the teacher does a high follow up. This can be one of the reasons for those who insist on repetitions and this is done in so many countries thinking that through repetition students get new opportunities to catch up not only by teachers but also by peers. Moreover, repetition is considered effective for students originating from poor, unsupportive families. Students from poor families do not access to suitable learning conditions and consequently they are ready to fail for the first time and repetition is now and then a good opportunity for them to try and do better than what they did during the first year. Furthermore, repetition is also viewed as a right way of maintaining the grade level. Since, it is stated that each grade should have a certain level that students must reach, repetition helps for those who did not reach the level for the first year, they are likely to reach the grade level by repeating the same materials they had learned before and by repeating the students' standards (Anita, 2013).

Nevertheless, research has revealed that repetition causes lack of attention for repeaters. Human beings often like change, when they are asked to repeat the same thing they always lose attention because they think that they are less than those who succeeded, they lose their self-esteem and think they value nothing. In addition, students who have to repeat years face behaviour problems and environmental problems. They often develop hatred feelings toward people they think have caused their failures and then develop tough and bad behaviour against teachers and any other person thought to have contributed to their failures. Repetition is also viewed as wastage of both financial and time resources. This is seen since that in some countries the government pays scholarships to students, when they fail the government thinks it is paying for nothing. In other countries where the studies for children are totally under responsibilities of their parents, the later often think they pay for nothing; they target the success of their children every year. One of the biggest advantage is that repetition leads to dropouts especially for students originating from poor families because they cannot find enough money to continue paying twice or thrice a year. In short, repetition has no positive effect on the learning process (Anita, 2013).

2.4. Consequences of repetitions

Research studies indicate that repetition is a strong predictor of dropout and that there is a strong correlation between repetition and dropout. "In 2009, on average 9% of learners enrolled in schools were repeating the grade they were in the previous year². South Africa's level of repetition is high. International comparative information for primary schools for 2007 shows that South Africa's average level of repetition in primary schools (at 7%), was higher than the average level for developing countries (5%) and for developed countries (less than 1%)" (UNESCO, 2010:355). The same research states that the repetition is higher to male members than female members. Therefore at this primary level female learners move easily from grades to others and male learners move slowly from such or such other grade.

However, the same report by UNESCO states that the rate of repetition at the secondary school is higher to males because females move through to secondary school more efficiently than male learners this accounts for the much higher secondary school participation rate for females (88% in 2009) than males (82% in 2009). Repetition is much greater in higher grades

than in the lower grades. This occurs as a result of teachers in the higher grades trying to deal with learners who have failed to master basic skills in primary school but who have nonetheless progressed from grade to grade (UNESCO, 2010).

3. DISCUSSION

In this section, we summarize the status of research on high cognitive activation by tasks as a tool for reducing repetition at tertiary level in the DRC for quality teaching in higher education and reflect it in light of teaching practice in Congolese higher education. Even though there are attempts of student-centred teaching methods especially participatory and active pedagogy which has been implemented already by the CBCA and the Anglican event in higher institutions under responsibility of the CBCA and the Anglican coordination, in the purpose of improving students' outcomes, the practice of teaching in Congolese higher education is still dominated by knowledge transmission-based pedagogy (CBCA, 2016). This pedagogy is characterized by the transmission of knowledge to students as static and bits of separate information, passivity of students who consider teachers as the only source of unquestionable knowledge, lack of consistent integration and contextualization of the content to real-life situations and experiences of students, limited opportunities for students to reflect on the possibility of application of acquired knowledge, rote memorization where students are to swallow what they are taught. This sort of alienating pedagogy which is still dominating in higher education is likely to hinder students from getting necessary competences for successful employability in competitive and changing world of work (CBCA, 2016). The research shows that Congolese higher education graduates have critical competences skills (World Bank, 2005). Following Freire's banking concept in education, while teaching in Congolese higher education it is easy to notice that teaching in the higher education in DRC is still dominated by this banking system." Education thus becomes an act of depositing, in which the students are the depositories and the teacher is the depositor. Instead of communicating, the teacher issues communiques and makes deposits which the students patiently receive, memorize, and repeat. This is the "banking" concept of education, in which the scope of action allowed to the students extends only as far as receiving, filing, and storing the deposits" (Freire, 1996, p75). With regard to what CBCA, The World Bank and Freire have stated, I notice that students fail not because they are weak but because of the methodology used by their teachers to teach them. Teachers do not use suitable strategies in both teaching and evaluation. They look like oppressed and an oppressed cannot express himself, he has to agree with what the oppressor says. Teachers look like oppressors and then oppress students. This way of teachers' behaviour lead to the student's failure and therefore they are compelled to repeat years for a lot of times. Research shows that students' competences are smoothly develop when they are cognitively stimulated and challenged (Burge, Lenkeit & Sizmur, 2015). Meanwhile, among other methods of students' cognitive activation, high cognitive activation by complex tasks is found to be the key driver for students' competences. Research report by ETS shows that complex academic tasks are crucial in teaching process in the sense that they help students enhance their competences because more reflection by them is related to their real world and this is quite well to link knowledge to the real and natural world (Mary & Philip, 1996). This is because challenging tasks allow active participation and interaction among students, value the past experiences,

link what they learn with real-life situations, and offer opportunities of possibility of reflection on applicability and transferability of acquiring knowledge to similar or different contexts. This shows that methods used in Congolese higher education do not foster students' competences since the main focus is transmission of knowledge to students whose job is mainly to swallow knowledge. What is astonishing is that even during evaluation teachers ask students to give back the materials swallowed. Some students happen to do so because they mostly do not happen to be able to practice the same materials in the real life contexts, others simply fail to recite the materials and consequently they repeat the year. The question to be asked is the following: Are really weak and nothing those who fail to recite the materials? I think high activation by complex tasks should fulfil these requirements for enabling quality learning for students who are at higher education. Basing on the context and research on teaching Congolese higher education as well as the research discourse on quality teaching, it can be seen that high cognitive activation by tasks which is key to quality teaching is missing in Congolese higher education. Therefore, since that Cognitive activation by complex tasks is missing and that the banking system is dominating, students are likely to repeat years. So many reasons can be associated to students' failures; there is a need of further studies to investigate deeply on how to reduce repetitions at higher level of learning. And further research by the World Bank has revealed some causes of the lack of competences among which the disorganisation of the system and the lack of motives to students. Moreover, this can also be one of the leading causes of critical competences as it is mentioned by the World Bank ([World Bank, 2005](#)) and it is one of the main causes of repetitions at the tertiary level in the DRC which is also a big cause of students' dropouts. To improve system quality, the DRC responsible of higher education should reflect on how to implement the cognitive activation by complex tasks within the whole Congolese higher education and this will help in reducing repetitions, dropouts and outputs without competences.

4. CONCLUSION AND PERSPECTIVES

This paper sought to answer four research questions related to how high cognitive activation by complex tasks can enhance the system quality, how can high cognitive activation by complex tasks reduce repetitions in higher education, if repetitions have advantages in higher education and if they do have consequences on education quality. With regard to how high cognitive activation by complex tasks can enhance system quality, the answer is true that it can, Since that it refers to teaching strategies aiming at stimulating deep reflection of students of what they learn, complex tasks are challenging activities which require creative combination by students and even within diversity. Once the system evolves in cognitive activation by complex tasks, students become equipped about solving real life problems and also different levels of competences allowing autonomy and responsibility of students are reached in the learning process. By doing so it enhances the system quality because graduates without competences will be reduced. As far as the second question is concerned about how can high cognitive activation by complex tasks reduce repetitions is concerned, I have to mention that high cognitive activation by complex tasks is seen as powerful Strategy for quality teaching. This is taken as suitable method to enhance students' competences. If students are taught through good methods they are likely to get competences and therefore

during assessment they cannot fail, so they must succeed in exams and different tests organised. Repetitions are now reduced because almost all students gain competences and can demonstrate them. Complex tasks foster deep understanding, application, and transfer of acquired knowledge as well as students' responsibility. Moreover, the answer to the question to know if repetitions have advantages, however, the advantages mentioned in this seminar paper related to repetitions, all of them were given by teachers and not by students. Nevertheless, there is no positive effect of repetition on teach (Anita, 2013). This researcher pointed out so many disadvantages and consequences of repetition and by reading them I notice that students' repetitions should be avoided in the teaching-learning process.

By conclusion, high cognitive activation by task is a suitable tool for quality teaching in higher education which enables some students not to repeat years. This is so because students get competences if they are given cognitively challenging tasks which they are to do on their own under the guidance of the teacher. They gain experiences from peers while working on complex tasks and this is very helpful in the learning process. The experience gained from others helps them to improve their perception on things they have learnt, they really learn. While working on complex tasks they experience autonomy and responsibility together with real life problems. This leads them avoid repetitions since that they get competences from what they learn.

Since high cognitive activation by tasks is missing in Congolese higher education, the in-service teacher training in high cognitive activation by task should be one of the top priorities to improve quality education in higher education. Also the in-service teacher training about the disadvantages and consequences of repetitions should be organised for Congolese teachers teaching at higher education.

Furthermore, we have to mention that the high cognitive activation by complex tasks is not the only tool to reduce repetitions at tertiary level in the DRC, so to reach sustainable quality teaching other aspects such as good learning climate, good classroom management, individual support, constructive feedback and others should be of great importance. We are sure if teachers teaching at the tertiary level in the DRC are trained on these aspects listed, they can improve their ways of teaching and students' competences can be enhanced and at the same time students' repetitions can be reduced.

5. REFERENCES

1. Anita, H. (2013). *Controversy Over Grade Reception: Afghan Teachers' View on Grade Repetition*.
2. Burge, B., Lenkeit, J. and Sizmur, J. (2015). *PISA in Practice - Cognitive Activation in Maths: How to Use it in the Classroom*. Slough: NFER. Harris, C. & Marx, R. (2009). *Authentic Tasks*, Study Human Resources. Aiu. Edu.
3. CBCA (2016). *Etude de base en pédagogie active et participative*. Goma : Conseil supérieur de l'éducation (1985). *L'enseignement des mathématiques à l'école primaire*. Québec : Auteur.
4. Deana, S. (2015). *Engaging in Cognitively Complex Tasks: Classroom Techniques to help students generate and test hypotheses across disciplines*. Hawker Brownlow Education.

5. Dejean, C. & Binnemans, C. L. (1971). *L'université Belge : Du pari au défi*. Bruxelles : ULB
- Freire, P. (1996). *Pedagogy of oppressed*. London: Penguin Books LTD.
- Mary, K. and Philip, K. (1996). *Describing Complex Academic Tasks from six graduate disciplines using multidimensional scaling and clustering*. Research Report by ETS: Princeton, New Jersey.
6. Michael, M. (2005). *Macmillan English Dictionary for Advanced Learners: International Student Edition*. Malaysia : Macmillan Publisher Ltd.
7. Mokonzi Bambanota, G. (2009). *De l'école de la médiocrité à l'école de l'excellence au Congo Kinshasa*. Paris : L' Harmattan
8. Muholangu, M. A. (2004). *Préface. Comprendre la transition ou La constitution de la transition expliquée*. Kinshasa: Foreed
9. Roggers, A. & Horrocks, N. (2010). *Teaching Adults* (4th Ed.). New York: Open University press.
10. UNESCO (2005). *Education for All. The Quality Imperative, Global Monitoring Report*: ISBN France
11. World Bank (2005). *Education in the Democratic Republic of Congo: Priorities and Options for Regeneration*. The International Bank for Reconstruction and Development. Washington, D.C., USA