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# Educational Quality in Rwanda: Challenges and Opportunities



Protestant Institute of Arts and Social Sciences  
(PIASS) Butare - Huye/Rwanda



## **In memorial of Mr Abel Dufitumukiza**

Abel Dufitumukiza, MA was lecturer in the Faculty of Education; and Director of PIASS Quality Assurance. He had just completed his PhD in Education Planning and Management in the University of Nairobi. He passed away on July 24, 2021. A staunch and keen researcher, he was a contributor to PIASS Scientific Week and PIASS Publications Series.

## **Acknowledgement**

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# Preface

*Penine Uwimbabazi*

In its habitual annual practice, the Protestant Institute of Arts and Social sciences (PIASS) proudly presents its annual Scientific Week Publication, Series 14, on the ever vivacious theme; “*Educational Quality in Rwanda: Challenges and Opportunities*”. The choice of this theme for the current series originates first from its importance, education as one of the universal human right. Second, it is in the government’s ultimate goal to guarantee the best education access for its citizens. While access to education has been a priority for many, the debate remains on the access to quality education, raising a question on what and how different people understand “education quality” either as a term, a system or a practice.

Although there is no global consensus on what is meant by quality, it remains an important aspect for education outcomes based on the education quality standards developed by the government or the ministry of education. According to the Rwanda policy and quality assurance framework, the level of learning outcomes to be achieved and the volume of the programmes in terms of student’s credits matters in quality assurance. On the other hand, quality education reflects a range of indicators, including the institution’s investment, either on infrastructure, human development as well as on how much is spent on education which could be measured against the cost of quality education in it. Factors of quality education depend heavily on sufficient and effective supply of direct resources to schools (appropriate school curricula; teaching and learning didactic materials; skilled and competent teachers; infrastructure, pedagogical support, good school governance to provide vision, inspire, motivate, set up goals, create team spirit, monitor, evaluate, engage constant reforms and reenergize. Moreover, the discussion around education and quality education presents challenges on scope of indicators

especially the process in its implementations, and its dynamism which calls for a contextual open mind.

The Protestant Institute of Arts and Social Sciences has developed a variety of programmes through its three faculties; Faculty of Theology and Religious Studies, the faculty of Education and the faculty of development studies. Having these programmes accredited by the Higher Education Council (HEC), and the fact that they are delivered by the PIASS has required a constant lively discussion and close monitoring on its delivery, as part of the institution's culture. For example, on how teaching and learning is planned and delivered, how the assessments are done and what is being assessed, the observation of quality assurance in the age of digitalization as well as the environment in which teaching and learning is taking place. Learning from other experience both locally and from abroad, PIASS has always opened what is called 'hand on training' and successive workshops that allow people to learn and discuss about the emerging practice and how accommodative they could be within the current or traditional practice, often resulting in research and publications.

This reality attracted greatly the interest for the Protestant Institutes of Arts and Social Sciences researchers to look at what could be the challenges and opportunities of education quality notably in Rwanda. The study was approved by the PIASS academic Senate; therefore, this volume is an outcome of the 2019 scientific week's contributions from academic researchers. The scientific research week is done every year under PIASS research directorate. The present volume covers different topics related to quality education under four clusters. Cluster one covers discussions around "competence-based curriculum as a factor of quality education while raising a question on its implementation". Under this cluster, authors focus more on teacher students' perception on tertiary training; factors contributing

to motivation and decision in choosing a particular training institution; and internal efficiency of Nine-Year Basic Education. Cluster two covers “Quality education in a Digital Age” with discussions such as teacher training in the digital age for education quality, and quality education and assessment in the age of digitalization. Cluster three covers “inclusiveness and critical thinking as a factor of quality education” with topics related to inclusive education in relation to teenagers’ pregnancies, and the role of secondary education in promoting critical thinking among youth; and Cluster four which covers “partnership and cooperation in promoting quality education”.

All these are result of countless efforts from PIASS faculty staff and other staff from partner institutions, boldly backed up by the PIASS’s consistence in creating conducive environment for research and teaching-learning, research and service to the community. These activities central to PIASS eagerness to substantiate educational quality with proven research, are conducted through research centers under the directorate of research. Through these centers and faculties’ zeal for research, PIASS is enjoying its fame for research with other different publications which are internationally and locally accessible. While we definitely expect more publications in the coming year, I commend all contributors and editors who worked hard to make the 2019 PIASS Scientific Week series possible and available for readers. I encourage policy makers, practitioners and stakeholders who are interested in quality education to make use of this volume.

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# 1

## Introduction

*Tharcisse Gatwa*

The Protestant University of Rwanda [PUR-PIASS] annual Scientific Week for 2019 gathered from 6-8 December, in Huye Campus, on the theme: *Quality education in Rwanda: Challenges and opportunities*. Opening the three-day conference, the Vice-Chancellor, Rev. Elisée Musemakweli expressed his feeling that the Scientific week sheds light on the needed collective efforts to promote quality education in Rwanda. He reminded that PIASS Scientific Week, is one of the specificities of PUR, rivaled by none other in our country; it is a culmination of a year research conducted by the staff, students and external scholars on a challenging issue for our society. This event is critical to the development and sustainability of academic search for scientific truth, sharing and disseminating knowledge, skills, and innovations central to quality education.

However, the problem of defining educational quality is one of the major challenges in the search for better education as professor Uwimbabazi put it in the preface. Educational quality can be viewed in different perspectives including contexts, input, process, outputs and outcomes (UNESCO, 2004 & 2013). For Grima, quality education is “a system that ...allows children to develop and grow in school (and community) safe environments that are supportive, at the same time challenging, nurtures them to become confident, have good self-esteem and willing to strive forward yet feel a sense of responsibility towards others in their community” [Grima in Times of Malta 28 Nov 2008].

Some experts prefer calling up the quality parameters as factors helping to rate the performance of the higher education institution, including assessments process, and performance results during employment after graduation, reputation of the institution based on external reports; from that perspective, quality is broadly envisaged as the difference between the average and the excellent; between failure and success [Haseena V.A, Ajims P. Mohammed: 2015]. Hence the question: can quality education be measured; can it be improved, if yes how? For Haseena and Ajims, the answer should be yes! The peer proposes to extend to education the three measurable concepts applied in business and industry known as Total Quality Management [TQM]; these concepts are: Quality Enhancement (QE); Quality assessment (QA) and Quality sustenance (QS).

On his side, Deming proposed 14 points identified as foundational to education quality [Morrisson 1998: 65]: a. the constancy in the renewal of education purpose; b. adapting a new philosophy: schools require accountability and combativity to win the competition of quality improvement reposing on constant innovations supported by all stakeholders cooperation; c. cease to rely on mass inspection but inculcating ownership in individuals [staff, students]; d. Institute training and retraining for in-service staff, affordable and meaningful, for example done by colleagues to break the walls of separation to share resources, interact, exchange on curricula even between mathematics and humanities; e. institute leadership- a strong leadership development, ensuring power distribution to improve participation in decision making; f. drive out fear, slogans, targets and exhortations- people want genuinely to do a good job provided the organization offers a viable environment that supports and encourages them; need to



work with staff to identify potentials and areas of improvement, to eliminate institutional inhibitions including numerical quotas, statistics processes controls, but to recognize individual variations requiring measure over their ability [ Morrison P.74; 79; p.86]; g. institute self-improvement culture- in addition to training and retraining point, having a system of self-control, self-improvement which compels to constant revisiting approaches, policies, and practices; and finally, m. put everyone to work to realize the transformation, that is a constant interaction and discussions over changes and improvements [Morrison 87].

From Antiquity, Aristotle, the father of ethics pioneered formal education and set up the vision for the role of leadership at a family, school and society levels. He defined the central role good education has for a virtuous society as being the provider for justice, equity and other virtues informing the character of three principal actors: family, teachers and the magistrates [public leaders].

Quality Education in a post-genocide society is no easy enterprise. Traumatic experiences and the consequences of the 1994 genocide against the Tutsi continue to hunt Rwandan society and its education systems. The society was marked by the perpetration of violence, death, torture, rape, extermination of human resources, the destruction of resources, infrastructures and social facilities. Survivors endured life traumatic experiences and shortage of good education for long years in the aftermath. How deep Rwandan society engaged in rethinking and remodeling its education so that the future is eternally bound by first, “Never Again” then, harmony, togetherness, excellence and shared well-being? To quote Nelson Mandela, “if people are taught and learn to hate, they can also learn how to love”. For a post-genocide,

post-traumatised society futures perspectives must be shaped by a critical thinking central to quality education.

EDPRS, the Second Economic Development and Poverty Reduction Strategy (**EDPRS 2**) launched in the framework of Vision 2020 defined quality of education as a state where all children leaving school are “equipped with the skills, knowledge, attitudes and values needed for Rwanda’s economic and social development and for their own further educational and social development.” (World Bank, 2011: 90).

The provision of education in Rwanda has faced appreciable changes with the introduction in 2003/04 of the Universal Primary Education (UPE); and five years later, the initiation of Nine-Year Basic Education (9YBE) was introduced to increase learners’ participation rates at both primary and lower secondary education. This resulted in a huge demand for upper secondary education, hence the introduction of Twelve-Year Basic Education and the diversification of school programs. Similarly, there was an emphasis in the Technical and Vocational Education and Training (TVET). Access to higher education expanded and academic programs diversified to meet the national socio-economic development vision. This therefore challenge researchers and implementers to reflect on whether the existing education policies, quality standards, governance and management of the system were strengthened and provided enough to allow access to quality education improvement.

Edouard Ntakirutimana and Gaspard Ngendahayo from PIASS Karongi Campus, in their paper called: “Teacher students’ Perceptions on University Teachers Training. Towards the Implementation of Competences-based Curriculum” argued that the increased unemployment and underperformance

among university graduates is to be blamed onto Teacher Training Institutions (TTC) which have not adapted their teaching approaches to the new competence-based curriculum (CBC).

Abel Dufitumukiza [+] and Beatrice Mukanyandwi argue that from the time Higher Education was liberalized, there was huge interests among adults of enrolling in Higher education programs. And yet, little still is known on the factors influencing the decision of the learners to enroll; whether economic, political, social, technological, educational factors or others.

In the same logic, Abel Dufitumukiza, brings forth the issues of waste and internal efficiency in High Learning Institutions focusing on assessing and analysing the resources that enable a given school to retain all enrolled students so that they complete successfully the programs of education for which they registered. Dufitumukiza furthers his study on Internal Efficiency in Ngoma Sector, Huye District on the increase survival rate in the period of the study. The paper recommends reinforcing school record, keeping mechanism and establishing regular assessment as a measure of control of students' stagnation and dropout.

Professor Jean Gabin Ntebutse of the University of Sherbrooke, Canada, introduced and discussed a “Framework of Guiding Action for Teacher Training in the Digital Age for Education Quality”. Prof. Ntebutse said that digital technology is penetrating every facet of social life emphasizing the need to take into consideration the development of digital competence, developing programs for teacher training to face the challenge of the 21<sup>st</sup> century.

Professor Penine Uwimbabazi and Rev. Damien Nzeyimana discussed the question of internal and external moderation as factors of quality education and assessment in the age of

digitalization. Quality education, they argue, call to internal and external moderation to assess the school learning processes, manage and channel the processes, sending and receiving and processing third's part information are serious challenges. Therefore, they looked at whether digital technology that already made obsolete the traditional use of post offices would be able to resolve ethical concerns involved?

Discussing the papers, Dr Birantamije, enlarged on the age of conflict between the systems and models of education, the role of leadership and management and suggested that there is a need to develop a framework based on tested theories and practices for political choices for home grown education to last sustainably. Therefore, he strongly believes in the need to consider the experiences of communities and different professions. Furthermore, he brought forth the challenge of correcting the digital balance internationally and nationally, suggesting that research should elucidate how digital systems can help to build a more performing moderation model, conflict free within the institutions, helping to assess and manage the resources available and minimizing cyberbullying.

The theme of inclusiveness was approached from the perspective of teenagers' pregnancies; unwanted pregnancies are factors of discrimination because they lead to high dropout rate, psychological and social isolation of the girls involved argue Ignace Ntakirutimana and Prof. Penine Uwimbabazi

The theme of inclusiveness was also approached from the perspective of critical thinking among youth. Denyse Mukantwari and Celestin Nsengimana argue *that* critical thinking has never raised the attention of the school actors in the Rwandan education system which heavily rely on the encyclopedic Latin approach

on the one hand, and memorization as a factor of “banking education”. For them, critical thinking has been considered by many as key to change in the post genocide Rwanda to help raise generation equipped with the skills and competences capable of challenging the status quo in society.

Discussing the papers, Prof. T. Gatwa suggested that critical thinking is a fundamental expression of free reasoning and the autonomy of will of human being. Critical thinking promoted free mindset, key to different revolutions initiated by philosophers and thinkers resulting in democratic values and culture. That is why, critical thinking is central to quality education.

On partnership and cooperation in promoting quality education Eraste Rukera investigated a case study on the contribution of a women religious congregation, the Abaja ba Krisito in Rubengera, Karongi, in promoting quality education. Rev. Rukera, looked at the factors that contributed to the huge success of the Rubengera Vocational Training School created by the women religion’s congregation. Rukera’s findings show that it was upon assessing carefully the causes behind the predominant unemployment among the university graduates that the women decided to create a model of quality vocational school which enhances dual integrated technical training [DITT] program and innovation training combined with professional development for trainers and trainees. [See Mineduc report audit 2017; 2018].

A special cluster comprising an array of assessors of the Scientific Week was chaired by the Deputy Vice Chancellor for Academic Affairs, and comprised representatives of contributors, Students’ representatives cross faculties, and external scholars. The cluster discussed the agenda of the conference, the content, the methodology used both in motivating participation in

research, data collection and the running of the event. A robust intervention of the students enhanced the need for PIASS to be proud of the Scientific Week original academic event in Rwanda. They reminded their colleagues and the audience that PIASS has one of the best library resources and infrastructure endowed with digital technology and supporting team that facilitate research environment adding to humanly conceived regulations susceptible to raise a culture of excellence in quality education to its heights.

**Prof. Tharcisse Gatwa,**

*Consultant for Research and Publications.*

*Cluster I: Cluster I: Competence Based Curriculum as a factor of quality education*

## 2

### **Teacher Students' Perceptions on Effectiveness of University Teacher Training Programs towards the Implementation of Competency Based Curriculum**

*Edouard Ntakirutimana and Gaspard Ngendahayo*

#### **Abstract**

The increasing rate of unemployment and performance below expected capacity among university graduates has attracted debates on the quality of education at all levels of education. On one hand, the blame is put on the quality of instruction whereby a learner is fed instead of being helped to come up with knowledge and skills. On another hand, the blame is placed on the Teacher Training Institutions (TTIs) which have not adopted their teaching, learning and assessment process to the new curriculum which is based on competencies (CBC) and dynamics of needed skills on employment market. Consequently, many reforms on students' admission, resources' allocation, curriculum and pedagogic policies were undertaken with the hope to improve the quality of instructions as well as of graduates. Therefore, this paper attempts to examine the teachers and students' perceptions on effectiveness of university teachers' training programs towards the implementation of CBC in Rwanda. Through qualitative research approach, the data were collected using group discussions and analyzed using content analysis. The major findings show that the student teachers, on one hand, were confident that they were trained to implement Competence based curriculum. Different practices like group assignments, internship and dissertation help

them to become good teachers. But on the other hand, they get a wrong model by some of their lecturers who teach in traditional methods. They are given task but they hardly get the feedback which can help them to improve. The teachers training institutions were recommended to provide guidelines for teaching methods, assessments and feedback to students, to foster the practice and to transfer the knowledge through different tasks including internship.

### **Context and Problem Statement**

The overall goal of any education system is to provide the country with competent people equipped with needed competences to shape their own lives and contribute to the wellbeing of others. Different countries, to achieve this, launched the future of education and skills 2030 project which aims at addressing two important questions which are “what knowledge, skills, attitudes and values will today students need to shape their world? And how can instructional systems develop these knowledge, skills, attitudes and values effectively?” (OECD, 2018). Therefore, effective education system has to be put in place; there must be an update of the curricula to prepare young generations for jobs yet to be created; for technologies that yet have to be invented; and finally, be able to solve problems that have not yet been anticipated in this changing world.

In line with what is mentioned above, different learning theories have always been foundation of curriculum design for millennia; the trend will continue for years to come so that appropriate response to this changing demand is found. On one hand different programs like online programs were designed based on behaviorism theory which looks at the content to be learned and the influence of the environment upon that learning. However,



among the shortcomings of the program design, one can mention the lack of development of competences and skills needed for competing world. On the other hand, the researchers opted for a constructivism theory which is interested in knowing how the learner is attempting to construct the meaning of the world; this is a theory that is gaining a lot of interest in today's education practices (Bush, 2006).

By constructivism, the learners create their own knowledge based on the interactions with their environment including with other people. The constructivists understand learning as a revelatory, recursive, building process by active learners interrelating with the physical and social world (Fosnot, 1996). Constructivism has been proven effective in assisting teachers in meeting the challenge of improving student achievement. "Assuming the role as 'guide on the side' requires teachers to step off the stage, relinquish or abandon some of their power, and release the textbooks to allow their students to be actively engaged and take some responsibilities of their own learning" (White-Clark, DiCarlo, & Gilchrist, 2008). Furthermore, constructivism involves developing the student as a learner through cooperative learning, experimentation, and complex tasks which activate students' cognition through active participation with concepts and principles as they are learning on their own (Kearsley, 1994).

Teachers, who use constructivist theory, concentrate on showing students relevance and meaningfulness in what they are learning. For example, in the constructivist classroom teachers would pose realistically complex and personally meaningful problems for students to solve.

Students would then work in cooperative groups to explore possible answers, develop a product, and present findings to a

selected audience (Carbonell, 2004). This constructivist education philosophy is developed through different education elements including cooperative learning, hands-on activities, innovation learning, differentiated instruction, distributed practice, critical thinking, and digital and communication learning (Anagün, 2018; White-Clark, et al., 2008). When reviewing the impact of constructivism on instructional /curriculum design, much of the research was attributed to the work of Dewey, Piaget and Vygotsky. The overall philosophy of these constructivists holds that learners impose meaning of the world, and so construct their own understanding based on their unique experiences. In short, learning takes place when the students interpret and make sense of their environment (Anagün, 2018).

All instructional goals are framed in experiential terms specifying the kinds of learner problems addressed; the kinds of control learner's exercise over the learning environment; the activities in which they engage and the ways those activities could be shaped by leaders or instructors; and the ways in which learners reflect on the results of their activity together. In line with what has been discussed above CBC which is an educational movement that defines educational goals in terms of precise measurable descriptions of knowledge, skills, and behaviors students had to possess at the end of the course of study, is being implemented.

The concept of competency-based education (CBE) originated from the USA in the late 1960s especially in teacher's education popularly known as the competency-based/performance-based teacher education movement (Rutayuga, 2008). This concept of CBE developed through applications to different other

professional training programs in the USA in the 1970s, vocational education training programs in the UK and Germany in the 1980s and vocational training and professional skills programs in Australia in the 1990s (Bowden, 1997: 179). Other literatures (Weigel et al., 2007) indicate that in Germany the concept of CBE first appeared in VET in the 1970s, in the Netherlands in the 1980s (Biemans et al., 2009), and in South Africa in the 1990s (Kabombwe, 2019). Competence-Based education (CBE) was perceived to be desirable for aligning education provided to the dynamic social and economic demands of the society. It appeared to be an answer to the concerns raised about the capability and employability of the school graduates as it emphasized on the acquisition of knowledge, skills, attitudes and behaviors essential for effective performance of real-world tasks (Maodzwa-taruvinga & Cross, 2012).

Thus, as part of the efforts to achieve the policy ambitions stated above, in 2015 the government of Rwanda through Rwanda Education Board (REB) revised the primary and secondary school curricula into competence-based curricula (CBC) with the aim of equipping school graduates with sufficient knowledge and life skills for them to survive academically and socially in the modern world (REB, 2015).

The current Rwandan philosophy aims to ensure that young people at every level of education achieve their full potential in terms of relevant knowledge, skills and appropriate attitudes in order to prepare them to be well integrated into a society and hardness employment opportunities.

In order to improve the quality of education, the government of Rwanda emphasizes the importance of aligning the syllabus, teaching and learning and assessment approach via a competence-

based curriculum (REB, 2015).

Different studies conducted prior to this curriculum reform revealed that the old curriculum included substantial coverage of the core skills, especially literacy and numeracy, math, science and English but lacked the skills and competences relevant to expectations of the labor market. There was emphasis on knowledge acquisition rather than transferable skills, such as problem solving, critical thinking essential to the appropriate attitude and essential to productive employment. The new curriculum besides addressing the gaps identified in the study, aims at shaping the attitudes and minds of Rwandan scholars in a visible way (REB, 2015). However, worries have been raised that teaching, learning and assessment at TTIs have continued to keep practices of KBC as their teachers in their respective faculties continue to teach the way they were taught. Through a descriptive study, this paper will attempt to examine the teacher students' perceptions on effectiveness of university teacher training programs towards implementation of CBC. Specifically, the study will focus on how and extent to which students are familiarized to teach, organize learning environment and assessment patterns under CBC teaching.

## **Methodology**

This study used qualitative approach as the researchers wanted to describe and explain the perceptions of the students who are being trained to be teachers. This approach involved the focus group discussion as a technique for data collection. The sample was made of 3 group discussions with 6 students each within two TTIs. According to (Marshall, 1996), for quantitative studies the probability sampling techniques are rarely used because they

are not appropriate. An appropriate sample size for a qualitative study is the one that adequately answers the research question Marshall suggested.

Therefore, the sample was not statically representative but theoretically representative as it answers our research questions. The data were collected from the students willing to participate, being in year two or three, who had studied different teaching methodologies related to specific modules and who had started to do teaching practices. Each group included the students from different programs. The collected data were analyzed using qualitative content analysis. The data were interpreted also using the strategies of combination of noticing meaning signals including oppositional talks, subtexts, metonymy and metaphor, and creating frameworks by using prior theories and literature as perimeters for interpretation.

## Findings

The data collected from the group discussion are presented and analyzed using the content analysis methods. The data described concern the perceptions of the student teachers on the effectiveness of their training towards competence-based curriculum and are grouped in three themes including teaching, evaluation/assessment and monitoring of the tasks given, as well as practice and knowledge transfer.

**Teaching.** Considering teaching, the students mentioned how they are happy with the knowledge, skills and competences they received. They described the methods and techniques used by the lecturers to teach them, as well as their involvement in their learning.

The students agreed that they had learned many things and they ensured that their theoretical training package is enough to best fit

in their teaching professions as they are equipped with all required skills and competences. One of the students confirmed this saying that “... we really think we are well trained because our lectures use active methods mostly and this equip us with different competences which will help us to be effective teachers in future.” As mentioned above, teaching methods, this student and his colleagues discovered in their learning process, were diversified. He put it as follows:

*Yeah... some lecturers in our university use lecturing methods [...] sometimes group discussion; assignments related to areas that we have covered in our studies; this will help us to succeed later in our teaching career.*

According to the accounts from the students, two set of methods were used; some lecturers use lecturing methods, others use the learners-centered methods. On the side of lecturing methods, the teacher comes in class and presents using the power point and then provides some explanations. It has been observed that using this method decreases the participation ; only few students ask questions or respond to the teachers’ questions.

On the other side, when teachers use methods like group works, they motivate the students to discuss different topics. They may use the brainstorming approach, allowing the teacher to ask different questions on a topic and then students to answer one by one. Generally, students in focus group discussion confirmed that lecturers use active methods in training them through group discussions and research practices, and this helps to develop different competences such as cooperation, communication skills in presenting their findings, critical thinking and problem solving. The students mentioned also in the discussion that some teachers combine learners centered methods and lecturing methods.

When they want to present the new concepts not familiar with the students, they may use the presentation and then let the students work in different groups or do research individually.

Considering the size of the classes, when the students are combined especially in common courses, the lecturers tend to use lecturing methods while when the students are few, they use learners centered methods.

In competence-based curriculum, there is a need for more practice but in teacher training institutions there is shortage of some basic infrastructure and materials for some courses to be given adequately. One of students put it as follows:

*...GIS is a course which requires more practice, but we do not have enough computer with GIS software, it was not possible to make enough practice to be really skilled in the module.*

**Evaluation, Assessment and monitoring of the tasks given.** The students mentioned also different types of assessments done, how the lecturers provide needed support, supervise or invigilate students, the marking issues and the feedback given to students.

In the aspect of the assessment and evaluation, the concern is to investigate whether trainees know which relevant assessment methods for the CBC system was available. Trainees were asked a question about how they describe assessment process in their university and hereunder is from the focus group discussion. Both formative and summative assessment are given. On formative assessment, the majority of the trainees mentioned assignments and classroom tests as their main assessments; they indicated that the end of semester written examinations were their main summative assessment. One of the respondents said:

*We are actually given group or individual assignment in which*

*a topic is given so that we can find information related to the topic. Again, written tests and always there are two tests per semester that are always done as per planned college schedule and finally there is a final examination (end of semester examination) that is actually the same to all universities.*

Furthermore, during the teaching and learning process, some students said that they do enough practices with different assignments and continuous assessment tests (CAT) but others said that they do only one assignment and only the final exam for the whole module. This means that if the students are not given enough activities to work during the modules, pretending to provide competences in the learners is left in jeopardy.

Concerning how the students are assisted in their teaching and learning activities, it was observed that when the teachers provide assignments in the classroom, some of them monitor the students but for others, the lecturers give them the opportunity to work on their own, whilst the lecturer get busy with something else. When the assignments are monitored, the students are supported in any learning problems; but when they are not monitored, they submit a poor quality work. Furthermore, student teachers also said that in addition to lack of computers and poor internet connection challenges, they face the difficulties in understanding some of their assignments and lack the necessary knowledge to access good information sources needed to improve their works due to the poor or absence of monitoring of their works by lecturers.

In general, many teachers do not provide feedback to the students from different assignments done; they may provide only marks but not the marked copies. Even the marks for both the assignments and exams are lately provided. One of the students said:



*we have the ideal teachers who provide marks on time especially before two weeks, but for many others you can pass 5 months or even the whole year without getting marks. ... When the marks are provided on time, if you failed, you get the time to correct your errors, but the marks delay, it is not easy.*

Furthermore, other students appreciated the way the progressive assessments are scheduled and done, and did appreciate final examinations schedules as they do not get enough time for their preparation. About the feedback they said that they are satisfied because they have a system through which feedback is given and they have it on time. When asked to identify the types of tasks and questions given during the assessments, they said that they have different types of questions at different levels of thinking from low to higher and this help them to develop different competences. Generally, it has been observed that, majority of trainees are satisfied on how they are evaluated and how the feedback is given.

In summary, the results show that, trainers mainly use classroom tests and assignments as formative assessment and end of semester examinations as summative assessment. One student indicated that oral examinations are not used at all in formative assessment for language classes; and yet students consider that it could be a potential for assessing practical performance. This can be interpreted to mean that the trainers in languages have limited knowledge and skills oof the assessment and evaluation methods relevant to the CBC. The research suggests that the major cause behind this failure rests on the fact, that this is a demanding method because all four factors of language skills (reading, writing, listening and speaking) have to be assessed as they are taught.

**Practice and Knowledge transfer.** The trainees showed how they

applied acquired skills and competences, attitudes and values applied in daily life. They said that what they are learning is helpful particularly in problems solving. One said:

*For us, things learnt in geography are so helpful for instance in fighting against soil erosion and we are planning to be professional farmers in future therefore acquired skills, knowledge and attitudes in both entrepreneurship and geography will help us to be successful". Another one said that "In addition as business people having learnt sociology will help us to be effective entrepreneurs as we will be dealing with customers.*

In addition, the students mentioned the internship as more helpful in putting in practice the knowledge and competences learned. One of the students said:

*... as I am a teacher of primary school, I was not confident that I can teach secondary school students. When I went in internship, I was afraid but at the end of the internship I was really confident in teaching the secondary school students*  
Another put it as follows:

*started the internship I was afraid that I will not be able, but with the skills gotten from this university, I started and I did it effectively, and I hope also that I am able to compete on the market.*

This shows how the practice helps the student to become competent in their future career. After the internship, students are more confident in teaching because of the competences they have acquired and the time taken for excising themselves.

## Discussion

This study aimed at finding out the *students' perceptions on effectiveness of University Teacher Training Programmes with regard the move toward the Implementation of Competency Based Curriculum*. The study focused on how and at what extent the students are familiarized to teach, organize learning environment and assessment patterns under CBC teaching approach.

As for student-teachers' knowledge and skills on the implementation of the curriculum, teaching methods and techniques used, tasks given, students' involvement, connection of different modules. The major focus was to gain in-depth understanding on how the student-teachers understand and internalize the teaching methods as well as the assessment and evaluation methods during the implementation of the curriculum. On the aspects of the teaching methods used to teach; the student-teachers highlighted participatory teaching methods as mostly used in group discussions and research. With regard to the frequency, students said that participatory teaching method were less used whilst the mostly used was the lecturing method. Comparing the percentages of participatory and less participatory teaching method used, it appeared that student teachers in different universities are taught through participatory and active teaching methods group discussion, research, role play, tutorial methods, case study, field trip, project, and laboratory. As the teacher tends to teach the way they have been taught, this is an indicator of effective training of future teachers; it was proved that, in teaching, no single method should be the best but a variety of teaching methods used in appropriate needs are effective (Klassen, Foster, Rajani, & Bowman, 2009). Nevertheless, as observed in the study, the participatory and active methods were

used insufficiently as the most used teaching method is lecturing. The disadvantage of this method is that it does not allow students to construct their own knowledge. This observation of weakness is shared with other African teacher training universities lecturers as mentioned by the literature; teachers lack basic competences to develop and use appropriate learner-centered methods and mostly use old teaching methods (Paulo, 2014; Kufaine and Chitera, 2013; Kyafulilo, Rugambuka & Mosses, 2012; and Rutayuga, 2008).

About assessment, the current research findings reveal that student are being assessed with group assignment; here they are given topic for search and investigation; and that helps them to develop different competences. Black, Harrison, Lee, Marshall & William (2005) suggest that in order to develop competences, teachers have to move from the routine to more open-ended questions and problem solving or individual complex tasks which involve higher level of thinking through either group discussions or individually that develop critical thinking in class. The findings conflict Paulo' findings (2014) which showed a gap among pre-service teachers trained at the University of Dar-es-salaam in pre-service teachers' skills on how to conduct learning assessment under competence-based curriculum. The researcher associated this failure with the lack of awareness. Therefore, based on our findings, the teachers are aware on how to conduct learning assessment under competence-based curriculum. This is an important step if our teachers can do the same in their future classrooms.

According to Manitoba Education Citizenship and Youth (2006), successful feedback needs to be immediate, specific and descriptive enough to identify learning strength and weakness as well as direction for improvement. Therefore, on the feedback,

the current research's findings revealed that some universities are providing timely feedback while others are familiar with delays. Consequently, this study sees the need for adopting different systems used in some universities to make sure that the students are given feedback on time. In any case, an assessment being competence based or teaching base would be important if the feedback is given on time.

## **Conclusion and Recommendations**

Basing on the findings, we arrive at the conclusion that in most cases the universities which are training teachers are respecting what CBC requires as teaching methods and assessment. They use participatory and active methods including role play, tutorial methods, problem solving, case study, field trip and brainstorming, and provides to the students' different activities and assessments. So, there is assurance that future teachers will be more effective as implementers of CBC. But the education system still has also some lecturers who continue to use traditional teaching methods and provide poor feedback to the students. As sometime a teacher tends to teach the way he/ she was taught. There is a need for using more participatory methods in training teachers; there is also a need to be rigorous with regard the pre-service teachers' knowledge of competence teaching methods instead of leaving it theoretical and superficial.

Though the findings showed that teaching methods which are being applied are in line with leaner centered approach, the core methodology of competence-based curriculum, there are still many challenges to be addressed. As there are different teachers who continue to use mostly traditional methods, different students may tend to imitate them, the training institutions should provide

teaching guidelines or a mechanism compelling all their lecturers to use participatory and active methods for the students teachers to be prepared to competence-based curriculum implementation. A number of students do not care about competence but about the certificate which will help them to remain in their position or to be promoted to upper positions. They do not care about which competences they acquire, instead they worry about the certificate they will get, an attitude named “paper seekers”. The institutions are advised to strengthen the system of assessment and monitoring of the activities of the students when they are learning. The institutions have to put more emphasis on practice and transfer of the knowledge to help the student teachers get competences for teaching in secondary school.

## References

- Anagün, S.S. (2018). Teachers’ perceptions about the relationship between 21<sup>st</sup> century skills and managing constructivist learning environments. *International Journal of Instruction*, 11(4), 825-840.
- Biemans, H., Wesselink, R., Gulikers, J., Schaafsma, S., Verstegen, J., & Mulder, M. (2009). Towards competence-based VET: dealing with the pitfalls. *Journal of Vocational Education and training*, 61(3), 267-286.
- Black, P., Harrison, C., Lee, C., Marshall, B., & William, D. (2005). *Assessment for learning: Putting it into practice*. Berkshire: McGraw Hill.
- Bowden, J. A. (1997). Competency-Based Education. Neither a panacea nor a Pariah. *Tend 2000: Technological Education and National Development*.
- Bush, G. (2006). Learning about learning: from theories to trends. *Teacher Librarian*, 34(2), 14-19.
- Carbonell, L. (2004). *Instructional Development Timeline*. Retrieved October 23, 2020, from <http://www.my-ecoach.com/idtimeline/>

learningtheory.html

Fosnot, C.T. (1996). *Constructivism: Theory, perspectives, and practice*. New York: Teachers

Kabombwe, Y. M. (2019). A Competency-Based Curriculum for Zambian Primary and Secondary Schools: Learning from Theory and some Countries around the World. *International Journal of Education and Research*, 7 (2), 1- 14.

Kearsley, G. (1994). *Constructivist Theory*. Retrieved October 23, 2019, from <http://tip.psychology.org/bruner.html> 42(1) 126-152.

Klassen, R. M., Foster, R. Y., Rajani, S., & Bowman, C. (2009). Teaching in the Yukon: Exploring teachers' efficacy beliefs, stress, and job satisfaction in a remote setting. *International Journal of Educational Research*, 48(6), 381-394.

Kufaine, N., & Chitera, N. (2013). Competency based education and training in technical education problems and perspectives. *International Journal of Vocational and Technical Education*, 5(3), 37-41.

Kyafulilo, A. C., Rugambuka, I. B., & Mosses, I. (2012). The implementation of competency based teaching approaches in Tanzania: The case of pre-service teachers at Morogoro teacher training college. *Journal of Education and General Studies* 1(11), 339-347.

Manitoba Education, Citizenship and Youth. (2006). *Rethinking classroom assessment with purpose in mind: Assessment for learning, assessment as learning and assessment of learning*. Manitoba: Manitoba Education, Citizenship and Youth.

Maodzwa-Tarvinga, M., & Cross, M. (2012). Jonathan Jansen and the curriculum debate in South Africa: An essay review of Jansen's writing between 1999 and 2009. *Curriculum Inquiry*

Marshall, M. N. (1996). Sampling for qualitative research. *Family practice*, 13(6), 522-526.

Organisation for Economic Co-operation and Development (OECD). (2018). *The future of education and skills: Education 2030*. OECD.

Paulo, A. (2014). Pre-service teacher's preparedness to implement competence-based curriculum in secondary schools in Tanzania. *International*

*journal of education and research*, 2(7), 1-12.

Rutayuga, A., (2008). *A Critique of effectiveness of labour market information for curriculum development purposes for tertiary non-university institutions in Tanzania*. London: institute of education

Rwanda Education Board (R.E.B.). (2015). *Competence-based curriculum: Summary of curriculum framework pre-primary to upper secondary 2015*. Kigali:REB

Rwanda Education Board (REB). (2015). *The Syllabus for Sustainable education: new competence-based curriculum for Rwandan schools*. 5-12.

White-Clark, DiCarlo, M., & Gilchrist (2008). *Guide on the side: An instructional approach to meet mathematics standards*. *The High School Journal*, 91(4), 40-45.



# 3

## **Decision to Enroll to Tertiary Education: Motivating Factors among Students Registered at the Protestant Institute of Arts and Social Sciences, Rwanda**

*Abel Dufitumukiza [+]; Jacqueline Mukanziza, Beatrice Mukanyandwi*

### **Abstract**

*The purpose of this study was to examine the factors motivating the decision to enrol in High Learning Education. From the 20<sup>th</sup> century, the demand for education has been on increase. Tremendous investment was made in education with expectation to increase stock of knowledge for rapid economic development. Accordingly, the government of Rwanda has secured an enabling environment to meet the demand for tertiary education. Consequently, new Public and private HLIs emerged and totalled 54 in 2016/7. The number of students rose from 751 in 1972 to 89,160 in 2018. However, little attention has been put on the factors behind such influx enrolment. Considering that PIASS was among the HLIs growing faster in students' enrolments, the researchers took advantage to collect information from 306 students to identify the leading factors motivating the decision to enrol in HLIs and determine the extent to which those factors are associated with personal characteristics of students. The study was descriptive and data were gathered through a self-made questionnaire tested 0.812 Cranbch's alpha coefficient. Descriptive and inferential statistics were used to analyse data. The findings validated previous studies and revealed that factors associated with changes in people's environment and job conditions are the leading motives towards the decision to join*

*one of PIASS academic programmes. With exception to job security factors between male and female and environment factors between self-sponsored and scholarship holders, the findings suggested to reject the suggestion that factors contributing to the decision to join higher education vary differently with personal characteristics.*

**Keywords:** tertiary education, higher learning institution, decision

## **Introduction**

Education is a human right and it is a tool for the acquisition of knowledge, skills and attitudes that are necessary for human beings to cope with their ever-changing environment. For that reason, the characteristics of people enrolled in educational institutions have changed remarkably and motivation for schooling varies from people to people, country to country. Similarly, to other decisions people take in everyday life, the decision to join a tertiary education follows a series of calculations on possible benefits and costs, opportunities and threats associated to it.

Referring to Maslow hierarch of needs theory, the motivation to decide on joining tertiary education may come from an experienced gap in satisfying a specific need or a requirement. Thus, unsatisfied need or requirement which may come from internal or/and external environment becomes a motivating factor for people to join education or not. This situation invites to reflect on: (i) factors behind the decision to enroll in higher education, and (ii) whether those factors are associated with individual characteristics such as gender, age, marital status and what impact programme of study has on the decision.

## 1. Empirical review

Empirical studies on the factors influencing decision to enroll in tertiary education institutions indicate common and different individual motivations. The recent study findings by (Piseth, 2014) have validated Bone (2002), Teowkul et al (2009) and Walker (2012) that people's decision to join graduate programme include (i) personal development factors such as self-improvement and achievement, (ii) career enhancement factors including promotion, high income, competitiveness; (iii) career switching factors such as need to change the current employment, take new career path; (iv) environmental factors such as peer influence, status in society, family expectations; and (v) university factors including for example easy access, time for studying etc. The Same study findings have proved no statistical association between the decision to join university based on age and both career enhancement and switching factors. However, personal development, environmental and university-based factors were found statistically dominant with regard the decision to join higher education based on age. A study by Ane (2012) provides evidence that expectation to be paid high earnings, expansion of employment opportunities and possibility to get a higher level position are among the factors that push people to join higher education. However, the author proves significant difference between male and female expectations.

A Study by Eidimtas and Juceviciene (2014) indicates the consideration of studies as an investment to yield returns in the future, especially by increasing chances to change career and earning higher incomes as a motivating factor for pursuing tertiary education. Besides this, environmental conditions such as family and social status, economic development, education policies that

expand access and accessibility to higher learning institutions are among the factors influencing the decision to participate in higher education. The findings are in agreement with that of Gallotti et al (2006) and Ceja (2006) that educated parents are likely to encourage their children to pursue tertiary education. They provide space for creating in children the need to study university by sharing information, saving for education and monitoring every step-in child's education. Eidimtas and Juceviciene (2014) justify the source of information and the message itself as a motive for people to join higher education. For example, the information contained in advertisements on technical and vocation education with possibility to get a scholarship; speeches of government high officials on the role of education, higher education in particular, in turning developing countries into middle income countries are among the information that attract people to think about admission to tertiary education (Kaberuka, 2000).

The findings of a study by Bogdan, Bartkowiak, and Skuza, (2012) indicate that family opinions and expectation, and students-like type of life as influential factors in deciding whether to pursue university education in Poland. Contrarily to other studies as mentioned above, the findings of Bogdan and allies, revealed that the better chance to find employment and possibility to get professional advancement not the main determinants of decision to enroll in tertiary education in Poland. This may be due to perception that the rate of employability among university graduates is low and the university degree does not promise potential to increase opportunities for job or self-employment (Bogdan, Bartkowiak, & Skuza, 2012, p. 570).

In the aftermath of the Genocide against Tutsi the students' participation rates at tertiary education have increased

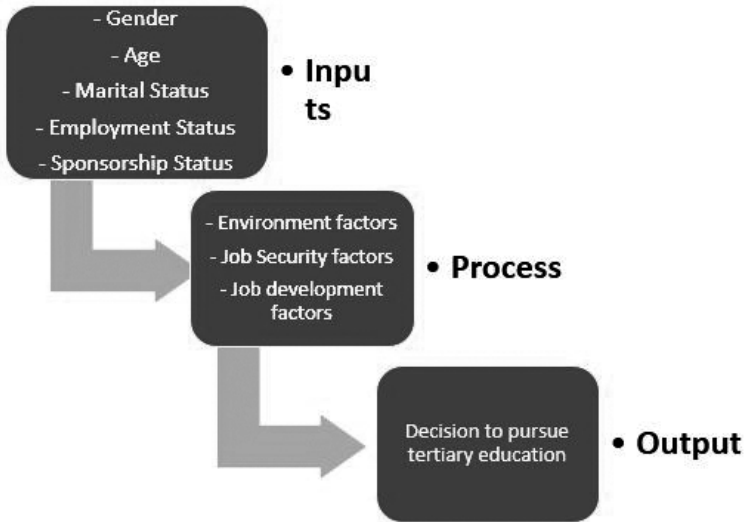
tremendously. Education statistics show an increase from 751 students in tertiary colleges in 1972 (Obura, 2003) to 89,160 students in 2018 enrolled in both public and private tertiary education institutions. The number of students in private tertiary institutions was 14% higher than the number of students in public tertiary institutions in 2018. With regard to gender, the female students outnumber males (51.1%) in private higher learning institutions compared to the public ones (31.5%). However, the number of male students were generally bigger than that of female students in tertiary education.

Disaggregation by age revealed students within age group 21 to 28 dominating the enrolment. The number of students within 30 to 34 years old became high and the group was dominated by students having jobs (Ministry of Education [MINEDUC], 2018, pp. 70-75). The ideal is that both male and female are expected to join tertiary education upon the completion of secondary education possibly with a balance. But the number of females taking up their university admission is few than that of male. In addition to that the normal school age for completing secondary education is 18 years old and secondary school leavers are expected to start university at the age of 19 years old. However, this is not the case. The heterogeneity in the students' characteristics in higher learning institutions leads to the following questions: (i) what are the factors influencing students' decision to enroll to higher learning institutions? (ii) To what extent are those factors associated with gender, age, marital status and mode of attendance?

## **2. Conceptual framework**

The study below follows the research model with: a. a consideration of personal characteristics as input variables; b.

the factors behind the decision as process variables and; c. the decision to join tertiary education as output variable.



**Figure 1. Conceptual framework**

The figure 1 provides space for considering personal characteristics in terms of gender, age, marital status, employment status, and availability of scholarship to be independent of the decision to join tertiary education. On the top of that, in the process of weighing decision options, individuals consider and are shaped by a number of factors including environment factors, job security actors and job development factors. For this study, environmental factors refer to external conditions from the societal trend and aspiration. These include but not limited to family conditions, social condition, economic conditions and political aspiration on education. Job security factors are operationalized as conditions emerging in employment sphere and if individuals are not able to cope with them may be disqualified for the job. They are therefore motives for seeking or sustaining employment safety. This may

largely include all forms of requirements to get new or/and to remain on current employment. Job development factors refers to the dynamics attracting individuals to move forward in their career and developments. These may include but not limited to need for high earnings, future investment, career development, higher position, and enlargement of job opportunities.

The sections above: Empirical Review and Conceptual Framework should be included in the Introduction and summarized.

### **3. Methodology**

This study is a descriptive survey design using quantitative approach. The items of the survey questionnaire were developed based on a review of previous studies on factors influencing people's decision to join higher learning institutions (Chen, 2007; Cremonini et al., 2008). The questionnaire included 20 statements measure with five-point Likert scale ranging from 1- strongly disagree to 5- strongly agree. Out of 20 statements, 7 items measured environment factors, 9 measured job-based development factors and 4 measured job security factors associated with decision to enrol in higher learning institutions.

The target population was 1539 students registered at the Protestant Institute of Arts and Social Sciences during the academic year 2018/19. The sample size of 306 students was determined through the table of sample required for a given population size as indicated by Amin (Amin, 2005, p. 454). Out of 306 questionnaire surveys sent, only 228 were returned back. This number represents 74.5% as obtained response rate. Among 213 respondents who showed their gender, 53.1 were female and 46.9% were male. A big number of respondents (64.1%) were in age group 21 to 30, then 31 to 40 with 26.7%. With regard to marital

status, 54.8 % were married compared to 45.2% who claimed to be single. Out of 219 who showed their preferred mode of attendance, 74.4% attended weekend sessions, 16.4 % day sessions and 9.6% attended holiday session.

The questionnaire was first piloted to ensure the internal reliability of scales. The test was confirmed with 0.812 alpha and all factors had exceeded Cronbach's alpha 0.7. The analysis of factors influencing a decision to enrol in higher learning institution was done by use of mean range, whilst the association of factors influencing decision and characteristics of students in terms of gender, age, marital status, employment status, scholarship status and programme of study are examined through t-test.

#### **4. Findings**

This section presents the findings in the following order: (i) respondents' central tendency on environment factors, job development factors and job security factors influencing students' decision to enroll in higher learning institutions, and (ii) level of association between factors and personal characteristics in terms of gender, age, marital status, on the one hand, and, on the other hand, employment status, scholarship status and programme of study.



#### 4.1. Descriptive Statistics on the Factors Influencing Decision to Enroll to Higher Education

**Table 1: Environmental factors influencing decision to enroll to higher learning institution**

Factors	N	Mean	Std. Deviation
Need for rising social status	215	3.67	1.62
Economic living conditions	217	3.63	1.64
Social living conditions	217	3.27	1.68
Political environment on education	217	3.09	1.67
Public call and easy access to higher education	207	2.79	1.78
University education on fashion	207	2.57	1.68
Recommendation from parents and/or other nearest people	210	2.01	1.53

#### Source.....

The findings in Table 1 show respondents' environment-based factors that have influenced their decision to enroll in tertiary education. The need to raise up the social status was given much value compared to other factors in the same category with a mean of 3.67, standard deviation (s.d) 1.62. The effect of economic conditions was indicated among influential factors in taking decisions to join higher education with a mean of 3.63, s.d 1.64 compared to the value given to social conditions with a mean of 3.27, s.d 1.68 and political atmosphere (mean=3.09, s.d 1.67) which attracts people to study. The influence of open access to university education was recognized among other environmental factors that influence the decision to pursue tertiary education but with a low rate, mean of 2.79, s.d 1.78. Equally, the respondents however, recognized university education as a fashion with low effect on the decision to enroll in a given academic program. Although all above

mentioned factors were indicated as influential determinants for individual decision to pursue university education, on the other hand social conditions especially social status, economic conditions and attractive legal and policy frameworks to education are the main environment factor contributing to the decision to enroll in higher learning institution. The motivation based on parents and/or other people's recommendation was qualified with a mean of 2.0, s.d 1.53 which is a low influence.

**Table 2: Job security factors influencing decision to enroll to higher learning institution**

Factors	N	Mean	Std. Deviation
Conditions imposed by employment market	221	4.23	1.43
Fulfilling required competency for the job	210	3.76	1.58
Having required qualification for employment	208	3.37	1.70
Securing current job	210	3.34	1.84

### Source

The findings in Table 2 reveal job security factors to having high influence on the decision to pursue university education. The latter is considered by a quite number of people as a solution or/and response to the condition imposed by employment market. These employment conditions were rated with a mean of 4.23, s.d 1.43 which is high. The respondents affirmed the decision to join higher education to be dependent of the need for fulfilling required competencies for the job (mean 3.76, s.d 1.58), fulfilling required education qualification for employment (mean 3.37, s.d 1.70) and securing current job (mean 3.34, s.d 1.84). Generally, respondents rated job security factors to have high influence on

individual decision to enroll in university education. The need to overcome the conditions imposed by the employment's market are among the main influential factors leading to the decision to pursue tertiary education.

Table 3: Job development factors influencing decision to enroll in higher learning institution

Factors	N	Mean	Std. Deviation
Making an investment to yield in future	203	4.31	1.355
Programme which fits the current job or future career	214	4.09	1.465
A way to change current position to a better one	208	3.98	1.523
A way to increase income through increased salary	219	3.78	1.605
Programme which helps change from one job to another	209	3.75	1.580
Programme which is likely to give work	208	3.64	1.603
Programme which is likely to open door for promotion	211	3.55	1.624
Programme which is in line previous studies	212	3.44	1.641
Programme which is likely to yield highly paying job	212	3.27	1.725

### Source.....

The findings in table 3 express the influence of job development factors on the decision to register in tertiary education. Much weight (mean score 4.31, s.d 1.36) was given to the consideration of education as an investment to pay off in the future, education as a tool to build up future career with a mean score 4.09, s.d 1.47 and education as means to change employment position to a

better one (job promotion) with a score mean 3.98, s.d 1.52. The respondents rated the need for increasing income through salary with a mean score of 3.78, s.d 1.61, the need for changing from one job to another (new job) with mean score of 3.75, s.d 1.58 to affect the decision to pursue higher education. Besides the credits to influence decision to register with higher education was the programmes likely to expand job opportunities (mean score of 3.64, s.d 1.60), to open the space for promotion (score mean of 3.55, s.d 1.62) and programmes which fit with previous studies (mean score of 3.44, s.d 1.62).

A comparison of respondents' rating on three main factors by considering the average of the sum of rates of each item corresponding to each category of factors (environment, job security and job development) revealed job development factors to be the leading factors contributing to the decision to pursue higher education with a mean of 3.76, s.d 0.99.

**Table 4:** Rating of factors influencing decision to enroll in higher learning education

Factors (combined)	N	Mean	Std. Deviation
Job based development factors	227	3.76	.99
Job security factors	225	3.68	1.12
Environment factors	226	3.00	.89

Source

As indicated in the table 4 respondents equally considered the decision to register with higher learning institution not only because of the influence of job development factor, but also due to the influence of job security factors and environment factors with a rating of 3.68, s.d 1.12 and 3.00, s.d 0.89 respectively. A look at single items rated to be the most (top five) influential

determinants to the decision to join university education include but not limited to (i) education as an investment to pay off in the future with mean score 4.31, (ii) conditions imposed by employment market with a mean score 4.23, (iii) programmes which fit the current job or future career with a mean score 4.09, (iv) University education as a way to change current position to a better one with a mean score 3.98, and (v) University Education as a way to increase incomes.

### 1.1. Level of Association between Factors Influencing Decision to Enroll in Higher Education and Personal Characteristics

The findings on whether there is or not significant difference between the factors behind the decision to pursue tertiary education and personal characteristic in terms of gender, age group, marital status, employment status, studentship status and programme of study are presented below:

**Table 5:** Level of association between factors and gender

		t-test for Equality of Means		
		t	df	Sig. (2-tailed)
Environment	Equal variances assumed	-.737	209	.46
	Equal variances not assumed	-.738	207.209	.46
Job based development factors	Equal variances assumed	-1.482	210	.14
	Equal variances not assumed	-1.481	205.617	.14
Job security factors	Equal variances assumed	-2.105	208	.04
	Equal variances not assumed	-2.084	191.443	.04

## Source

Table lines: they should be as in section 4.1: only 3 horizontal lines.

$p \leq 0.05$  : difference is significant;  $p \geq 0.05$  : difference is not significant

The results presented in table 5 indicate the following results: (i) environment factors behind the decision to pursue higher education are not significantly different between males and females ( $t = -0.737, 0.46 > p 0.05$ ); (ii) Job based development factors behind the decision to pursue higher education are not significantly different between males and females ( $t = -1.482, 0.14 > p 0.05$ ), (iii) job security factors behind the decision to pursue higher education are significantly different between males and females ( $t = -2.105, 0.04 < p 0.05$ ).

**Table 6:** Level of association between factors and age group

t-test for Equality of Means		t	df	Sig. (2-tailed)
		Environment	Equal variances assumed	.182
Equal variances not assumed	.181		129.883	.856
Job based development factors	Equal variances assumed	1.268	213	.206
	Equal variances not assumed	1.221	121.620	.225
Job security factors	Equal variances assumed	.705	212	.482
	Equal variances not assumed	.716	139.147	.475

## Source

$p \leq 0.05$  : difference is significant;  $p \geq 0.05$  : difference is not significant

The findings presented in table 6 indicate the following: (i) environment factors behind the decision to pursue higher education are not significantly different between those below 30 years old and above 30 years old ( $t = 0.182, 0.0.856 > p 0.05$ ); (ii) Job based development factors behind the decision to pursue higher education are not significantly different between those below 30 years old and above 30 years old ( $t = 1.268, 0.206 > p 0.05$ ), (iii) job security factors behind the decision to pursue higher education are not significantly different between those below 30 years old and those above 30 years old ( $t = 0.705, 0.482 > p 0.05$ ).

**Table 7:** Level of association between factors and marital status

		t-test for Equality of Means		
		t	df	Sig. (2-tailed)
Environment	Equal variances assumed	-.021	224	.983
	Equal variances not assumed	-.021	208.320	.983
Job based development factors	Equal variances assumed	1.240	225	.216
	Equal variances not assumed	1.230	209.313	.220
Job security factors	Equal variances assumed	-.083	223	.934
	Equal variances not assumed	-.083	214.359	.934

Source

$p \leq 0.05$  : difference is significant;  $p \geq 0.05$  : difference is not significant

The results presented in table 7 indicate the following: (i) the mean environment factor behind the decision to pursue higher education

are not significantly different between single and married students ( $t = -0.021, 0.983 > p 0.05$ ); (ii) the mean job based development factors behind the decision to pursue higher education are not significantly different between males and females ( $t = 1.24, 0.216 > p 0.05$ ), (iii) the mean job security factors behind the decision to pursue higher education are not significantly different between males and females ( $t = 0.083, 0.934 > p 0.05$ ).

**Table 8:** Level of association between factors and employment status

		t-test for Equality of Means		
		t	df	Sig. (2-tailed)
Environment	Equal variances assumed	.331	190	.741
	Equal variances not assumed	.330	154.712	.742
Job based development factors	Equal variances assumed	.087	191	.931
	Equal variances not assumed	.084	144.888	.933
Job security factors	Equal variances assumed	-.009	190	.993
	Equal variances not assumed	-.009	158.560	.993

Source

$p \leq 0.05$  : difference is significant;  $p \geq 0.05$  : difference is not significant

The findings presented in table 8 indicate the following: (i) the mean environment factor behind the decision to pursue higher education are not significantly different between employed and non-employed students ( $t = 0.331, 0.741 > p 0.05$ ); (ii) the mean job



based development factors behind the decision to pursue higher education are not significantly different between employed and non-employed students ( $t = 0.087, 0.931 > p 0.05$ ), (iii) the mean job security factors behind the decision to pursue higher education are not significantly different between employed and non-employed students ( $t = -0.09, 0.993 > p 0.05$ ).

**Table 9:** Level of association between factors and studentship status

		t-test for Equality of Means		
		t	df	Sig. (2-tailed)
Environment	Equal variances assumed	2.147	162	.033
	Equal variances not assumed	2.279	29.204	.030
Job based development factors	Equal variances assumed	1.461	162	.146
	Equal variances not assumed	1.237	25.289	.228
Job security factors	Equal variances assumed	1.437	160	.153
	Equal variances not assumed	1.347	25.261	.190

Source

$p \leq 0.05$  : difference is significant;  $p \geq 0.05$  : difference is not significant

The results presented in table 9 indicate the following: (i) the mean environment factor behind the decision to pursue higher education are significantly different between self-sponsored and scholarship holders ( $t = 2.147, 0.033 < p 0.05$ ); (ii) Job based development factors behind the decision to pursue higher education are not significantly different between self-sponsored

and scholarship holders ( $t = 1.461, 0.146 > p 0.05$ ), (iii) job security factors behind the decision to pursue higher education are not significantly different between self-sponsored and scholarship holders ( $t = 1.437, .153 > p 0.05$ ).

**Table 10:** Level of association between factors and programme of study

ANOVA						
		Sum of Squares	df	Mean Square	F	Sig.
Environment	Between Groups	.407	2	.203	.249	.780
	Within Groups	177.871	218	.816		
Job based development factors	Between Groups	2.365	2	1.183	1.185	.308
	Within Groups	218.482	219	.998		
Job security factors	Between Groups	.316	2	.158	.123	.884
	Within Groups	279.454	217	1.288		

Source

$p \leq 0.05$  : difference is significant;  $p \geq 0.05$  : difference is not significant

The analysis of variance revealed the following as presented in table 10: (i) the mean environment factor behind the decision to pursue higher education are not significantly different among the programmes of study ( $F_{2,218} = 0.249; 0.780 > p 0.05$ ); (ii) Job based development factors behind the decision to pursue higher education are not significantly different among the programmes of study ( $F_{2,219} = 1.185; 0.308 > p 0.05$ ), (iii) job security factors behind the

decision to pursue higher education are not significantly different among the programmes of study ( $F_{2,217} = 0.123$ ;  $0.884 > p > 0.05$ ).

## **Discussion**

The above findings imply that people are driven by different motivations in the pursuit of higher education. Job development factors lead the decision to enroll in higher learning institution. This means that people are looking for education which enables them to respond to their growing needs, especially through programmes which promise to pay off in the future and those ones responding to the changing terms and condition of today's employment market. Consequently, higher learning institutions are required to develop and review existing academic programmes in a way that captures the expectations of the person registered to them grasping desirable and useful knowledge, skills and job attitude without compromising quality education. The influence of dynamics in social, economic and political sphere attracts attention of higher learning institution not only to provide a flexible mode of attendance, also to organize teaching, learning and assessment in way that needed competences are developed and opportunities for career development and better employment positions are made available to the students. Industrial attachment and involvement of employing institutions in curriculum or programme development could help in the process.

The findings bring to wonder about current responses from higher learning institutions vis-à-vis job security factors which are behind the decision to pursue higher education. Universities are known to be bureaucratic institutions whereby a set of rules and regulations is used to either qualify or not its students. On the other hand, due to the pressure from employer, students may decide to join a university with a belief to get an award earlier

or any other academic document before the normal programme duration as a way to secure his/her current employment. Do the universities have a way-out to respond to ensure the safety of its clients without violating regulations and the university mission? The answer is no! Do the existing qualification framework provide flexible way for the universities to respond to this challenge without disgracing the quality of education? This would be running against the orthodoxy of university mission. But the expectations among the university clients are there eager to dig for an answer.

In addition, the findings claim the lack of required competence for the job as a motive to pursue higher education. The composition of university students provides evidence on the existence of both employed and no employed students in the same programme and classroom. Thus, how do the universities consider and integrate the experience of employed students and promote non-experience students in the same classroom? If each student focuses on fulfilling required competence for the job, how do universities individualize their teaching, learning and assessment to ensure that everyone receive the package according to their specific needs?

The findings therefore call higher learning institutions to mind about the students' differences based on motivation to join university as the quality of programme and teaching-learning-assessment process are concerned. For today and future credentials of universities, it seems imperative to reform the academic programmes and organization of instructions so as to meet the expectations and needs of a fast-changing world and changing needs of the people who demand that education be adapted to meet changing circumstances.

We are aware that we have not yet been able to corroborate our findings in relation to other research; therefore, we will recommend caution in any attempt to extrapolate them. However, the results revealed clearly that the means factors influencing the decision to enroll to higher education are no significant different vis-à-vis personal characteristics in terms of gender, age group, marital status, employment status, studentship and programme of study. The exception was found on the mean job security factors behind the decision to pursue higher education which is significantly different between male and female and the mean environment factors behind the decision to pursue higher education which significantly differ between self-sponsored and scholarship holders.

### **Conclusion and Recommendation**

The findings as presented above, point to the conclusion that students who are enrolled in higher education were motivated by almost similar e factors. The job development factors are the dominant ones that influence the decision to pursue tertiary education compared to job security factors and environment factors. However, the findings revealed that the main factors contributing to the decision to join higher education do not significantly differ with personal characteristics. There may be exceptions at the level of job security factors between males and females and the environment factors between self-sponsored and scholarship holders. The findings suggest that the universities consider the students' different motivations to register to higher education so that they accordingly develop new programmes and review the existing ones to meet the needs of fast changing market of employment. Universities should also ensure a quality teaching-learning-assessment process which addresses the

growing needs, knowledge, skills and job attitudes by involving mainly employing institutions and other industries in curriculum development.

## References

Bogdan, S., Bartkowiak, P., & Skuza, A. (2012). Determinants of higher education choices and student satisfaction: the case of Poland. *High Educ*, 63, 565–581. doi:DOI 10.1007/s10734-011-9459-2

Eidimtas, A., & Juceviciene, P. (2014). Factors influencing school leavers decision to enrol in higher education. *Procedia - Social and Behavioral Sciences*, 116(2014), 3983-3988.

Kaberuka, D. (2000). *Rwanda Vision 2020*. Kigali: Ministry of Finance and Economic Planning, Republic of Rwanda. Retrieved November 18, 2019, from <https://repositories.lib.utexas.edu/bitstream/handle/2152/5071/4164.pdf>

Ministry of Education [MINEDUC]. (2018). *2018 Education Statistics*. Kigali: Ministry of Education, Republic of Rwanda.

Obura, A. (2003). *Never Again: Educational Reconstruction in Rwanda*. Paris: International Institute for Education Planning, UNESCO.

Piseth, T. (2014). *Factors influencing students' decision to pursue higher education: A perspective from Master's Degree Students*. Royal University of Phnom Penh.

Many authors appear in text but do not appear in these references

Ex. Bone, Teowkul, Walker, Ane, Gallotti, Ceja.

When an entry is made of more than 1 line, all the lines after the first should be indented.

Piseth, T. (2014). *Factors influencing students' decision to pursue higher education: A perspective from Master's Degree Students*. Royal University of Phnom Penh.

# 4

## Estimating Students' wastage rates in Day Schools in Ngoma Sector, Huye District, Rwanda

Abel Dufitumukiza[+]<sup>2</sup>

### Abstract

*This study aimed at estimating students' wastage rate in Day Schools in the Ngoma Sector, Huye District, Southern Province, Rwanda. It adopted a descriptive design. Data on students' enrolments and graduation at lower secondary education for the cohort 2013/14 and 2017/18 were gathered from public day schools in Ngoma Sector by use of a statistical survey questionnaire. A reconstructed cohort analysis of 1000 students for both cohorts were computed and compared. The findings provided evidence that during the academic years 2013/2017 there had been an increase in indicators of students' internal efficiency. However, dropouts and repetitions continued to hinder high school internal efficiency in the sampled schools. The findings suggest further investigation of the causes of students' repetitions and dropouts and suggest interventions to reduce the wastage.*

**Keywords:** Internal efficiency, student-years, cohorts, reconstructed cohorts, basic education

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2. Abel Dufitumukiza (in memorial) was Lecturer in the Faculty of Education, and Director of quality education for PIASS. He had just completed his PhD in Educational Quality, in the University of Nairobi. He had conveyed the following message of acknowledgement: "The author shares his gratitude to the management of the Protestant Institute of Arts and Social Sciences for creating an enabling environment for research. He is also grateful to Esperance Mukantwali and Hahirwa D. Sam Yan for moral and financial support. This paper can also be accessed online as through <http://ijier.net/ijier/article/view/2296>"

## 1. Introduction

Since the middle of the 20<sup>th</sup> century, investment in human capital development has increased drastically worldwide. New trends consider people as the most important assets for production and economic growth for countries. Therefore, the level of access to and participation in education, becomes an indication of human capital accumulation which may lead to rapid economic growth. Consequently, countries have put in place education policies to guide the provision of education to ensure that everyone has the right to and participate in education (UNESCO, 2013; Olaniyan & Okemakinde, 2008).

The Latin American and Asian countries adopted a compulsory and free education policy implementable to children aged 6 to 14 both at primary and lower secondary school levels (Gropello, 2006). In India, a compulsory and free education policy ensures that every child has access to the elementary and fundamental stage of schooling (Pandit, 2016). In Africa, many countries adopted Universal Primary Education (UPE) policy along with the abolition of school fees in the 1960s right after the independence (World Bank, 2009). In East Africa, for example, Kenya adopted the Free Day Secondary Education policy to ensure an increasing transition rate to secondary schools for pupils graduating from primary schools (Muganda, Simiyu, & Riechi, 2016).

In Rwanda, the Nine-Year Basic Education (9YBE) policy was adopted by the government of Rwanda in 2008 to guide compulsory and free access from primary to lower secondary education for children, age 6 to 15 (Ministry of Education, 2013). The overall expectation from the implementation of basic education policies has been to ensure that no one is left behind in accessing and participating in education until completion (UNESCO, 2013).



However, Rwanda Ministry of education (2016) shows a decline in primary completion rates from 72.7 to 65.2 per cent between 2012/16. The diminution in completion rates was, according to the ministry, attributable to the high rate of repetitions and dropouts in lower grades.

Moreover, the Ministry of education (2020) indicates the existence of remarkable disproportion in gross intake rate in primary one (138%) as compared to the gross intake in primary six (95.4%) in 2019 (Rwanda Ministry of education, 2020). This was an indication that retention of learners until they reach final grade or graduate remains problematic. A similar situation is also found at the secondary education level. The gross intake rate in secondary one was, for example 43.6 per cent in 2016 and then declined to gross intake rate in secondary three of 35.0 per cent. The dropout rate increased from 5.8 per cent in 2017/18 to 8.2 per cent in 2018/19 in secondary schools. At lower secondary education the dropout rate increased to 9.1 from 6.5 per cent between 2015/16 and 2018/19 (Rwanda Ministry of education, 2020; 2018). These statistics revealed that despite this increase in learners' enrolment, persistence of repetition and dropouts cause wastage of many resources invested to them with no success. This paper attempts to quantify the educational wastage in day schools in Ngoma sector in Huye district, Rwanda.

### 1.1. **Concept of educational wastage**

Education wastage is invoked when there is an imbalance between education inputs compared to corresponding outputs (UNESCO, 2013). One of the aims of implementing a basic education policy has been to ensure that 100 per cent of children that are admitted in primary education in the same school year remain in school until they complete secondary education within the pre-established

period (UNESCO, 2013; Ministry of Education, 2013). This means that in an ideal situation the rate of wastage would be equal to one. However, the dropouts and repetitions cause some children to go beyond the ideal duration of schooling prescribed for a given level of education and consequently, increase the rate of wastage.

A study on *‘Wastage of secondary education in Ekiti south senatorial district of Ekiti state’* conducted in Nigeria by Adeoye and Olumide, indicates an average of 7.5 students - years for one student to complete secondary school instead of 6 students - years. Thus, the wastage ratio at Ekiti state was 1.3 which means that the school system records 76.92 per cent of internal efficient (Adeoye & Olumide, 2014). A study by Mumina establishes that after the introduction of the Free Day Secondary education policy in Kathonzwani District in Kenya, wastage rates decreased from 44 per cent in the 2006 cohort to 19 per cent in the 2007 cohort in secondary schools (Mumina, 2011). A longitudinal study by the World Bank established that the 2008 cohort experienced a decrease in primary retention rate from 42 to 28 per cent, while that of lower secondary education declined to 13 from 21 per cent (World Bank, 2011).

Studies have revealed that education wastage ratio is determined by several factors including students’ family background, school factors and students’ characteristics. Students’ family background factors refer to the support children receive from parents/guardians, family educational background, family income to afford life’s essentials (Laterite, 2017; Kaume-Mwinzi, 2017; Tamanna, 2014). The school factors that affect educational wastage include, but not limited to cost of school services, adequacy of orientation programs, rules and regulations that govern students’ progression,

guidance and counselling services, quality of students- personnel relations, adequacy of the teaching and learning resources to mention just a few. Students' characteristics include variables such as the interest in learning, sense of self-development and self-confidence, need for achievement and intention to stay enrolled (Akyeampong et al., 2018; Bernard & Orodho, 2018; Belfield, 2014).

The global situation indicates that the combination of child, household and school centred interventions in the process of providing basic education increased the years of schooling completed by the average adult in the developing world to 7.2 years from 2.0 between 1950 and 2010 (World Bank, 2018). The average survival rates for Central Asia and East Asia and the Pacific countries were 98 and 92 per cent respectively in 2011 (Asian and Pacific Region Bureau for Education, 2015). The Ministry of Education, Singapore (2014) indicated that 95 per cent of each cohort progress on to post-secondary education. On its side, the Ugandan Ministry of Education and Sport showed that the number of learners in the primary one who reached the primary five rose to 60.9 per cent for the cohort 2009 as compared to 54.1 per cent for the cohort 2008 in the country ( World Bank report, 2015). These validate (Musangi, Mulwa, Migozi, & Kamau, 2017) and (Snilstveit, et al., 2015) that a combination of child, household and school centred interventions could be a solution to the persistent educational wastage due to dropouts and repetitions.

In Rwanda, interventions such as the abolition of school fees, the provision of midday meals at school, the flexibility in students' progression, and the establishment of day secondary education in proximity of learners' home were envisaged in the provision of basic education to address low enrolment and high dropout and repetition rates (Ministry of education, 2015; JICA, 2012). Thus, the

need to investigate the educational wastage in Rwandan schools? This study, therefore, sought (i) to determine the level of change in educational wastage between the cohort 2013/14 and 2017/18.

## **2. Research Methodology**

The study was a descriptive survey design using quantitative methods. The target population which was entirely taken as the sample of the study was 2 public day secondary schools located in Ngoma Sector, Huye district [Sector Education Report, 2019]. Statistical data on students' enrolment and graduation for the cohort 2013/14 and cohort 2017/18 were collected from Ngoma Sector's education office using a survey questionnaire.

The analysis of data collected from the field was done through grouping data on enrolments, repetitions and graduations into tables and then assessing them by computing students flow rates for each cohort. To arrive at the rate of educational wastage, the reconstructed cohort flow analysis based on 1000 student registrations was performed and interpreted through the consideration of existing promotion, repetition and dropout rates (Chang, 2006).

## **3. Findings**

This section presents the findings of the study. The first part is about students' enrolment flow rates for the cohort 2013/14 and cohort 2017/18. The second part treats indicators of internal efficiency for both cohorts 2013/14 and 2017/18.

### 3.1. Students' enrolments and flow rates for 2013/14 and 2017/18 cohorts

**Table 1** Students' Enrolments in 2013/14 and 2017/18 in gYBE schools in Ngoma sector

Enrolment	S 1	S2	S 3	Graduates
Enrolment 2013	279	199	154	146
Enrolment 2014	204	192	153	
Repeaters 2014	17	11	1	
Enrolment 2017	151	168	178	173
Enrolment 2018	168	132	123	
Repeaters 2018	8	8	0	

**Source:** Adapted from Sector Education Office Reports, 2019

The data in table 1 indicate students' enrolments in the 2013/14 and 2017/18 school years. In 2013/14 enrolments decreased in higher grades levels. In contrast, enrolments increased with a higher grade in the school year 2017. The latter is an indication of either transfer or come back students in that year. In 2017 school year, the enrolments decreased with higher grades. The general observation is that the increase in the number of students in higher grades compared to low grades is an indication of some transfers (ingoing) from other schools or the comeback students. The decrease in enrolments is then attributable to stagnation and dropout or transfer (outgoing) to other schools. The number of repeaters at the end of 2013 was higher than that of 2017/18.

**Table 2:** Students' Flow rates in 2013 and 2017

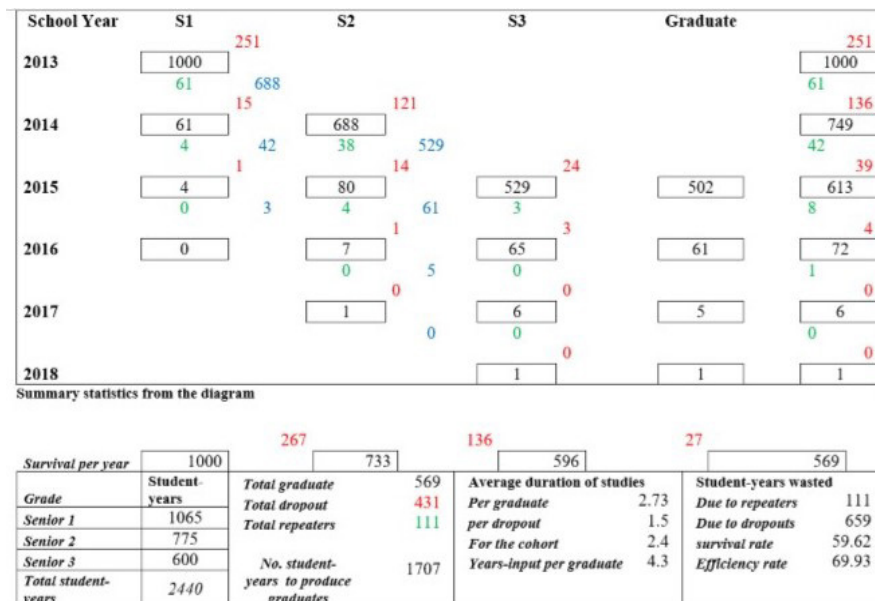
Flow indicators	S1 to S2	S2 to S3	Graduate rate
Promotion 2013	68.8	76.9	94.8
Repetition 2013	6.1	5.5	0.6
Dropout 2013	25.1	17.6	4.5

Promotion 2017	87.42	73.21	97.19
Repetition 2017	5.30	4.76	0.00
Dropout 2017	7.28	22.02	2.81

**Source:** Research, 2019

The findings in Table 2 revealed the following: (i) a high rate of promotion at the end of senior 1 in 2017 than that of 2013; (ii) a high rate of dropout in 2013 compared to that in 2017; the comparison of flow rates at the end of senior 2 indicates good performance in 2013 for both promotion rate and dropout rates compared to the same indicators in 2017. For the rate of graduates, a better performance was observed in 2017 than in 2013.

### 3.2. Quantification of education wastage for cohort 2013/14 and 2017/18



**Figure 1.** Diagram of reconstructed cohort flow analysis for 2013/14 cohort

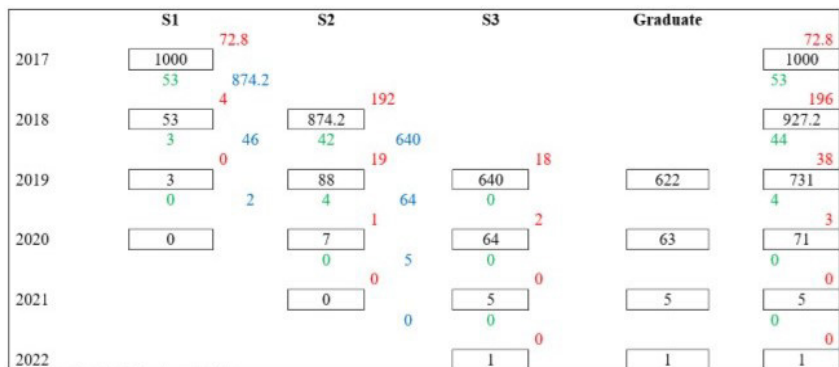
From the above diagram, on the initial 1000 students enrolled in senior one, 502 graduated from the cycle without any repetition; 61 graduates with one year of stagnation, 5 with two years of delay, and 1 after having repeated three times. The survival rate of the cohort was, for example, 733 of the 1000 students of the cohort reached Senior 2 and 596 reached Senior 3. With this, the survival rate of the cohort was 59.62%.

By making the sum of the dropouts of each grade, the results indicate 431 students who gave up the cycle without completing lower secondary education<sup>3</sup>. Thus out of 1000 students in the cohort, they were only 569 who completed the lower secondary cycle. The ideal number of student-years to produce the graduates were 1707 whilst the actual number of student-years which were used by the cohort was 2440. Thus, the wastage rate was 1.43 and the coefficient of efficiency of the cohort was 0.6993. This finding revealed that day secondary schools in Ngoma Sector were internally efficient at 69.93 per cent for the cohort 2013. The number of cohort years-input per graduate was 4.3 students-years; student-years wasted due to repeaters were 111, and that due to dropouts were 659. The average duration of studies per graduate was 2.73; per dropout was 1.5 and for the cohort was 2.4.

The indicators of internal efficiency were also examined for the cohort 2017/18 as presented in Figure 2 below:

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3. Caution has to be taken due to an unknown number of students who transferred to other schools. Here were considered dropping out.



Summary Statistics for the cohort 2017/18

Survival per year	1000	923	710	690
<i>Senior 1</i>	1056	<i>Student-years</i>	<i>Average duration of studies</i>	<i>Student-years wasted</i>
<i>Senior 2</i>	969		<i>Per graduate</i>	<i>Due to repeaters</i>
<i>Senior 3</i>	710		<i>per dropout</i>	<i>Due to dropouts</i>
<i>Total student-years</i>	2735		<i>For the cohort</i>	<i>survival rate</i>
<i>Total graduate</i>	690		<i>Years-input per graduate</i>	<i>Efficiency Rate</i>
<i>Total dropout</i>	310			

**Figure 2:** Diagram of reconstructed cohort flow analysis for 2017/18 cohort

The results from the diagram of reconstructed cohort flow analysis for 2017/18 cohort revealed on the initial 1000 students enrolled in senior one 690 who graduated from the cycle without any repetition; 63 graduated with one year of repetition, 5 with two years of delay, and 1 after having repeated three times. The survival rate of the cohort was 923 of the 1000 students of the cohort who reached Senior 2 and 710 managed to reach Senior 3. The survival rate of the cohort was 70.96% which was higher than that of the previous cohort 2013/14. By making the sum of the dropouts of each grade, the results indicate 310 students who gave up the schooling system without completing lower secondary education. Thus, out of 1000 students in the cohort, they were only 690 who completed the lower secondary cycle. The ideal number of student-years to produce the graduates were



2070. The actual number of student-years who were used by the cohort was 2735. As results, the wastage rate was 1.32 which was less than that of 2013/14. The coefficient of efficiency of the cohort was therefore 0.7567. This means public day secondary schools in the Ngoma sector were able to raise internal efficiency to 75.67% in 2017/18 from 69.93% in 2013/14. In addition to that, the number of cohort years-input per graduate are 4.0, student-years wasted due to repeaters are 102, and due to dropouts are 593. The average number of studies per graduate is 2.59, per dropout is 1.9 and for the cohort is 2.7.

#### 4. Discussion

The findings of this study provide evidence that during the school years 2013/2017 there had been an increase of 11.36 points in survival rate, 12.1 points in graduate rates and 5.74 points in school internal efficiency. This implies that over the period under which the 9YBE policy had been on the implementation there had been an improvement in students' retention, completion and time used by students to graduate lower secondary education.

Beside this, the findings agree with (Muriithi & Oluoch, 2018; Mumina, 2011; Japanese International Cooperation Agency, 2012) that the provision of day schools accompanied with the removal of school fees, in particular, had decreased the incidence of factors contributing to students' dropout and stagnation, hence the increase in efficiency rate. Students' enrolment and internal flow rates have increased due to different intervention put in place during the implementation of basic education policy.

The study validates the results from a systematic review by Snilstveit, and Muriithi and Oluoch which confirm a positive effect of interventions centred on children, household and school on both

enrolment and efficiency rate in the delivery of basic education in low and middle-income countries. These interventions include but not limited to the removal of school fees, provision of the meal at school, construction of new schools and classroom to accommodate graduates from primary education, flexibility in students' progression principle from one grade to the next grade etc. (Snilstveit et al., 2015; Muriithi & Oluoch, 2018).

Conversely, the findings are in agreement with other studies on the persistence of dropout and stagnation despite the provision of free and compulsory basic education (Belfield & Levin, 2007; Adeoye & Olumide, 2014; Kaume-Mwinzi, 2017).

## 5. Conclusion

From the findings of this study the following conclusions were drawn:

i. For the cohort 2013/14, the number of the cohort years- input per graduate was 4.3, the survival rate was 59.62%, the graduation rate was 56.9%, the average studies per cohort was 2.4. Thus, the internal efficiency was 69.93%.

ii. For the cohort 2017/18, the number of the cohort years- input per graduate was 4.0, the survival rate was 70.96%, the graduation rate was 69.0%, the average studies per cohort was 2.7. Thus, the internal efficiency was 75.67%.

iii. The comparison of the characteristics of the two cohorts provides evidence that over the period (2013/2017) of the provision of basic education up to 9 years of schooling, there had been an increase in school internal efficiency with 5.74 points, graduate rates increased with 12.1 points and survival rate with 11.36 points.

iv. The school system continues to suffer from dropouts and stagnation, especially at the end of senior 1 and senior 2.

## 6. Recommendations

From the findings of this study, the following recommendations were formulated:

- i. Reinforcing school record-keeping system to enable data availability and to distinguish the number of students who transferred to other schools from dropouts. The number of newly admitted or proposed in a given level from the come-back students should be recorded separately.
- ii. Strengthening all interventions that reduce the number of stagnation and dropouts without deflating the quality of education.
- iii. Establishing a regular assessment of school internal efficiency as one of the quality controls measures.
- iv. Investigating the causes of students' stagnation and dropout then adopt possible interventions for high school internal efficiency

## 7. References

- Adeoye, Y. M., & Olumide, S. A. (2014). Wastage of secondary education in Ekiti South Senatorial District of Ekiti State. *International Journal of Asian Social Science*, 4(12), 1155-1162.
- Belfield, C. R., & Levin, H. M. (2007). *The economic losses from high dropout in California*. California dropout research project 1. Santa Barbara: University of California.
- Chang, G.-C. (2006). *National Education Sector Development Plan: A result-based Planning handbook*. Paris: UNESCO.
- Gropello, E. (2006). *Meeting the challenges of secondary education in Latin America and East Asia: Improving Efficiency and Resource Mobilization*. (E. Gropello, Ed.) Washington DC: The International Bank for Reconstruction and Development.

- Iddrisu, I. (2016). Universal Basic Education Policy: Impact on Enrolment and Retention. *Journal of Education and Practice*, 7(17), 141-148.
- Kaume-Mwinzi, R. K. (2017). Causes of Education Wastage and Mitigation Strategies In Public Secondary Schools In Kitui Central Sub County In Kitui County, Kenya. *International Journal of Academic Research in Education*, 3(1), 21-32.
- Ministry of Education. (2013). Education Sector Strategic Plan 2013/14 – 2017/18, Kigali. Kigali: Ministry of Education.
- Muganda, A. J., Simiyu, A. M., & Riechi, A. (2016). Factors Affecting Subsidized Free Day Secondary Education in Enhancing Learners Retention in Secondary Schools In Kenya. *Journal of Education and Practice*, 7 (20), 49-55.
- Mumina, M. C. (2011). Wastage Rates in Kenyan Secondary Schools: A Case of Kathonzi District, Makueni County (2005 – 2007 Cohorts), Master Thesis. Nairobi: Kenyatta University.
- Muriithi, E. M., & Oluoch, C. A. (2018). Influence of School Feeding Program On Enrolment Rate In Public Preschools In Langata Sub-county Nairobi, Kenya. *International Journal of Innovative Research & Development*, 7(4), 141-147.
- Olaniyan, & Okemakinde. (2008). Human capital theory: implications for educational development. *Pakistan Journal of Social Sciences*, 5(5), 479-483.
- Pandit, P. (2016). Education in India: National policies and regulations. *International Journal of Applied Research*, 2(6), 393-396.
- Snilstveit, et al. (2015). Education Interventions for Improving the Access to and Quality of, Education in Low- and Middle-Income Countries: A Systematic Review Title Registration. *International Initiative for Impact Evaluation* (3ie).
- UNESCO. (2013). UNESCO Handbook on Education Policy Analysis and Programming: Volume 1 Education Policy Analysis. Bangkok: UNESCO Bangkok.
- World Bank. (2009). Abolishing School Fees in Africa: Lessons From Ethiopia, Ghana, Kenya, Malawi, and Mozambique. Washington DC: The International Bank for Reconstruction and Development / World Bank.

# 5

## Training Preservice Teachers for Working in the Digital Age: A Framework for Guiding Action

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PhD student, University of Sherbrooke*

### Abstract

Societies are becoming more digitalized as digital technologies have penetrated every facet of social life and are accompanied by opportunities and challenges. This implies a need to develop digital competence of learners through teaching and learning. The current state of knowledge about teacher training shows that current training programs do not sufficiently prepare preservice teachers to use technology effectively in their teaching. This article presents a framework aimed at helping higher education institutions to train preservice teachers for working in the digital era. To develop the framework, we proceeded by a thematic analysis of scientific articles and theoretical works. The framework raises awareness of digital inequalities among preservice teachers at their entrance in teaching programs and calls for new digital learning subjects.

**Keywords:** training, preservice teachers, framework, teaching, digital era

## Introduction

Societies are becoming more digitalized; digital technologies have penetrated every facet of social life (Erstad&Voogt, 2018) to such an extent that we speak of the fourth industrial revolution (Gouvernement du Québec, 2018) being digital. Many changes are emerging especially under the push of artificial intelligence (AI) (Commission de l'éthique en science et en technologie, 2019). Sefton-Green (2019), Professor of new media education at Deakin University, perfectly summarizes the transformations brought by digital technologies in contemporary societies:

*They have changed how we relate to each other, our families, our lovers, our friends and our colleagues through social media. They have changed the nature of our work from and through AI and robots. They have changed the nature of education and learning through platforms as diverse as Youtube, Wikipedia and online scholarship. They have changed the way that governments work, and public institutions function through digital transactions, access to information, surveillance and regulation. They have changed global trade and commercial transactions through logistics management, market knowledge, vertical integration of distribution networks and online shopping. They have changed leisure and entertainment from the development of new forms like computer and video games through to streaming services like Netflix. Underpinning all of these transformations in social relationships and arrangements is the ways that they now mediate what we know about the world, and how that knowledge constitutes and legitimates forms of authority, forms of power and contemporary politics (Sefton-Green, 2019, p.1)*

Alongside these transformations at the scale of human societies, digital technologies brought significant changes in the way of accessing and acquiring knowledge, and as consequences, they have created new educational challenges, as stated by Ito et al (2020):

*Today's digital and online media demand an approach to learning keyed to a networked and interconnected world. The growth of online communities, social and online media, open educational resources, ubiquitous computing, big data, and digital production tools means young people are coming of age with a growing abundance of access to knowledge, information, and social connection. These shifts are tied to a host of new opportunities for interest-driven learning, creative expression, and diverse forms of contribution to civic, political, and economic life. Even learning of traditional academic subjects is increasingly supported in self-directed ways and in settings outside of the teacher-guided context of the classroom. At the same time, these changes raise new concerns such as challenges to the credibility of information, threats to privacy, changing literacy needs, and new demands for managing attention and connection. Most important, the changing media and technology landscape intersects with and threatens to exacerbate broader problems in civic and economic participation and to contribute to growing social inequalities (Ito et al, 2020, p.4).*

All those transformations are part of factors that lead governments and international organizations to develop education policies that give prominence to these digital technologies, for examples:

-ICT in education policy (Republic of Rwanda, 2016);

- Reimagining the Role of Technology in Education: 2017 National Education technology Plan Update (US Department of Education, 2017);
- Preparing for Australia's Digital Future: A strategic plan for information and communications science, engineering and technology (National Committee for Information and Communication Sciences (2019);
- Realising the potential of technology in education: A strategy for education providers and the technology industry (UK Department for Education, 2019);
- UNESCO Competency framework for teachers (UNESCO, 2011);
- European Commission with Digital competence framework for citizens (Carreto, Vurotikari, Punie, 2017);
- Digital action plan for education and higher education (Gouvernement du Québec, 2018, etc.

These different policies demonstrate the importance of education for harnessing digital technologies in the socio-economic development of countries, in particular by enhancing the digital competence of citizens through teaching and learning. As an illustration of learning spheres with digital technologies, the European commission published in 2017 its Digital Competence Framework for Citizens (DigComp) that identified the core components of digital competence across five key areas encompassing (1) Information and data literacy, (2) Communication and collaboration, (3) Digital content creation, (4) Safety including social wellbeing and physical and mental health and, (5) Problem Solving.



However, even if those different policies are relevant on the macro level, they present a challenge of operationalization on the micro level, i.e. the training program aimed at developing the student teachers' digital competence (Krumsvik, 2014). It is therefore important to elaborate a digital framework more relevant to training programs for future teachers that enables them to develop professional digital competence (Gudmundsdottir&Hatlevik, 2018). This last should be defined as “the teacher’s proficiency in using ICT in a professional context with good pedagogic-didactic judgment and his or her awareness of its implications for learning strategies and the digital *Bildung* of pupils and students” (Krumsvik, 2011, p. 44–45).

The current state of knowledge shows that current teacher training programs do not sufficiently prepare preservice teachers to use technology effectively in their teaching (Gudmundsdottir & Hatlevik, 2018; Starcic et al ., 2016; Tondeur et al., 2012).

In Quebec, the government digital action plan has established three orientations to allow a technological shift for its education system: exploiting digital technology as a vector of added value in teaching and learning practices, creating an environment aimed at deploying digital technologies throughout the education system and supporting the development of digital competence for young people and adults. This last orientation led, in April 2019, to the presentation of the Digital Competence Framework for learners and teachers (Ministère de l'éducation et de l'enseignement supérieur, 2019). This framework presents 12 dimensions of digital competence: (1) act as an ethical citizen in the digital age, (2) develop and mobilize technological skills, (3) exploit the potential of digital technology for learning, (4) develop and mobilize information culture, (5) collaborate using

digital technology, (6) communicate using digital technology, (7) produce digital content, (8) make digital benefits as a vector of inclusion to respond for diversified needs, (9) adopt a personal and professional development perspective with the digital technology in an empowerment posture, (10) solve a variety of problems with digital technology (11) develop critical thinking with digital technology and (12) innovate and be creative with digital technology. This framework is interesting because of its contextualization to teachers and learners but it presents a challenge of operationalization in training programs.

At the University of Sherbrooke, in line with the Quebec government's digital action plan, teacher education programs are being renovated to adapt the training of future teachers to the realities of the 21<sup>st</sup> century. The periodic evaluation report for the Bachelor of secondary education program and the Bachelor of teaching English as a second language program highlighted the fact that the training currently offered was clearly insufficient to prepare future teachers to integrate digital technology in teaching. Following a competition from the institutional fund for educational innovation, an innovative project prepared by the principal author of this article in the name of the leading committee in charge of renovating those programs obtained funding to develop a framework for the training of future teachers. It is expected that teachers trained under this new framework will be able to develop their own professional digital competence and to help their students develop digital competence too. The focus of this article is to present this framework with its main dimensions. Before presenting this framework, we explain the process we followed to arrive at its development.

## Method

This section explains the methodological approach implemented to carry out a qualitative documentary analysis. The objective of this approach consists in “answering the specific questions of a research by studying documents” (Paillé, 2007, p.135). The literature review is the collection step for a documentary analysis. According to Fortin (2010), taking stock of the literature consists in identifying, in publications, the main theoretical and empirical sources which account for what is known and unknown on a particular research subject” (p.75). To answer the questions that guide the elaboration of the framework, we carried out a documentary search. Different types of documents were selected:

- Government action plans aimed at integrating technologies in education: Australia, Québec, Rwanda, United States, United Kingdom, Switzerland.
- Frameworks developed by international institutions: UNESCO, European Commission
- Empirical research relating to the training of future teachers in the use of digital technology
- Theoretical research (literature review, meta-syntheses). Some of this research focused on the transformations, issues and social challenges brought about by digital technology, others were meta-syntheses on the training of teachers or future teachers in the use of technology.

Four questions guided the analysis of different documents: what are the characteristics of student teachers regarding their relationship with digital technologies? What should be the objects of learning about digital technologies? What type of digital training environment (infrastructure, human resources, devices,

etc.) should be set up to better train preservice teachers? What should be the characteristics and learning outcomes of preservice teachers after their training in our programs with the aim of this framework?

## **Findings**

We present in the following lines the findings related to the four questions that guided the documentary analysis.

### **1. Characteristics of Student Teachers Regarding Their Relationship with Digital Technologies**

The literature review reveals that the development of a digital relationship is unique to each individual and forged mainly on a daily basis. However, it is built through the interaction between the individual plan, i.e. the opportunities of the use of digital technologies offered to each learner in extracurricular context, and the collective plan, i.e. the belonging to groups with digital practices culturally and socially located (Collin, 2017). Many studies support the idea of heterogeneous and unequal digital relationship (Burban, Cottier and Michaut, 2013; Collin and Karsenti, 2013; Collin, 2017; Ntebutse and Collin, 2018). These studies have mainly focused on adolescents but inequalities persist until entry in initial training (Forkosh-Baruch, 2018). Then, it seems fair to say that on their arrival in initial training, as the education system has not yet worked to alleviate the digital inequalities linked to access and the variety of uses, student teachers have different and unequal levels of digital competence. Moreover, self-efficacy beliefs about the use of technology in teaching also vary among preservice teachers (Gill & Kent, 2016; Moore-Hayes, 2011). It is therefore important to organize a good preparation of student teachers by allowing them an access to a compensatory training for enhancing technological skills at their entrance in training programs.

## 2. Learning Subjects Related to Digital Technologies

The analytical work led us to distinguish four learning objectives related to digital technologies: Digital technology as: (1) a multidimensional and evolving objective, (2) as a tool for teaching and learning, (3) as an instrument at the service of individual and collective professional development and (4) as tending to transform the reference practices associated with teaching and learning disciplines.

### *Digital technology as a multidimensional topic*

Digital technology has not only a technical dimension, it is also becoming a real culture, with social, political and ethical issues that urgently need to be analyzed and taken into account (Doueïhi, 2013). Moving away from analytical frameworks that only study the technological dimension of digital technology leads to conceiving it as a topic that can be oriented socially, culturally and politically (Plante, 2014; Ragnedda, 2018). One of the goals of digital competence development is to demonstrate a critical and nuanced mind about the real advantages and limitations of digital technologies in supporting teaching and learning (Calvini et al., 2009). This critical positioning requires, in particular, caution in the face of the emergence of discourses that do not allow for a nuanced positioning with digital technology (Plante, 2014). On one side comes a discourse associated with an instrumental posture and a deterministic posture, two conceptions respectively prioritizing the value of progress as an end and the intrinsic neutrality of technologies (Feenberg, 2014; Plante, 2014). On the opposite side there is a technophobic posture, associated with a rejection of digital technologies in education (Bihouix and Mauvilly, 2016). Considering the ubiquitous digital context, there is a need of greater nuance in the discourse and to go beyond the debates

around the irreconcilable opposition between technophilia and technophobia in order to be able to consider digital technology as a relevant social characteristic of learners while not making unfounded generalizations (Collin et al., 2015). Technophile and technophobic discourse often provoke an ideological dichotomy incompatible with the aim of training. These clashes show, however, that the political aspect of digital technology cannot be neglected. This is really important because digital technology is a political objective capable of reproducing social inequalities or reducing them (Ito et al., 2020; Ragnedda, 2018). There is a close relationship between digital inequalities and social inequalities, in that differences in technological skills developed by learners are affected by opportunities for access and use outside of school (Gudmundsdottir, 2010). Social structure affects digital capital (Ragnedda, 2018), thus stratifying the chances of individuals to engage in activities that improve digital competence. For future teachers, developing digital competence requires training which compensates for digital inequalities and which shows that this competence can influence an individuals' social participation and their entry into the labor's market (Erstad and Voogt, 2018).

### *Digital technology as a tool for teaching and learning*

As a tool of teaching, it is important that teachers have a solid understanding of how to use technology to support learning when they leave their teacher preparation programs (Office of educational technology Education Department 2017). As a tool of teaching, preservice teachers have to learn how digital technology in teaching practices with a good pedagogic-didactic judgement (Krumsvik, 2014). We can refer to the TPACK (Technological Pedagogical Content Knowledge) framework that describes the kinds of knowledge required by teachers for successful integration

of technology in teaching (Mishra & Kohler, 2006; Mishra, 2019).

This means that preservice teachers have to live authentic experiences of integrating digital technology in all courses of their training program as stated by the Office of educational technology (2017, p.36):

*It is inaccurate to assume that because pre-service teachers are tech savvy in their personal lives, they will understand how to use technology effectively to support learning without specific training and practice. This expertise does not come through the completion of one educational technology course separate from other methods courses but through the inclusion of experiences with educational technology in all courses modeled by the faculty in teacher preparation program.*

As a tool of learning, the Office of educational technology of the US Education Department (2017, p.21-22) has identified five ways technology can improve and enhance learning, both in formal learning and in informal settings. First, it can “enable personalized learning or experiences that are more engaging and relevant”. Second, it can “help organize learning around real-world challenges and project-based learning – using a wide variety of digital learning devices and resources to show competency with complex concepts and content.” Third, it can “help learning move beyond the classroom and take advantage of learning opportunities available in museums, libraries, and other out-of-school settings.” Fourth, it can “help learners pursue passions and personal interests”. Fifth, “Technology access when equitable can help close the digital divide and make transformative learning opportunities available to all learners.”

## *Digital technology as an instrument at the service of individual and collective professional development*

The digital landscape is changing very rapidly. It is impossible to provide a training that would prepare preservice teachers to master all the digital technologies that will emerge in the future. However, teacher training can bring them to develop a solid digital competence that will enable them to adapt to technological changes and issues. Such training will help them to adopt a posture of continuous professional development at the individual and collective level. Research has reported that the collaborative sharing of practice and tools, especially digital tools play a key role to support professional learning (Avalos, 2011). Digital technologies offer opportunities of building community of practice and learning around the world as stated by the US department of education:

*Technology offers the opportunity for teachers to become more collaborative and extend learning beyond the classroom. Educators can create learning communities composed of students; fellow educators in schools, museums, libraries, and after-school programs; experts in various disciplines around the world; members of community organizations; and families. This enhanced collaboration, enabled by technology offers access to instructional materials as well as the resources and tools to create, manage, and assess their quality and usefulness. (US Department of Education, 2017 , p.28)*

At the individual level, preservice teachers, with a solid training in the use of technologies, will be able to continue online training courses or training given by their institutions or professional development groups.



*Digital technology as tending to transform the reference practices associated with school disciplines.*

Although research still is at its infancy stage, digital technology seems to be transforming teaching practices in school subjects. Researchers and educators have recently examined the potential role of games and simulations, mobile devices and applications, haptics and touch devices, coding, and robotics (Ferdig, Gandolfi & Immel, 2018). Nowadays, with the use of certain digital applications of immersive virtual environments, it is possible for a history teacher or a geography teacher to show to their students a history museum or Everest Mountain. In mathematics, there are dynamic learning software, like Geo Gebra, that can help to visualize concepts and abstract mathematical relations and to explore different concepts in dynamic mode and in a context of interdisciplinary problem solving (Freiman, 2008). With immersive virtual environment, it is also possible to do digital medical scenarios, flight simulation and virtual driving machines. All these examples show that a trend is emerging: the evolution of digital technologies does not spare the teaching practices of school disciplines. It is therefore important that teacher training programs make preservice teachers aware of this issue.

### **3. A Learning and Teaching Environment with Digital Technologies**

The third dimension of our framework is the learning and teaching environment with digital technologies. Such an environment must offer future teachers a learning experience that allows them to better appropriate the different learning objectives presented in the second dimension. Several studies, in particular the meta-analysis carried out by Tondeur et al (2012), identify the key elements that the training experience must reflect and the

institutional conditions which allow them to emerge. Those key elements are: (1) the adequation of theory and practice in order to understand the reasons behind using digital technologies, (2) the teacher educators serving as role models, (3) the opportunities of reflecting on attitudes about the role of technology in education; (4) learning technology by design, (5) collaborating with peers, (6) scaffolding authentic technology experiences, and (7) moving from traditional assessment to continuous feedback.

As conditions required for the success of the experience of learning with digital technologies, we distinguish: (1) technology planning and leadership, (2) cooperation within and between institutions, (3) staff development, (4) access to resources like connectivity, digital infrastructure, digital tools and (5) systematic and systemic change efforts. Our model reflects the various key elements and the accompanying institutional conditions. It highlights that teacher training involves fruitful cooperation between the university responsible for teacher training programs and the schools in which future teachers are called to do internships. In both settings, it is important that the technological infrastructure meets quality standards in terms of accessibility, connectivity, flexibility or human resources offering techno-pedagogical support. This involves a certain level of leadership that integrates technology into strategic planning in the institution.

#### **4. Characteristics of Learners at the End of Their Training Program**

After their learning experience in the training program, preservice teachers are considered as professionals in development who master the different digital learnings subjects: digital technology as) a multidimensional and evolving object, a tool for teaching and learning, an instrument at the service of individual and

collective professional development and as tending to transform the reference practices associated with teaching and learning disciplines.

The following schema illustrates the teacher training system in the digital era.

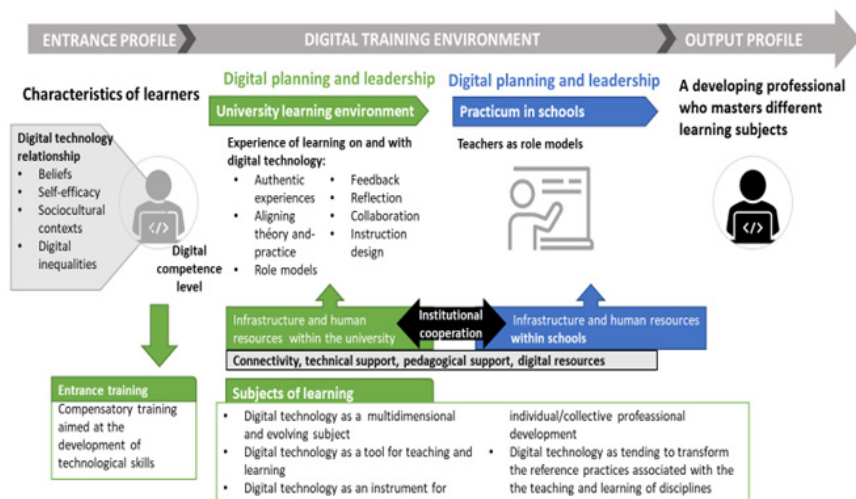


FIGURE 1. A TEACHER TRAINING SYSTEM IN THE DIGITAL ERA. AUTHOR'S MODEL IN EXPERIMENTATION

Figure 1.: A teacher training system in the digital era. Author's model in experimentation

## Discussion

Through this framework, we tried to make a simplified representation of a complex reality, namely the large dimensions of a teacher training system in the digital age. We are experimenting with it at the University of Sherbrooke as part of the renovation of the baccalaureate in secondary education and baccalaureate in teaching English as second language. Some relevance has already been observed comparing to other existing models, for example

the model presented by Tonder et al. (2012) or the one proposed by Krumsvik (2011). In particular, it raises awareness among training stakeholders on the one hand to take into account the digital inequalities present between students when they arrive in teacher training programs and on the other hand to broaden the horizons of digital learning topics. This is important as digital technology interferes in all spheres of human life. As any model is in a way a simplification of reality, ours is no exception. The experience in the process of renovating programs will allow us to work on its operationalization and to identify any limits.

## Conclusion

Digital technology will continue to influence contemporary education systems. It is therefore important to continue research on the issues it poses both for teaching and learning as well as for learners and educational actors. We invite other education researchers to experiment with this system of teacher training in the digital age. It would be interesting for this framework to be tested in other sociocultural contexts, for example in the Rwandan context where the government has given a prominent place to digital technologies in the socio-economic development of the country.

## References

- Fisser, P., & Phillips, M. (Eds.) (2020). *Learners and Learning Contexts: New Alignments for the Digital Age* (1st ed.). Quebec City, Canada: International Summit on ICT in Education.
- Avalos, B. (2011). Teacher professional development in teaching and teacher education over ten years. *Teaching and Teacher Education*, 27, 10–20.
- Bihouix, P. et Mauvilly, K. (2016). *Le Désastre de l'école numérique*. Paris: Éditions du Seuil.
- Burban, F., Cottier, P. et Michaut, C. (2013). Les usages numériques des lycéens affectent-ils leur temps de travail personnel?. *Sciences et Technologies de l'Information*

- et de la Communication pour l'Éducation et la Formation, 20, 231-255.
- Calvani, A., Fini, A. et Ranieri, M. (2009). Assessing digital competence in secondary education. Issues, models and instruments. Dans M. Leaning (dir.), *Issues in information and media literacy: education, practice and pedagogy* (p. 153-172). Santa Rosa, États-Unis: Informing Science Press.
- Carretero, S.; Vuorikari, R. and Punie, Y. (2017). *DigComp 2.1: The Digital Competence Framework for Citizens with eight proficiency levels and examples of use*, European Commission.
- Collin, S. (2017). Les élèves sont-ils prêts à apprendre avec le numérique? Dans T. Karsenti et J. Bugmann (dir.), *Enseigner et apprendre avec le numérique* (p. 149-159). Montréal, Canada : Les Presses de l'Université de Montréal.
- Collin, S., Guichon, N. et Ntebutse, J. G. (2015). L'approche sociocritique des usages numériques en éducation. *STICEF*, 22, 89-117
- Commission de l'éthique en sciences et en technologie (2019). *Les effets de l'intelligence artificielle sur le monde du travail*. Document de réflexion. Gouvernement du Québec.
- Department for Education (2019). *Realising the potential of technology in education: A strategy for education providers and the technology industry*. United Kingdom.
- Doueïhi, M. (2013). *Qu'est-ce que le numérique?* Paris, France : Presses universitaires de France.
- Erstad, O. et Voogt, J. (2018). The twenty-first century curriculum: issues and challenges. Dans J. Voogt, G. Knezek, R. Christensen et K.-W. Lai (dir.), *Second Handbook of Information Technology in Primary and Secondary Education* (19-36). Springer Publishing, collection Springer International Handbooks of Education.
- Feenberg, A. (2014). *Pour une théorie critique de la technique*. Montréal, Canada : Lux/ Humanités.
- Ferdig, R.E., Gandolfi, F. & Immel, Z. (2018). Educational Opportunities for Immersive Virtual Reality. In J. Voogt, G. Knezek, R. Christensen, & K.W. Lai (Eds.), *Second handbook of information technology in primary and secondary education* (955-966). Springer International Handbooks of Education. Cham, Switzerland. Springer.
- Forkosh-Baruch, A. (2018). Preparing Preservice Teachers to Transform Education with Information and Communication Technologies. *Second handbook of information technology in primary and secondary education* (415-432). Springer International Handbooks of Education. Cham, Switzerland. Springer.
- Freiman, V. (2008). « Exploration des scénarios interdisciplinaires dans le cadre de l'accès direct à l'ordinateur portable (ADOP) avec les élèves de 7e et 8e années. » In Theis L. (Dir.) *Enseignement des mathématiques et interdisciplinarité*. Actes du colloque du Groupe des didacticiens des mathématiques du Québec (88-96). Université de

Sherbrooke, 22-23 mai.

- Gilles, R.M. & Kent, A.M. (2016). An Investigation of Preservice Teachers' Self-Efficacy for Teaching with Technology. *Asian Education Studies*, 1(1), 32-40.
- Gudmundsdottir, G. B. (2010). From digital divide to digital equity: Learners' ICT competence in four primary schools in Cape Town, South Africa. *International Journal of Education and Development using Information and Communication Technology*, 6(2), 84-105.
- Gudmundsdottir, G.B.&Hatlevik, O.E.(2018) Newly qualified teachers' professional digital competence: implications for teacher education. *European Journal of Teacher Education*, 41(2), 214-231.
- Starčič, I.A., Cotic, M., Solomonides, I., & Volk, M. (2016). Engaging preservice primary and pre-primary school teachers in digital storytelling for the teaching and learning of mathematics. *British Journal of Educational Technology*, 47(1), 29-50.
- Ito, M., Arum, R., Conley, D., Guttiérrez, K., Kirshner, B., Livignstone, S., Michalchik, V., Penuel, W., Peppler, K., Pinkard, N., Rhodes, J., Tekinbas, K.S., Schor, J., Sefton-Green & Watkins, S.C. (2020). *The Connected Learning Research Network: Reflections on a Decade of Engaged Scholarship*. CA: Connected Learning Alliance.
- Krumsvik, R.J. (2014) Teacher educators' digital competence. *Scandinavian Journal of Educational Research*, 58(3), 269-280.
- Krumsvik, R. J. (2011). Digital competence in the Norwegian teacher education and schools. *Högutbildning*, 1(1), 39-51.
- Ministère de l'éducation et de l'enseignement supérieur (2019). *Cadre de référence de la compétence numérique*. Québec : Gouvernement du Québec.
- Ministère de l'éducation et de l'enseignement supérieur (2018). *Plan d'action numérique en éducation et en enseignement supérieur*. Québec : Gouvernement du Québec.
- Ministry of Education (2016). *ICT in education policy*. Government of Rwanda.
- Mishra, P. (2019) Considering Contextual Knowledge: The TPACK Diagram Gets an Upgrade. *Journal of Digital Learning in Teacher Education*, 35(2), 76-78.
- Mishra, P., & Koehler, M. J. (2006). Technological pedagogical content knowledge: A new framework for teacher knowledge. *Teachers College Record*, 108 (6), 1017-1054.
- Moore-Hayes, C. (2011). Technology integration preparedness and its influence on teacher-efficacy. *Canadian Journal of Learning and Technology*, 37(3), 1-15.
- Najafi, H., & Clarke, A. (2008). Web-supported communities for professional development: Five cautions. *Contemporary Issues in Technology and Teacher*

Education, 8(3), 244–263.

- National Committee for Information and Communication Sciences (2019). Preparing for Australia's Digital Future: a strategic plan for information and communications science, engineering and technology (Australian Academy of Science and Australian Academy of Technology and Engineering). Available online at [www.applied.org.au/digital-future](http://www.applied.org.au/digital-future)
- Ntebutse, J. G. et Collin, S. (2018). A sociocritical perspective on the integration of digital technology in education. Dans J. Voogt et al. (dir.), *Handbook of Information Technology in Primary and Secondary Education* (p. 1015-1043). New York : Springer.
- Office of Educational Technology (2017). *Reimagining the Role of Technology in Education: 2017 National Education Technology Plan Update*. US Department of Education. Available on line at <https://tech.ed.gov/files/2017/01/NETP17.pdf>
- Office Fédéral de la Communication (2019). *Plan d'actions suisse numérique*. Confédération Suisse. Référé à : <https://www.sbf.admin.ch/sbf/fr/home/politique-fri/fri-2021-2024/themes-transversaux/numerisation-fri/numerisation.html>
- Paillé, P. (2007). *La méthodologie de recherche dans un contexte de recherche professionnalisante : douze devis méthodologiques exemplaires*. *Recherches qualitatives*, 27(2), 133-151.
- Plante, P. (2014). *Pour une problématisation de la technologie en éducation: propositions théoriques pour un espace pédagogique alternatif de la technologie*. (Thèse de doctorat, Université Laval). Repéré à <https://r-libre.teluq.ca/1324/>
- Ragnedda, M. (2018). Conceptualizing digital capital. *Telematics and Informatics*, 35(8), 2366-2375.
- Resta, P., Laferrière, T., McLaughlin, R. and Kouraogo, A. (2018). Issues and Challenges Related to Digital Equity: An Overview. In: J. Voogt, G. Knezek, R. Christensen, & K.W. Lai (Eds.), *Second handbook of information technology in primary and secondary education (987-1004)*. Springer International Handbooks of Education. Cham, Switzerland. Springer.
- Sefton-Green, J. (2019). From the personal to the societal – the challenge of moving from everyday 'interpersonal' digital literacies to deeper social understandings. A paper presented at the International Conference on Media and Information Literacy. Séoul, November, 28-29.
- Tondeur, J., van Braak, J., Guoyuan Sang, G., Voogt, J., Fisser, P. & Ottenbreit-Leftwich, A. (2012). Preparing pre-service teachers to integrate technology in education: A synthesis of qualitative evidence. *Computers & Education*, 59, 134–144.

# 6

## Quality of Education in the Age of Digitalization: Focusing on Internal and External Moderation

*Penine Uwimbabazi & Damien Nzeyimana*

### **Abstract**

Assessment sits at the heart of teaching and learning process, as an observable evidence of learning. It determines student's progress which demonstrates an understanding of a given curriculum. This has become even more important for academic staff, that assessing how we asses should also be part of the ongoing teaching and learning process in order to maintain the support offered to learners, which is the core purpose of assessment. With academic reliability, it is often advised or provided as a requirement to use and maintain internal and external moderation especially in the assessment part of teaching and learning. On the other hand, learning institutions have to be aware of some cost and possible channels accompanied in the process of internal and external moderation. Moreover, teaching and learning, including assessment are pragmatically a dynamic practice with the aliveness in the context of global developmental. For example, the use and embracement of digitalization and the disappearing of traditional use of post offices, and the current paperless motivation, describes a need for new form of collaboration with ethical awareness in the academic sector. Nevertheless, this research raises different questions on the efficiency and safety



of internal and external assessment including its moderation. While internal moderation would be relatively well monitored and trusted, external moderation still raises uncertainty in practice, especially that it involves sending and receiving a third part's important information. How is the process of moderation done? What means are used? How secure is/are the means used? How is the ethics of assessment and moderation? Does digitalization support external moderation? This study aims at assessing the practicability of the use of internal and the feasibility of external moderation in the age where digitalization is a way to go with a high consideration of paperless life style. Two Focus Group Discussions, (one group for two HLIs) within four higher learning institutions were considered to provide a deeper understanding on the practice and impact of digitalization in the process of assessment's moderation. In particular, we highlight ethical concerns and technological aspects in line with moderation. Data presentations and recommendations from this study are hoped to be of consideration by Academic Quality Assurance and policy makers in opening up this and other related discussion within the field of Higher Learning Education.

**Key words:** teaching and learning, internal and external moderation, digitalization

### **An overview of the Study: Teaching, Learning and Assessment**

Considerable developments in research and practice related to teaching and learning process have contributed to a deeper understanding of the relationship between assessment processes and effective learning (Whitelock and Watt, 2008; JISC, 2010). Such developments have particularly acknowledged the importance of learner self-regulation and peer-assessment in deeper

engagement and effective learning (Nicol and Macfarlane-Dick, 2006; Sadler, 2010). Another emphasis on learning and assessing learners are related more on traditional areas of the curriculum – often classed as ‘21st Century skills’ – has also become a familiar hymn within the field of Higher Education.

It is currently a motivation and should remain a requirement to measure both core subject and 21<sup>st</sup> century skill to Standardized tests which are balanced properly with classroom assessments to measure the full range of student’s skills, competences as well as strengthen to reinforce learning.

Being part of a learning process, assessment is an ongoing process in Higher Education and Higher Learning Institutions (HLIs). Long and tough discussion on not only moderation of assessment but also how we assess and how we moderate what we asses at our institutions, came to be a huge motivation that led to this research. As the discussion develop with different experiences of HLIs practitioners, moderation of assessment came to mean a narrow focus on the whole process of teaching, learning and assessing. For example, participants in the focus group discussions, selected from both private and public institutions, acknowledge the needs and benefits of not only moderating assessments but teaching process from preparation of the course to be taught and assessed. Yet, little or no such practice was found within our both public and private institutions. Nevertheless, respondents thought that, moderating teaching and learning, right from the preparation to the delivery and assessment should be a good practice that would not only help to maintain quality within the institution but deliver light skills and competences expected on the market especially in the 21<sup>st</sup> century.

The present paper is a desk review of policies and practices, which

consisted in assessing guidelines and policy papers of the High Education Council (HEC) as well as the practices and experiences we are familiar with in High Learning Institution including ours, the Protestant University of Rwanda which receive considerable number of audits and recommendations from HEC. The discussions were developed to integrate the moderation of marking to see if marks allocated are fairly given. This is yet another important practice though its status was found to be poorly considered. However, for the sake of focusing on the current study, we deliberately maintain our discussion on the moderation of assessments and digitalization.

### 1. Teaching, Learning and Assessment

The Rwandan vision 2020 highlighted the need to have graduates who are equipped with critical skills that would lead to the realization of knowledge base economy, Education Sector Strategic Plan (Ministry of Education, MINEDUC, 2010), and the Higher Education Council's (HEC) National Learning, Teaching and Assessment Strategy (HEC, 2007a). While within the policy of Higher Education Council (HEC) as other scholars observed "assessment is an integral part of learning and teaching activities, through its learning and assessment policy, HEC places assessment at the heart of students learning quality encouraging the use of formative and summative assessment (HEC (2007a)).

The academic quality assurance, the enhancement and the maintenance of standards in higher education handbook (HEC, 2007b) provides a description of the direction and the conditions under which assessment should be undertaken.

Some of the outlined procedures are such that assessment should be appropriate for their purpose, whether, formative

or summative, and have clear published criteria for marking. Nonetheless, a further analysis of HEC’s vision of assessment reveals a strong inclination toward mostly summative assessment purposes of quality assurance and certification with little reference to the typical practices of formative assessment for learning (Ngendahayo, 2014). For example, HEC (2007b) defines assessment as an “academic work done by students and marked by academic staff—both formative and summative”. The assessment strategic statement (HEC, 2007a) also disregards the internal feedback generated through self-and-peer assessment in its description of formative assessment: “Formative assessment is designed to help learners learn more effectively through giving them feedback on their performance indicating how it can be improved” (Ngendahayo, 2014).

### **1.1 General understanding of assessment moderation**

Talking about moderation of assessment is not easy yet part of the everyday activities of teaching and learning. The discussion and practice bring assumptions that there is no ‘one size fits all’, and is a dynamic process. The practices depend on the context, the means of an institution, and the philosophy of HLIs, as well as the culture of that institution. As Brown (2002) mentions, assessment is a complex practice yet, a highly important process. Its complexity is centered on its dynamics and different prejudices of who does it well.

Nevertheless, Blom (2008) notes that, “moderation ensures that people are in a consistent, accurate, and well-designed manner, which means that moderation of assessment is the process of ensuring quality standards of what we are doing. According to Natal (2007), moderations as a process for ensuring that grades awarded are, fair, reliable and marking criteria is applied

consistently. Although moderation is a quality assurance process that is a critical component of the teaching, learning and assessment cycle in Higher Education Institution and the ministry in charge of education, governed by institution's wide policies and practices, it should also be regarded as a useful self-evaluation tool guiding on if what was aimed to be achieved has been achieved and what could be done further.

## **1.2 The purpose of assessment**

We have already understood that, assessment plays a fundamental and crucial role in teaching and learning process which is considered as a vital component of student's learning experiences (Gipps, 1999). Davison and Mackenzie (2009) present two distinct purposes of assessment as: one is the assessment of learning which is a measurement of what is and how student have learned; two, is the assessment for learning which is focused on assisting students improve and move forward in their learning through the help of academic staff (and incorporating feedback).

However, scholars argue that assessment of learning is been overemphasized and burdened by tertiary education's policies, practices, rules, regulations which results in taking a back seat to quality assurance. Some researchers such as (Bloxham & Boyd, 2007) propose four purposes namely certification, quality assurance, student learning and lifelong learning capacity. Some reduce this to three including assessment of learning, assessment for learning and assessment as learning (Earls, 2003). But in all these, Brown (2002) thinks that there is a need to look at the current practices in order to ensure that assessment is for learning rather than just of learning. This means calling for the well awareness of the motivation behind assessment which should contribute to the learning process, instead of taking it as a requirement after or

within the process of delivering a subject.

The most common terms used to distinguish between types of assessment are formative and summative assessments, the former being less concerned with making of high stakes judgments. Summative assessment mainly reflects the traditional paradigm of assessing educational outcomes (Shute & Becker, 2010). Also referred to as assessment of learning, summative assessment helps summarize learners' achievements at a particular time (Harlen, 2006).

Harlen and James (1997) described summative assessment's main purpose as describing the overall learning progress at a certain point in time so as to report to a range of educational stakeholders including parents, teachers, schools or others. Instances of summative assessment include assessment for grading, promoting, and certification.

On the other hand, Black *et al* (2004) gave a detailed description of formative assessment for learning: "Assessment for learning is any assessment for which the first priority in its design and practice is to serve the purpose of promoting students' learning. It thus differs from assessment designed primarily to serve the purposes of accountability, or of ranking, or of modifying student behavior, or of certifying competence. An assessment activity can help learning if it provides information that teachers and their students can use as feedback in assessing themselves and one another and in modifying the teaching and learning activities in which they are engaged in. Such assessment becomes "formative assessment" when the evidence is actually used to adapt the teaching work to meet learning needs" (2004). As the above definition indicates, feedback is an integral part of formative assessment as it informs the next step in learning. It is in this sense that the assessment

information can be seen to be formative, to help ‘form’ the student’s subsequent learning, However, strong reliance on the external feedback (e.g. from teachers, mentors or supervisors) might not be always helpful either (Nicol & Macfarlane-Dick, 2004).

The best practice believed by many institutions is to have all these types of assessment moderated both internally and externally to make sure that the quality and fairness and consistence in leaning and assessment as well as marks allocation are well observed. Although the policies and assessment regulation are silent on the issues related to moderation, from the recent years, HEC has been encouraging higher learning institutions to use external moderation for assessment practice.

## **2. The current practice of moderation in the Rwandan Higher Learning Institutions**

One of the respondents in the focus group discussion informed this study that, “*we use internal moderation, but when HEC comes for review, it often says that it is not enough, that we need to use external examiners*”. But how is this done? Within the process of this research, it was interesting to learn that external examination is understood differently to different people. While some thought that having someone from a different department within the same school/institution is enough, others thought that an external examiner should be from a different university, possibly in a different country. While it was commonly agreed that, within the institution or school, the process should be maintained as an internal moderation process, this raised a concern that requires HEC to carry not only an assessment and regulation file but also that of guiding and mentoring.

With internal moderation, most institutions have a common practice whereby a lecturer prepares questions; send to the faculty or department with at least three proposed internal moderators whereby a faculty or department would choose one. Before the exam is printed, there should be a room for the concerned lecturer to accept comments and incorporate them whenever needed, but this has been seen to be a challenge to most institutions due to time constraints either within the process of moderation or the period allocated for assessments/exams. Although, sometimes exams are prepared as a team led by module leaders, still the process of looking for a moderator is respected.

One participant in this study said: “we send syllabus and exam questions to see if assessment of bloom taxonomy is being pragmatic”. Bloom taxonomy focuses on cognitive competence. However, not all lecturers are trained on this, yet all types of assessment should have a specific element to measure.

Even though moderation is mostly regarded at the level of assessment, participants in the focus group discussion had a common agreement that moderation starts with the preparation of teaching, the preparation of a syllabus which should also be moderated, Continuous Assessments Tests (CARTs), and marking or allocating marks, hence the process goes far beyond the only moderation of final exams. The question could be how practical and easy this could be if the principle is well adopted, especially if we consider the workload allocated to teaching staff, and other related activities? Whether the faculty administrators could do their job, remain a topic for further discussion?

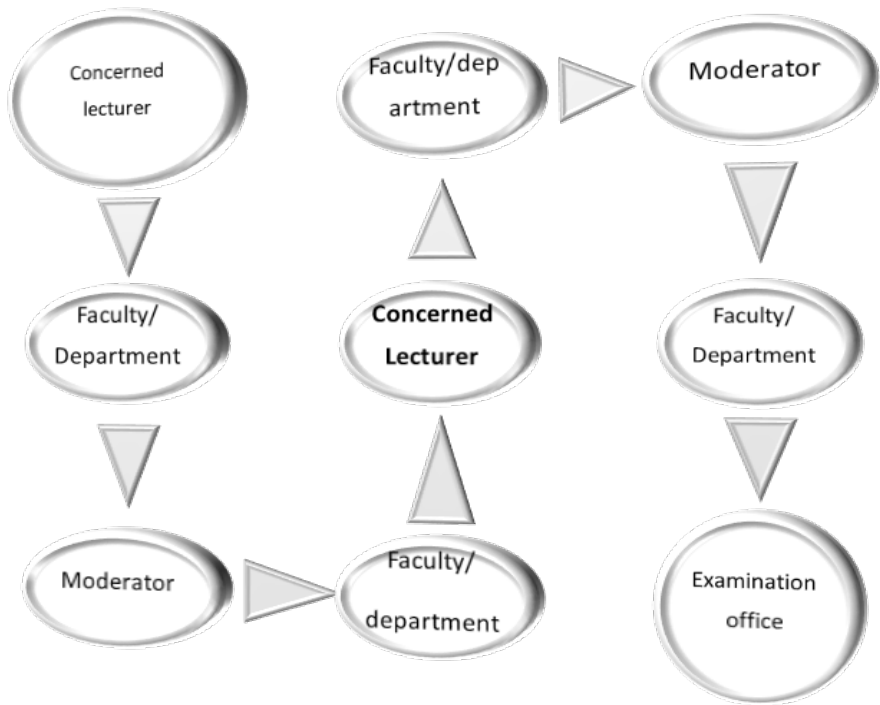
Moreover, even if the relevance of types of questions could



have been checked, monitoring whether comments have been integrated is not done in most cases. Participants to this study suggest that “in the moderation process, after the paper is sent back to the concerned lecturer with comments made, the question paper should go back to the moderator for a second time, to check whether the comments were incorporated. This means that it is only the final copy approved by the moderator which will be submitted to the faculty which instructs to print the final version, normally done by the examination office.

Following this discussion, there are nine (9) steps to be followed, and this is indicated in figure one below.

### Process of moderation



*Figure 1: Proposed process of assessments moderation. Source: authors*

Even though this was found to be a long discussion which is difficult to maintain in an environment where faculty leaders are at the same time with other teaching responsibilities, it also raised the question of ethics of all involved in the process of assessment moderation especially security issues related to this process.

Channels and security of exam is very important. The world has changed from the traditional use of hand-to-hand carrier of documents from office to office (plantos) in the case of Rwanda to the use of post offices which slowly disappears on the benefit of ITC, both in sending and receiving messages. When looking at the speed of these changes, there is a question of whether policy provision and implementation related to the moderation practice were introduced.

The focus group discussion learned that, there were other few institutions that do not even use internal moderation, but use other technological platforms such as Moodle which is thought to somehow lead to moderation; for example, where students are doing exams through Moodle platform instead of using traditional practice of printing exam papers. Although this practice seems useful in shuffling questions in a way that could prevent cheating, it was agreed that still those exams need to be moderated, therefore, not moderation practice. On this note, participants in the group discussion believed that the use of ICT could help facilitate a number of issues related to assessment and moderation, though huge risk exist with possibilities of raising conflict between all parties involved.

### 3. **Assessment, moderation and the use of digitalization**

While it is frequently argued that assessment sits at the heart of the learning process, in practice assessment often remains narrowly focused on qualifications and reporting achievements, driven by institutional and societal aspirations and tensions such as accountability and economic well-being. Yet, the need for assessment to account for the knowledge, skills, and attitudes necessary to equip the assessed for a changing and increasingly digital world is also increasingly acknowledged.

In particular we highlight ethical concerns over social exclusion and new forms of digital dividedness and the increasing risks associated with big data, safety and control of information, and the rise of learning analytics. Much research and innovation, where policy, research and practice on assessment, technology enhanced assessment and ethical as well as political concerns are not linked up. Today technology has become more important than ever, taking up activities that human were otherwise involved in. We hear a lot of motivation on the adoption of digitalization for higher teaching and learning, digitalization of all teaching materials including assessment; and yet it seem not a matter of negotiation with the Higher Education world. While this is a positive note, there is a need for opening up a discussion on different shortcomings that would otherwise hinder the smooth practice.

Most private institution have been organizing and conducting internal training on the use of IT in teaching some common modules and how to digitalize teaching materials including assessment, fist to comply with the requirement, second, with a hope that it will lower the cost related to moderation and improve the quality of teaching, learning and assessment. Yet these institutions are aware of the existing gape on the ICT knowledge and its related

infrastructure, national wide which need to first be built up. On a positive note though, this will help in the process of quality improvement. One respondent said:

*people will be careful on posting materials that are well prepared, if not sure they may ask their colleagues/peers to review their preparations, before posting them. This will increase collaboration and the practice of moderation.*

While this is an opening up for greater collaboration, it could also open another door of relaxation therefore hinders the expected collaboration. Today with technology it has been easy to learn through different IT channels, making it easier, yet been judged not efficient for the expected learning skills expected in this century.

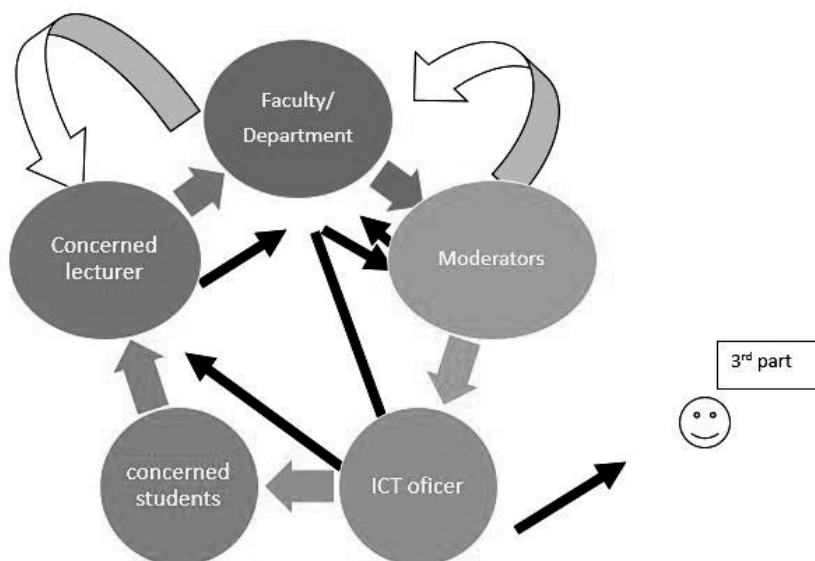
Therefore, the question remains on whether digitalizing teaching and assessment materials will contribute much to the struggle of quality enhancement. Participants in the focus group discussion also raised a question of whether digitalization could help reduce the workload of those that claim to be overloaded. This proved to be a long debate, participants in the study feared that lecturers may be tempted to focus on the teaching and forget or have little time on research and service to the community, which are yet indistinguishable pillars of quality in higher learning.

Moreover, having digitalization with assumption that it would assist in the moderation process; a huge concern on the security of both teaching materials, and assessments was raised. An example is one case of the teaching materials shared online and discovered that some case studies were given not by the person who developed them. This indicates a lack of trust and calls for integrity within the professional career yet again demand for a cautious mind when digitalizing materials. Therefore, individuals

and institutions need to agree not only on the right time to post materials, including assessment/exam but also security related to that so that all concerned would feel safe and maintain trust.

The issue related to security of what is posted is a big concern even within the focus group discussion. This was due to the procedures and all involve the process of digitalization especially for the assessment and digital moderation. It was found that within the process, there is usually at least three main important individuals. One is a group of people on the long procedure of moderation, two on the security of the IT system and the third part in the crowd system that internal system has no control of, could be the hackers.

From the interview with an IT expert, there no way this 3<sup>rd</sup> person from a crowd system would be controlled, but using user name and password would help the local IT officer control, identify who has entered the system, where the information came from, and therefore deal with that specific person to minimize the risk instead of remaining with suspicion.



*Figure 2: process of digital use of moderation: authors' proposition*

The channels and security of assessment/exams is very important both for the dignity of the institution, protection of all involve and a student who are to take part in the assessment/exams. Therefore, while appreciating the use of digitalization, institutions should invest a lot on ICT infrastructure including its security, while developing values of ethics and professionalism.

While lecturers would be careful on uploading materials or assessments on public platforms before reviewing them, helps in opening up for the good practice of moderation. Enough and ongoing training however, is needed to have a basic knowledge on how to control, access assessment and marking as well as providing feedback.

### **3.1 Challenges and prospects**

According to the group discussion, the process of moderation is practically not respected. From the perspective of the present study, the procedure should be: a. the concerned lecturer sent the document to the moderator through their faculty; b. the comments of the moderator are returned to the lecturer through the faculty; c. once the lecturer has taken into consideration the comments, they should send back the incorporated questions paper to the faculty, and from the faculty to the moderator for final check. If the moderator approves the final version, then the copy is returned to the faculty before the printing. This practice is not respected.

Appreciating the benefits of scrutinizing and respect of

moderation, participants in the focus group discussions admit that mostly, only internal moderation is a common practice. External moderation still is a challenge due to different factors, including the following:

- a. Lack of expertise-. The practice of external moderation has not a long tradition in the history education in Rwanda; therefore, the development of proper expertise takes long to shape. From within the institution being organized to manage the external moderation processes is another challenge.
- b. The challenge of time- External moderation takes more than expected time for giving the feedback. External moderators are people who act on good will; therefore, it is difficult to put pressure onto them. Waiting extra time for the feedback discourages the continuation of the practice, especially because there is a specific period allocated for assessments including final exams.
- c. Lack of institutional collaboration- Because the practice of external moderation has not a long history in educational systems, it raises misunderstanding on the type of specific actions required, and the content and length of the process.
- d. Conflict between peers- Moderation, either internal or external presents a risk of raising conflict and misunderstanding between peers in particular when there are no guiding principles for the procedure.
- e. Unmet costs- The practice involves high cost in terms of remuneration of a considerable number of external experts in individual disciplines for times unending. Many

high learning institutions have no resources to meet such institutional costs, which once there are created would never stop. Median solutions need to be found out, like a selected number of core disciplines and selected elective disciplines to be submitted to external moderation, eventually selection by random. Institutions can then plan to include controlled expenditure in their budget.

This study believes in the possibility of developing collaboration between institutions and with lower costs. Participants to the study believe that, Rwanda being a small country makes it easy for physical interactions and also an advantage that “we know each other mostly in academic world”. Thus, with though through policy and practice, collectively external moderation could be well managed; one way could be mutual formal collaboration between institutions through memorandum of understanding which guaranty mutual compensation submitted to regular revision.

Partnering with neighboring institution could work, yet requires a high commitment both at the institution management level and at the level of teaching and researching staff, especially because they are the ones involved in the moderation. The exchange of moderation services would not only serve the purpose of complying with quality standards, but would also build a strong HLI relationship and common focus into guarding quality of higher education.



## Conclusion

While it is commonly agreed that technology is here to stay in our life time, embracing it with ethics would define its benefit for human history. This research is a result of ongoing discussion within the identified higher learning institutions; it is a starting point for the future, suggesting an open room of academia critical thinking on raised questions for policy, practice and research communities, involving possible stakeholders.

The discussion led to the suggestion that the moderation should start right from the preparation and the delivering of the courses. The quality of teaching materials deliverable, the content and the methodology used in academic service delivery including teaching and research are core elements to be assessed. Therefore, there is a need in educational and policy circles to debate about the potential use of technology that could be used to improve the assessment in the light of the range of social and economic challenges that such progress presents.

The participants to the present study see ICT as a key tool that can facilitate many things including teaching, leaning and assessment. And yet a vigorous reservation was observed due to the lack of assurance on security expected to accompany its use. Digitalization of all system of information is a favorable way to facilitate moderation provided it is under full control of the management within the institution; the opposition leaves the doubt even fear over the academic legitimacy for institutions that run the risk to be isolated in their ivory tower of outmoded practices.

It is commonly agreed that technology is here to stay, the reasons why this study proposed to embrace it in our life time

with an ethic that defines and frames all benefits for the destiny of human beings and human institutions to benefit adequately. This research is a result of ongoing discussion within a number of selected higher learning institutions. Therefore, it suggests that an open room for academic critical thinking on the questions of policy, procedures and practices is central to the improvement of educational quality. The current study offers as a starting point for future thinking and as a way forward dealing appropriately with the questions raised for policy, practice and research communities, involving many different stakeholders.

## References

- Black, et al. (2004). Working inside the Black box: Assessment for learning in the classroom; Phi Delta Kappan, 86, 8
- Blom, R. (2008). Quality Assurance. In Maree, J.G. & Fraser, W. J. *Outcomes-based assessment. Facilitating best practice in classrooms*, 2<sup>nd</sup> Edition. Sandton. Heineman
- Brown, G. T. L. (2002). Teachers' conceptions of assessment: implications for policy and professional development, pp. 301-318.
- Davidson, S., McKenzie, L. (2009). *An investigation of assessment policy and practice in New Zealand higher education institutions: Symposium on Tertiary Assessment*.
- Gipps, C.V. (1999). *Beyond testing: Towards a theory of educational assessment*. London: Falmer Press.
- Ngendahayo, E (2014). *Rethinking Randan higher education assessment system and approaches*. *Rwandan Journal of education*, vol. 2, Issue 2, pp. 31-47.
- Nutal, M. (2007). Moderation: Towards greater consistency in marking. In S. Bloxham & P. Boyd. *Developing effective assessment in higher education: A practical guide*. Maidenhead: Open University Press
- Timmis, S.; Broadfoot, P.; Sutherland, R.; and Oldfield, A. (2015). *Rethinking Assessment in a digital age: opportunities, Challenges and Risk*.

# 7

## **A Reflection on Inclusive Education and Teenagers' Pregnancies in Huye District**

*Ignace Ntakirutimana & Penine Uwimbabazi*

### **Abstract**

The increase rate of teenage pregnancy has become a daily concern for the government and parents as well as societies in general. It is a global concern. More than ever, this has been a concern moving from just parents and community to be a state/government issue even so as it increasingly gets on the daily news. Although teenage pregnancy is not a new challenge, its recent increase followed by its visible consequences such as high dropout rate, places this concern not in an isolated mode. This has, therefore, brought the current discussion to the interest of looking further not only on consequences but on how policies and infrastructure available provide rooms that would help deal with the issue. While the government policy of education strictly calls for all children to have access to education, the paper raises question of how inclusive a child girl who is pregnant or has given birth keeps access to education. What are mechanisms and provisions for a teenage mother to continue her studies? Is the social, political and economic environment accommodative enough for this process? These questions helped identify the extent to which teenage pregnancy is treated both by community and government and how it has affected both teenage mothers and societies in general, yet on the other hand contradicted or compromises the government policies on girl child education

and education for all. Using Human Capital Theory, specific data were collected from the district of Huye, which is reported to have the highest teenage pregnancy in Rwanda. The study focused on the cooperative Ejoheza which is supported by AMIS. Although this was just the focus that helped to access teenage mothers, different findings from different angles of the country were consulted. Three focus group discussions were conducted with 18 teenage mothers and interviews with two staff from the cooperative and local government bringing the total sample to 22 respondents. Close look on the official documents related to inclusiveness of teenage mothers was analysed to meet the purpose of this discussion. We hope that findings from this study will contribute to the body of knowledge and will be useful for practitioners and policy makers in this area.

**Key word: teenage pregnancy, education, social economic well being**

### 1. Overview of Teenage Pregnancy

The increase rate of teenage pregnancy has become a global and daily concern both for the government and parents as well as societies in general. The 2014 World Health Statistics indicate that the average global birthrate among children of the age from 15 to 19 years old is relatively high in developed and developing countries where about 16 million girls aged 15 to 19 years constitute 11 % of all birth worldwide, and two million girls under the age of 15 give birth each year (WHO, 2014). This would mean that worldwide, one in five girls has given birth by the age of 15 to 19 years and two million girls aged less than 15 years become pregnant in developing regions. This corresponds to 95% of the world's adolescent births occurring in developing countries (UNFPA, 2017; WHO, 2018). In the poorest regions of the world

this figure rises to one in three girls and a further million become mothers before the age of 15 years, some as young as 12 years (Nove et al, 2014). According to UNFPA (2017), the increase of teenage pregnancy in both developed and developing countries are worrisome. As stated by World Health Statistics, Africa has the highest rate of teenage pregnancies in the world with 143 per 1, 000 girls aged between 15 and 19 years in Sub-Saharan Africa being either pregnant or have given birth to their first child.

Rwanda is not in isolation. The 2014/15 Rwanda Demographic Health Survey of 2012 - 2015, indicates an increase in child bearing among teenage girls in Rwanda, from 6.1% in 2010 to 7.3% in 2015, of teenage girls who become pregnant between the age of 15 and 19 (NISR, MoH& ICF International 2016) and (UNFPA, 2017). In the conference “Tackling teenage pregnancy ...” United Nations Rwanda presented that 49.6% of teen have their first pregnancy between the age of 12 and 17 (UN Rwanda, 2020).

Moreover, a survey done by CLADHO in 10 districts of Rwanda; Kicukiro, Gasabo, Nyarugenge, Kamonyi, Huye, Karongi, Nyamasheke, Gicumbi, Rwamagana and Bugesera, discovered that pregnancy among young girls is rampant. The study indicated that 49% of the girls are impregnated by colleagues and 20% by family friends. The other 2% are impregnated by their teachers while 1% is by local leaders. The highest percentage of teenage pregnancy is from Huye District (14.2%), followed by Kicukiro District (12.8%), and lowest percentage was from Gicumbi District 6.2% (Nyirazinyoye, 2016).

The survey shows that the consequences that follow these pregnancies include school dropouts (50%), poverty (19%), and depression (11%) while others such as discrimination account for 5%. This report indicates that the highest number of those who

drop out of school and end up in a state of depression with a big concern for the future health and development not only for the concerned young girls but social values and economy of the society in general.

While there has been a decline in the number of child defilement and rape cases reported annually to the responsible legal authorities in Rwanda, the cases of sexual violence are still high in the country, some victims reported and others remain silent. To the worst extreme, there could be similar cases which go unnoticed and/or are not reported to the competent authorities for legal action due to cultural taboo of its nature. Although these practices are regarded as immoral and are culturally, socially and legally unacceptable in Rwanda, i.e article 191 of the Penal Code which punishes defilement with life imprisonment (Nyirazinyoye, 2016), the daily news report, presents not an overlook concern.

Moreover, CLADHO reports indicated that sexual abuse and teenage pregnancy is mostly for vulnerable girls such as orphans and girls with disability, this study highlight this vice by also pointing on the status of teenage girls as being vulnerable adding it their existing vulnerability. This study considers a common understanding of a teenager as a young boy or girl who is in the age group from 13 to 19 (Ochen M, Che Chi, P & Lawoko S (2019), and maintain that, in many respect, whoever is in this group of age is still a child, therefore needs protection. According to the United Nations Human Rights, article one, a child is every human being who is below the age of nineteen years (OHCHR, 2018). Based on this understanding, any sexual act done to this group of children should be considered as a crime against children. From the understanding of a teenage as the age from 13-19 these should be a sensible age group that is not well in control of their

decisions especially when it comes to sex and reproduction. It is therefore an age group that needs to be protected, and any cases resulted to teenage pregnancy should heavily be a treated as crime against children.

According to human capital theory, teenage childbearing has causal effect on socio-economic outcomes as it directly interferes with teenagers 'investment in human capital and economic opportunities, and makes teen mothers more dependent and trapped in poverty (Becker S., 1993; Furstenberg & Hughes, 1995). This more dependence brings inequality within the family and in most cases, gender-based violence which leads the family to remain in vicious circle of poverty. Moreover, dependency on daily survival forces them to remain under the status of vulnerability as they cannot meet their daily basic needs and those of their children, thus opening up for more sexual violence.

## **2. Factors contributing to teenage pregnancy**

There are many factors influencing teenage pregnancy, which involves all complex socio-economic factors including poverty, communities and families exaggerated by a culture of acceptance of child marriage, behaviors, gender inequality, sexual violence, lack of education and information among others (Katsilambros, 2011).

A study conducted by Ntakirutimana (2018) indicates that among factors influencing unplanned pregnancies among young girls includes lack of enough food, being alone, first time to do sexual intercourse, not using contraception or family planning services, using contraception inconsistently or incorrectly, and contraceptive failure. Some of these factors were further noted in the group discussion conducted for this study. One participant in the focus group discussion shared their views:

*one of the things that influenced me to unwillingly get pregnant in my early ages is the social problem and family conflicts. For instance, when I was still a student my parents were quarrelling every day, in a very poor life that even food was a problem.*

Having poverty as a big issue for young girls who are at the age of needing different things seem important for their personal self-assured, hence, peer pressure was noticed to be a main influence that leads to involvement in sex and early pregnancy. Most of them reported to have influenced by peers and got introduced into drug abuse. With lack of experience in sexual intercourse and reproduction, they found themselves defenseless with unexpected situations. According to one participant:

*When I was a student, I joined a group of girls who had bad behaviors, living without boyfriend was like insult for them. They told me that my face was ugly with pimples because I was still a virgin. I trusted them and had sex with a boy of my age. From that time, I continued from one boy to another having in mind that I would look beautiful until I got pregnant. After being pregnant I realized that what I did was not good for me.*

Peer pressure from both boys and girls influences many young girls to be trapped into unprotected sex. Peer pressure becomes more evident to the teenage especially when families and community social values are been taken or taking the status of teenagers lightly. The community and families are capable of providing space for interaction share information related to self-respect, respecting others that help young people live with confidence. Yet, it was found that while young people are not prepared for a teenage struggle, they are also not understood and not well accommodated in the community when problems related to



their behaviors arise. Teen mothers in Huye sector showed how they are despised in their communities as indicated in the shared experience:

*I was treated harshly by my family but also the community, everywhere I passed during my pregnancy, I found people looking at me saying that I become a shame to my family, that I am a prostitute. My girlfriends of the same age we used to be together also abandoned me, because families tell their daughters not to be close to me saying that, I am a bad girl. I felt like isolated, living is despair and sorrow which is more hurting than anything.*

Culturally getting pregnant before marriage is seen ridiculous and not accepted. For example one participant says that;

*Teen mothers after getting pregnant lose value in our families and community. Imagine being hated and abandoned by your parents till deliver and after. That is what happened to me and even the father of my son asked me to abort and when I refused, he abandoned me too. I left as nobody (ntacyondicyo).*

Teenage pregnancy was also seen under circumstances where parents fail to play their parenthood responsibilities. Although poverty could be a reason, some basic parenthood roles have nothing to do with poverty. One participant with tears said:

*I am like orphan because my parents left me while I was 16 years old with my young brother and young sister; I was older than them which means that I had the obligation of taking care of young siblings. Life was difficult. In order to survive I found myself doing prostitution in order to get basic needs like food, cloths, school fees and materials for them. That is how I got pregnant.*

It is in the status of vulnerability such as these that girls find

themselves trapped in sexual relations which increases more risk and vulnerability especially when parent are not responsible enough to protect their children. According to the interview with one of the local leader from Huye sector, most of the factors influencing teenage pregnancy are related to social and economic problems faced by community members. The local leader thinks that;

*The most causes of this problem is that the parents do not sit together with their children and talk about sexual relationship especially that in Rwandan it is a taboo to talk about this to their young children. Today we have the problem of many people from different parts of the country who are working in road construction, since they came; teenage pregnancies have been increasing more and more. Actually, this is a serious problem in our sector and for us as local leaders it is beyond our capacities to handle.*

With more dependency, searching for material things from those who tempt to manipulatively provide, put young girls especially still in a vulnerable situation with high risk to be pregnant before they finish their basic education. Factors could be many, but different researchers on this issue suggest that sexual reproduction be part of the school curriculum and home conversation. Nevertheless, this requires close collaborations with families. There is a need of inclusive understanding of the issue and commitment to act together. Rwandan needs to move beyond the mindset of looking at sexual issues as a taboo subject because the consequences are not only on the pregnant young girl only but to the family and society at large. Not only her life and that of the family is ruined, but also a country's economy affected especially that adolescent mothers are prevented by those circumstances from entering the workforce (Speide, 2008) due to lack of sufficient education, and

responsibility of taking care of their children.

### 3. **Consequences of teenage pregnancy**

Unwanted pregnancies among teenagers have irreparable consequences. It violates the rights of girls, with life-threatening consequences in terms of sexual and reproductive health, and poses high development costs for communities, particularly in perpetuating the cycle of poverty (UNFPA, 2013). One of the consequences of teenage pregnancies as mentioned by UNFA's study of 2017, 19% of young girls who give birth before the age of 19, increases dropout rate among teen mothers in Rwanda at 50% (CLADHO 2016).

Teenage pregnancy undermines a girl's ability to exercise her rights of education, health and autonomy. Teenage mothers are less likely to complete high school, they are more likely to live in poverty, and have children who frequently experience health and developmental problems (Hoffman, 2008) due to either the life they grow in or before they were born. This also prevents a teenage mother from realizing her potential and adversely which again impacts the baby. Most of the teenage girls, who participated in this study, got pregnant when they were at high school, and none of them were able to go back to school.

One of our respondents was "lucky enough" as she said that she was "not kicked out when she fell pregnant", but she was denied other opportunities to further her education:

*I have been sitting at home for two years now not allowed to go anywhere not even at church. My parents say that, I cannot go anywhere because no one else is responsible and ready to help me look after my child. I think that going back to school is not possible for me. I really am treated worse by*

*my parents that I blame myself. I was told bad words; I was insulted to the point that I ended up hating myself.*

On the other hand, another teenage mother among our respondents felt desperate, she shared that:

*I got pregnant when I was still in the ordinary level in secondary school; I dropped my studies hoping to go back to school after my child growing but slow by slow my dreams and hope vanished. Until now I never think about going back to school, my parent don't want to talk to me anymore, my dreams disappeared and now I regret to lose my studies.*

It has become an old continuous perception that when a child gets pregnant before marriage, a lot of connotations are brought to this, including being seen as foolish, prostitute and a shame to the family, or interpreted and turn the facts - as the mother's fault (not the father), therefore, making difficult for a mother to handle the situation by herself. This is a traditional silent power imbalance based to gender inequality. To avoid this, a child is often forced to early marriage by the person who impregnated her, and this only happens when the concern man has admitted to be responsible, because in most cases the perpetrator would deny the facts.

With cultural influence and pride of the family based on the expectations that they have over their daughters; reactions often are too hard to handle. One participant explains that:

*The unwanted pregnancy brought negative impacts in our lives which are not bad but worse. In my family I was loved by my parents, treating me as their future hope because at school I used to have good marks in the class, this made my parents love me and cherish me but after getting pregnant my parents chased me from their house, abandoned me and now I live in*

*regrets and remorse.*

Although family conflict was taken as one of the causes of teenage pregnancy, this can work on the other way around where teenage pregnancy could also cause conflict and sometimes violence that one feels betrayed. The case of abandoning pregnant children could cause a major further negative impact on the teenage pregnant including suicide or remaining vulnerable for more sexual abuse. It makes the concerned your girls, live with sorrow, and agony with a gape of care and love that would push them to open up to other strangers who are not necessarily caring for them.

Worldwide, the unwanted pregnancy among teenagers is a big problem that affects every community and the negative impacts on the teenage mothers are numerous. Despite of being chased away from their families or drop out of schools, there are other impacts such as being affected by the sexual transmissible diseases. Yet, there are children born still need to be cared for. Conducted research indicate that teenage pregnancy has greater risk of different kinds of diseases and deaths, while teenage mothers are exposed to risk of maternal mortality and to other health issues as well as psychological problems (ICF International, 2016; UNICEF, 2012).

In cases, where parents reject their pregnant girls as shared above, will be difficult for them to think of other life around besides searching for personal survival and that of their children. Most of the teenage mothers who participated in this study, had not only managed to go back to school but dot see how they can study while no one around to assist them with their children and not sure how they will meet basic needs including school fees. Even though they appreciate the efforts made by *ejoheza* cooperative by putting them together with some income activities, they still

regret and wish they could get a chance to go back to school.

#### **4. Strategies used by Huye district to deal with the problem of teenage pregnancy**

Among the strategies taken by Huye district is grouping the young adolescents in the cooperatives through partnership with local organizations such as *Ejoheza*, where they are totally occupied and can have access on what they need without depending on someone else.

The cooperative *Ejoheza* is one of other cooperatives created in Huye district with a purpose of reducing unwanted pregnancies among teenagers in that district. The organization *Ejoheza* under Association Modest et Innocent (AMI) is composed entirely of 46 teenage mothers in Rukira cell, which helps restore their confidence and sense of values as well as becoming a solution in the community.

The coordinator of *Ejoheza* cooperative was created in 2017 after seeing the persistence epidemic among young girls less than 19 years old being impregnated which has been causing negative impact in Rwandan community more particularly in Huye district. It also helps in protecting and restoring the dignity of early mothers in different ways in Huye district.

The teen mothers were grouped to make the cooperative more cohesive and inclusive as values and principles pursued through social economy organizations at large (Defourny, Hulgard and Pestoff, 2014). The cooperative's ambition and strategic ways are not to leave the teen mothers thus; they help them come out of sorrow and isolation from such situation. These teenage mothers, who are part of the cooperative, are involved in different social income activities which allow them to meet some basic needs for

their children.

According to respondents, young mothers, who never joined the cooperative, stay in much suffering doing prostitution in order to get money that would help raise their children who are most of the time abandoned by their fathers, or are wondering and begging on the street. AMI therefore, helps these young mothers to restore their confidence and sense of values, to be a solution in the community not a problem or a burden (interview with the cooperative coordinator). The cooperatives' vision is bringing back young mothers who were abandoned by their parents helping them reunite with their parents, and sharing opinions on how they can increase their potential by encouraging young girls to protect themselves from prostitution.

#### **5. Inclusive education and teenage pregnancy**

Narrative from experience, informs us that unwanted pregnancy among teenage is not a new concern, however, it was only in the almost past two and a half decades that there was a call for action from International Conference on Population and Development (ICPD) that took place in Cairo in 1994, to encourage children, adolescents and youth, particularly young girls, to continue their education in order to equip them for a better life, to increase their human potential, to help prevent early marriages and high-risk child-bearing and to reduce the associated mortality and morbidity" (UNFPA, 2013). Although this came as a wakeup call to the society that despite giving birth at early stage, girls and young parents could still seek their better future through education, this study indicated that today, there are still stigma attached to being a teen mother, which is a big challenge of the teen mothers when attempting to return to school. Although many fail to realize the impact that this has on teen mother, this stigma have prevented

young mothers from pursuing their education. Unfortunately, this does not only come from school mates but also from society and educators who should otherwise encourage them. Beside stigma which is general and negative to teen mothers' education, the context of our study indicates other factors that prevent them from pursuing their education, allowing us to call for a policy reflection and the change of certain practice.

### **5.1 Factors that prevent young mothers from continuing school**

A survey done by CLADHO in 2016, indicates that dropout rate among teen mothers in Rwanda is at 50%. Among the factors that prevent young mothers go back to school include the already mentioned facts of rejection from their families, which requires them to take care of their children.

From a shared experience in this study, teenage mothers are often treated as already grown up ready to take care of their lives and that of their children. Oftentimes it is forgotten or ignored that they are also still kids though with more responsibilities than those who are not teen mothers. In reality these are very young and immature whose society has failed to protect at tender age, yet the perpetrators or sexual violence or responsible of the pregnancy or child remain sheltered from the whole discussion. Studies on sexual violence among teenagers indicate that most teen mothers are impregnated by the family friend or family members, their colleagues and local leader who should otherwise protect them. Here protection is understood in two scenes; one is the protection that was expected during their vulnerable teen age status. Be a family member or friend, a local leader or even colleague, these are groups of people that have moral responsibility to protect and harmoniously guide social values to them through their journey to adulthood. Two is the protection that is expected to be offered



despite the circumstances; recognizing that these are young mothers already with responsibility and with a whole future ahead of them, thus needing special encouragement for furthering their education.

Although the government has tried to put in place laws and policies that facilitate young mothers to go back to school, accurate infrastructure that would allow and facilitate them to continue with education is very little or none. The Rwandan inclusive education policy spell that “all learners’ education needs in a mainstream education setting should be met” (Ministry of Education 2018), however, either the scope of this policy does not include teenage mothers or have been overlooked within the special needs of a teen mother as should be part of the policy.

The first observation is the total lacks of facilities for a pregnant student, from equipped teachers who can handle the situation to possible basic health relate facilities in case a student has not for different reasons dropped from school. Second observation is the whole scenario that read to giving birth referred to the experience by the teen mothers. For example, if parents are not supportive during child bearing, how supportive they would be when needing to go back to school? Who will take care of this child when the mother needs to school? These are some of the unanswered questions within either a child girl policy provision or inclusive education. Although this could attract a long debate on this, it still indicates a big concern to the country and a risk to the health of both the mother and the child, as the emotional development of the mother, and her ability to pursue an education remain fragile.

It is considerably important to note that, while the responsible or perpetration continues with either education or other life

activities, a teen girl is disabled to move from the unfortunate circumstance and unavoidable, persistently show the gender power imbalance. On the other hand, legal barriers, cultural and religious stigma make it nearly impossible for these girls to get, legal abortion in the country (CEDAW, 2017). Furthermore, although this study does not take it as a recombination, for a child to think and go through abortion requires a huge support which is not available from the first hand when she was known to be pregnant. This contributes to most child mothers be unable to pursue their education for the reasons associated with early child bearing (CLADHO, 2016; NISR, 2016).

## **5.2 Inclusiveness and rights to education**

In 2013, all the countries that make up the African Union (AU) adopted Agenda 2063, a continent-wide economic and social development strategy. Under this strategy, African governments committed to build Africa's "human capital," through sustained investments in education, including "elimination of gender disparities at all levels of education." Two years after the adoption of Agenda 2063, African governments joined other countries in adopting the United Nations Sustainable Development Goals (SDGs), a development agenda whose focus is to ensure that "no one is left behind," including a promise to ensure inclusive and quality education for all.

Although all African countries have made human rights commitments to protect pregnant girls and teenage mothers' right to education. Most policy including that of 'education for all' or child girl education are well clear that teen mother have rights to continue education. The Rwandan policy of inclusive education gives a strict right to all children both boys and girls disabled or with other special needs to have equal education. Same is the Rwandan

girl's education policy made available since 2008.

With condemning the acts of being a mother at early age, however, there still a gape of the how this could be possible especially in the presence of rejection, poverty, prejudice and segregations, from different areas including education. While provisions are made within different policies, guide on different implementation has almost been difficulty, yet necessary if a child mother is to be motivated to go back to school different facilities are need, and these could range from child care support, and family education that would accommodate and support teenage mothers to go back to school, and educators' mindset change towards student pregnant and students' mothers. Alternatively, and importantly, teen mothers should be included in the special education as some would still in the framework of the concept. The fact that they are unable to meet or cover some requirements that would bring comfort to their studies should help policy makers and practitioners to relook at the current inclusive education policy and related policies, to open up programs that would cater for unable – teen mothers. Teen mother need the same equal right to that of boys whom some of them have impregnated the girl, but also a sense of responsibility both to the concerned girls and boys, and their parents.

### **5.3 Shortcomings and the policy of inclusive education**

It was already reviewed that the policy of inclusive education gives a strict right to all children both boys and girls to have equal education. However, in the case of teenage mother, there are facts that either needs to be accepted or availed not only for laws and regulations in protection of teenage girls but that of teenage mothers too.

Perspective from this study suggesting the limitation of teenage mothers' educational attainment, would have a policy implication which calls to understand situations in which teenage mothers live, the role they should or could play, how they see themselves in the society and how the society sees them, as well as the space and role expected from their children raised by these teen mothers. It is true that parents, in this case mothers should be the primarily care takers of their children under whichever circumstances; could the in the case of teen mothers who need to finish their education be treated differently, remains under the effect of cultural setup and enforcements of relevant social policies. Putting up infrastructures that would support these teen mothers academically will help them gain education and skills they need to build a successful future for themselves and their children.

With condemning the acts of being a mother at an early age, in our studies context, are two realities to accept. One is accepting the parents and community failure in general of not being able to take self-responsibility in the guidance of teenagers into adulthood. Two is acknowledging the vulnerability of teenage status exposed them to sexual violence which should allow a room for support. Teenager mother or mothers to be who are abandoned by their families and communities are heavily subjected to violence and exposed to further structure violence. To cut off the circle of this violence, they need to be encouraged and assisted to finish up their education. Nevertheless, having little or no facilities that would allow them to finish up their education is a big constraint that puts them in a cycle of more structural violence of different kinds. Putting up facilities such as child care support, and family education that would accommodate and support teen mother to

go back to school should be an ideal. The common view about education should not only be regarded as being only a right for the teen mother, which is important, but also a responsibility of both the teen mother for herself and her child (ren)'s future wellbeing, and for parents/ society itself to support her so as to prevent them from being a burden to the society in general.

## **Conclusion**

Different scholars have argued that having a high rate of teenage pregnancy and early motherhood is due to the limited knowledge of sexual and reproductive health. However, few studies have looked at how family and societal structures affect and contribute on the increase of teenage pregnancy. Discussion under this study indicates that cultural belief as well as practices makes it difficult to accommodate teenagers before and during crises, yet unknowingly opening up for a further risk and discontent for the whole family. From the understanding of a teenage as the age from 13-19 these should be a sensible age group that is not well in control of their decisions especially when it comes to sex and reproduction. It is therefore a group of age that needs to be protected, yet from this study it was found rejected both by parents and communities.

The study points out the main consequences of teenage pregnancy are a high rate of drop out from school. On the other hand, was an availability of good policy that provides for teen mothers to return to school, yet, with structures of the society and the whole facilities that do not ease them to pursue their education. Given all challenges that were mentioned, there is a need of relooking at how sex education incorporated in education curriculum being delivered, but also a general and specific sex education not only for teenagers but also for their parents and community in general.

There is a need of knowing, respecting and appreciating the stage and status of teen period so as to know how to handle different stages and circumstances.

Nevertheless, it has to be understood that teen mothers are not only to be oriented into social economic activities as most organization do but also be encouraged to return to school and pursue their future dreams with proper formal education. This could only be done with a joint collaboration from all angles of the society. There is a need of setting up facilities that allow them to pursue their education with a peace of mind such as setting up a child care support in cases where parents are not available, or introducing formal flexible school programs like part-time classes for teen mothers who are not able to attend schools on a full-time basis. The rampant crises of teenage pregnancy as presented from the reality, is not a one parent battle, until is it recognised as a common fight then we can talk about strategies to handle and uproot it from our global society.

## References

- Byishimo B (2019). Are we loosing the fight against teen pregnancies: The New Times, September 2019; <https://www.newtimes.co.rw/lifestyle/are-we-losing-fight-against-teen-pregnancies>, Accessed on 19 May 2020
- Darkness to Light (2018). Child Sexual Abuse Statistics, <https://www.d21.org/the-issue/statistics> retrieved 14/02/2018 Darkness to Light, (2018); Step 1: Learn the Facts, <https://www.d2l.org/education/5-steps/step-1/> retrieved 2 (https://www.d2l.org/education/5-steps/step-1/ retrieved 21/9/2018)
- Darroch J, et al (2016). Cost and benefit of Meeting the Contraceptive Needs of Adolescents, GUTTMACHER institute, pp 3 - 14
- Kalra Gurvinder and Bhugra Dinesh (2013); Sexual violence against women: Understanding cross-cultural intersections. Indian Journal of Psychiatry, 55(3): 244 -249

Katsilambros, N. (2011). *Clinical Nutrition in Practice*. John Wiley & Sons: ISBN 978-1-4443-4777-7.

Ministry of Education (2018) Revised Special Needs and Inclusive Education policy, Republic of Rwanda

Mckinney A. (2015). When there is no justice in the scripture: The rape of Tamar; *Sojourners*, sojo.net, accessed on 3/9/2019

NISR, MoH,&ICF International. (2016). *Rwanda demographic and health survey, 2014-15: final report*. Rockville, Maryland, USA: Measure DHS.

Nove A et al., Maternal mortality in adolescents compared with women of other ages: evidence from 1444 countries, *Lancet Global Health*, 2014, 2(3) pp. 155 -164

Ochen M, Che Chi, P & Lawoko S (2019). Predictors of teenage pregnancy among girls aged 13 – 19 years in Uganda: a community based case-control study. *BMC Pregnancy and Childbirth* 19(211)

OHCHR, (2018); Children and young people's commission. United Nations Human rights

Reproductive Health of Youth in East Africa, April 21, 20010, <https://www.prb.org/youthafrica-rh/>, accessed on 3/9/2019

Salam RA, et al (2016). Improving adolescent sexual and reproductive health; a systematic review of potential interventions. Vol 4, No. 4, pp 11-28

Shah Ahman, (2012); Unsafe Abortion Differentials in 2008 by Age and Developing Country Region: High Burden Among Young Women (May 1, 2012). *Reproductive Health Matters*, Vol. 20, No. 39, May, 2012.

UN Rwanda (2020). Tackling teenage pregnancy in Rwanda with youth – led innovation: UN and partners foster creative solutions for youth in Rwanda to adopt health and safe attitudes & behaviors. [www.rwand.un.org](http://www.rwand.un.org) accessed on 19 May 2020

UNFPA. (2013b). *State of the World Population 2013: Motherhood in Childhood: facing the challenge of adolescent pregnancy*.

United nations (2017); Convention on the Elimination of All Form of

Discrimination against Women, CWDAW/C/GC/35, 26 July 2017

Vogel et al, (2015); Who compares and despairs? The effect of social comparison orientation on social media use and its outcome; Personal and individual differences, 86 (2015) 249 -256

Wado, D.; Sully, A.E.; and Namah, N. J. (2019). Pregnancy and early motherhood among adolescents in five East African countries: a multi-level analysis of risk and protective factors. *BMC Pregnancy and Childbirth* 19 (59), pp. 2 – 23

WHO, (2014; 2018); Adolescent pregnancy: adolescence is a time of opportunity during which arrange of actions can be taken to set the stage for healthy adulthood: fact sheet. Child Sexual Abuse, <http://www.who.int/violence-injury-prevention/resources/publications/en/guidelineschap7.pdf> retrieved 21/8/2019



## 8

# Critical Thinking and Peace Education in Post-genocide Rwanda: A Comparative Study on Selected Schools of Huye District in the Southern Province of Rwanda

*Célestin Nsengimana and Denyse Mukantwari*

### Abstract

This study explores the role of Rwanda secondary schools in promoting and strengthening critical thinking culture among youth. Qualitative and quantitative approaches were combined to analyze how critical thinking, as a new methodological track in Post-genocide Rwanda, helped in educating a responsible generation capable of challenging and questioning existing theories, resisting the influence of ill-intentioned politicians and making personal decisions. The researchers collected data from both primary and secondary sources in three schools of Huye District of the Southern Province of Rwanda. On a rating scale ranged from 1 to 4 (from very low to very high), the study found out that all the three schools were ranked high (agree with some doubt) in promoting critical thinking among students with the means of 3.09 (77.25) for the Secondary School A, 2.81 (70.25) for the secondary school B and 2.76 (69%) for the secondary school C.<sup>4</sup> This study has also related the best practices learned from the schools under study, the challenges to be addressed, and the way forward to overcome them. Further studies should be carried out countrywide to analyze how other Rwandan schools

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4. To respect confidentiality agreement, the three schools under study were anonymized by the letters A, B and C according to their alphabetical order.

are addressing critical thinking related challenges to learn from their best practices.

**Key words:** Youth, critical thinking, peace education, secondary school, learning process, universalism, pluralism, education, globalization, and localization.

## 1. Introduction: Research background and setup

In the fields of arts and social sciences, the concept of critical thinking is not new. From time to time, it has been discussed by different scholars in many ways. One of the famous Greek philosopher, Socrates (470-399 BC), defined critical thinking as the process used to reflect on, assess and judge the assumptions underlying personal and others' ideas and actions (Socrates cited in Wang et al., 2008). Thinking critically according to Socrates, recalls the notion of critical spirit.

*Critical spirit is one which respects the authorities of truth within reason, but does not trust authorities blindly. It challenges the authorities, but does not regard one's own idea as the only authority. Therefore, critical thinking is not only logical and scientific reasoning, but also includes a kind of behavior corresponding to rationality, or so-called practical reasoning. (Wang et.al. 2008, p.58).*

Socrates established the importance of asking a series of critical questions to challenge existing claims until truth is discovered. In that perspective, the teacher is not trained in providing answers but in “asking questions that explore, investigate, probe, stimulate and engage” (Socrates, as cited in Chong, 2017).

The Socratic perspective on critical thinking is not far from the septic views of the French philosopher René Descartes (1596-1650). He claimed a methodical doubt towards certainty of assumptions

and discovery of universal truth. Recapitulating Descartes' thinking about methodical doubt Copleston (1994), put it as follows:

*We must systematically doubt all the opinions, which we already possess, in order that we may discover what is indubitable and what can therefore serve as a foundation or mainstay for the universal science we want to construct (Copleston, p. 75).*

For Descartes, we must provisionally treat everything as false in order to test whether it can remain something certain from the existing belief (Agbibo, 2019). In the 20<sup>th</sup> Century, a critical rationalist Karl Popper (1902-1994) developed the concept of falsifiability to mean that any scientific theory cannot be proved true (verifiability). Instead, it can only be proved to be false (falsifiability). Thus, a scientific theory is considered as good not because it is true but due to its ability and flexibility to accept various kinds of queries and challenges. In other words, the more a theory can stand up to the test, the more the closer it is to the truth (Stephen, 2021; Sfetcu, 2018). For Popper, any demarcation between science and non-science must be rough since what was considered as scientific truth yesterday can be proven false today. In the same way, what is considered as false today can become true tomorrow (Popper, 1990; Sfetcu, 2018, p.6).

Although modernity was imbedded in critical thinking spirit, it was claiming for universal truth. It is in that way that modernity reached Africa in the form of Christianization which was known as the mission that brings Good News to the pagans pejoratively termed "savages" (Dietrich and Sütz, 1997, p.6). Modernity was therefore advocating for capitalist world system, colonialism, and prevalence of Western Europe cultures and theories. Dietrich and Sütz describe it as follows:

*The way of life and the truths of modernity, had been determined, the former savages were no longer able to decide where their path would lead. As the underdeveloped they were obliged to walk, or rather to hasten, the one-way street of development towards the north Atlantic lifestyle, the only right and possible path ( p.6).*

From the late 20<sup>th</sup>-century to date, a new philosophical trend known as post-modernism consists of dissociating from the idea of universal truth arose (Ahmad, 2018). Dietrich & Sütz (1997) argue that post-modernism has a possibility of democracy due to plurality of truths by stating that “*it is precisely the insight that there cannot be the one truth which allows for a democratic plurality of truths*” (p.4). According to the proponents of post-modernism, there is no longer a universal truth applicable to all times and to all contexts. Every claim should be questioned and critically analyzed before its adoption or its implementation. Even the Bible or universal Human Rights principles are not to be considered as unalienable truth. They have to be interpreted in different cultural, political and socio-economic contexts of communities. In that sense, post-modernism challenges the mindset of universalism, cultural hegemony and “blind obedience” (Brannigan, 2012) to unlock independent thinking. It is also characterized by a return to traditional values and practices not for the sake of traditionalism, but for challenging imposition of universal claims (Blake, 1996).

Before the introduction of formal schools in Rwanda, education was done through traditional institutions like families, *urubohero* (traditional gathering of young girls to learn how to make sisal baskets) and *Itorero* (traditional civic academy for young boys) and *igitaramo* (a night of cultural gathering). In the family, informal education was assured by way of participating in daily

activities and family rituals, telling stories, poems and proverbs. Whereas *urubohero* was a space to educate young girls, *Itorero* was a traditional institution of civic education where young boys were gathered to prepare future leaders and learn from elders about cultural values and taboos, art of speaking, sport, dance, songs, leadership, and defense of the kingdom. In *Itorero*, the participants would critically explore and discuss the cultural values of Rwanda ( Mafeza, 2013; Mbonimana, 2016; Gatwa, Mbonyintebe (Eds), 2019; National *Itorero* Commission, 2013).

In 1923, the traditional institution of *Itorero* was abolished by the Belgian colonizers. As Gatwa (2019) put it, “*The disappearance of Itorero led to the loss of the school of excellence that contributed to the formation of character*” (p.37). In post-genocide Rwanda, the institution of *Itorero* has been rehabilitated as one of the traditional educational institutions that were reintroduced in Rwanda under the umbrella of the “home grown solutions” (Gatwa, Mbonyintebe (Eds), 2019). The spirit of critical thinking was particularly developed through the night of cultural gathering where participants could learn how to respect the views of others and to control their emotions vis-à-vis disagreement or challenging questions and negative critics. The one who could get angry of criticism was known as *igifura*.

Although the traditional Rwandan institutions of informal education were spaces for participative education and critical thinking exercise, the culture of strong obedience to authorities and elders was prevailing. The Rwandan proverbs like “*irivuze umwami*” (unchallengeable decision of the king), “*uwanze kumvira se na Nyina yumvira ijeri*” (the one who does not obey his parents obey crickets) or “*irya mukuru riratinda ntirihera*” (Though the effect of elder’s advice can delay, it can never miss to show

up) respectively induces strict respect vis-à-vis the king, parents and elders. In that perspective, it was culturally prohibited to challenge elder's opinions because it was a symbol of uneducated person, particularly when it was done in public. But this is only one face of the reality; Rwandan culture had developed different perspectives on critical thinking. There were no unchallenged truths; there was for example, *Aho kunigwa n'ukuri wanigwa n'uwo ukubwiye* (rather than being strungled by the truth better being strungled by the one whose truth is directed to); *Ukuri guca mu ziko ntigushya* [the truth goes pass the fire but never burns]!

With the arrival of European colonizers and missionaries in 1900s, the Rwandan traditional believes and practices have been demonized and progressively replaced by western values and thinking scheme under the banner of the mission of civilizing Africa (Gatwa, 2005; Karamaga, 1990; Zambakari, 2019). From that time, white people became the reference of life style. Until today, it is common for Rwandans to say that the one who is fluent in French and/or in English, has become *umuzungu* (white people).<sup>5</sup> In the same way, when someone has a nice house or a car, he/she is considered as the one who has reached western standards of life style.

Apart from the informal traditional institutions of education, the formal school in Rwanda was introduced by German colonizers in 1905 and later pursued by Belgians who continued expanding formal schools (King, 2014). After the independence of Rwanda in 1962, the first and the second Republics pursued the Belgian policy of Education in terms of teaching medium, methods and materials. The French language was mainly used as teaching medium at all levels (Primary, Secondary, and university), while memorization

5. Umuzungu is a Rwandan concept that literally means the one who inherits someone's properties and/or power. During the colonial time, this term was applied to European colonizers.

was a dominant approach consisting of reproducing and literally applying western theories which were considered by Rwandan intellectuals as unquestionable principles to be literally applied to the context of Rwanda. Although the Reform of 1970s introduced Kinyarwanda as teaching medium in Primary schools, the teaching medium was still French at secondary and University levels. Thus, the promotion from Primary to secondary school was also a shift from Kinyarwanda to French.

In the matters of critical thinking, the language barrier was added to the traditional culture of obedience to authorities and to elders. Furthermore, teaching materials like books and didactic materials were full of European case studies and stories whose meaning was not easy to grasp in the context of Rwanda. Consequently, across time, instead of focusing on the core content and analysis of the taught subjects, the learners were struggling with the meaning of words, memorization of course notes and sanction following a bad pronunciation of French to enhance acquisition and use of that new language. According to Never Again Rwanda (2016), the lack of critical thinking triggered massive participation of youth in the 1994 genocide against Tutsi. It was easy for the ill-intentioned politicians to manipulate the young people who had blindly absorbed the genocide ideology informed by the Hamitic theory that underpinned the colonial politics of divide and rule.

*After genocide, “the same educational system which had been used as a tool in perpetuating hatred and divisionism was transformed into a tool to promote reconciliation among Rwandan youth (Mafeza, 2013, p.5).*

In that line, the Rwanda’s Ministry of Education (MINEDUC) through the Rwanda Education Board (REB) has introduced a Competency-

Based Curriculum (CBC) with the aim of promoting and strengthening critical thinking culture among students (MINEDUC / REB, 2015). This approach engages students with active learning and use of acquired knowledge and skills in real-life situations. It is in that perspective that Bassham (et. al.) define critical thinking as

*The general term given to a wide range of cognitive skills and intellectual dispositions needed to effectively identify, analyze, and evaluate arguments and truth claims; to discover and overcome personal preconceptions and biases; to formulate and present convincing reasons in support of conclusions; and to make reasonable, intelligent decisions about what to believe and what to do (Bassham, Irwin, Nardone & Wallace 2010, p. 1).*

After defining the concept of critical thinking, it remains to determine the extent to which this new methodological track has helped the post-genocide Rwandan community educate a responsible generation capable of challenging and questioning existing theories, resisting the influence of ill-intentioned politicians and making personal decisions. This research was situated in the area of peace education with the aim of carrying out a comparative descriptive study on the role of Rwanda secondary schools in promoting and strengthening critical thinking culture among youth. According to Harris (2009)

*Peace education hopes to create in the human consciousness a commitment to the ways of peace [...] Peace education tries to inoculate students against the evil effects of violence by teaching skills to manage conflicts nonviolently and by creating a desire to seek peaceful resolutions of conflicts ( p. 7).*



In this vein, this research was guided by the following research questions: how are students and employees from the secondary schools of Huye District rating the role of their respective schools in promoting critical thinking culture among youth? What are the critical thinking approaches used by those schools with regard to peace education? What are the challenges related to the implementation of critical thinking policy and what is the way forward to address them?

This paper was organized in four main sections. The first section introduced the whole research paper by providing a brief theoretical background to critical thinking and by formulating the research objectives and questions. The second section dealt with the methodological approaches used throughout this study for data collection, analysis and interpretation. Whereas the third section was concerned with presentation, analysis and discussion of the research findings, the last one recapitulated the key research findings before providing some recommendations.

## **2. Methodological considerations**

This paper is an output of a research project initiated by Denyse Mukantwari (a PIASS undergraduate student) in partial fulfillment of academic requirements for the award of Bachelor's Degree with Honors in Peacebuilding and Development. After public defense and presentation of her research findings in 2019 PIASS scientific week, her paper was refined with supplementary readings by her university supervisor who is therefore the co-author of this article. To respond to the research questions mentioned above, the researchers adopted a mixed research approach combining both quantitative and qualitative approaches. A descriptive comparative research design was used to collect, analyze and compare data from the three schools selected from the

secondary schools of Huye District of the Southern Province of Rwanda. To collect quantitative data, the researchers distributed questionnaires (rating scale) to 90 respondents selected from a population of 911 composed of students and teachers from the secondary schools A (250), B (263), C (398). The overall sample size was determined by using the following Slovin’s formula of sample calculation:  $n = N / (1 + Ne^2)$ . In this formula, n = number of samples, N = total population and e = error tolerance (Ansar, Dengo, Lukum 2017, p. 40). With the margin error of 0.1 (10%), the sample size (n) became  $911 / (1+911*0.1^2) = 911 / (1 + 911*0.01) = 911 / (1+9.11) = 911/10.11= 90$ . Thus, the sample size for this study about critical thinking was 90 respondents (Ariola 2006, p.79).

Furthermore, the researchers used stratified, proportional stratified and purposive sampling techniques to select 90 respondents from the target population. As elucidated by Nsengimana (2015), the stratified sampling techniques consist in dividing the large population into strata according to various criteria such as geographical boundaries, age, sex, education and profession. For this study, each of the three school was taken as a stratum. Whereas the proportional stratified sample was used to choose respondents according to the proportion of each stratum, the purposive sampling technique was used to select key interviewees judged appropriate to give relevant information. Thus, after determining the overall sample size, the number of respondents from the three school under study was proportionally calculated based on their respective population size.

**Table 1: Sample size**

No	Stratum	Population size	Sample size
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1	Secondary School C	398	$398/911 \times 90 = 39$
2	Secondary School B	263	$263/911 \times 90 = 26$
3	Secondary School C	250	$250 /911 \times 90 = 25$
<b>Overall</b>		<b>911</b>	<b>90</b>

To collect qualitative data, the researchers used in-depth-interview and flexible informal discussion with a small sample composed of 15 respondents (5 from each school) including students, teachers and school leaders. Those qualitative data were used to clarify and/or to supplement the limitation of quantitative findings (Bamberger, 2012). The researchers collected data from both primary (questionnaire, interview, participant observation, school archives), and secondary sources (published and unpublished works). To analyze quantitative data, the researchers used SPSS (Statistical Package for Social Sciences) to calculate and compare the means. Furthermore, the mean ranges of the Likert's rating scale were used to interpret the calculations generated by SPSS. On the other hand, the qualitative data were analyzed using the techniques of coding and content analysis (Saldaña 2010).

**Table 2: Mean ranges for the Likert's rating scale**

Range	Mean range	Response mode	Description	Interpretation
1	3.26-4.00	Strongly agree	agree with no doubt at all	Very High
2	2.51-3.25	agree	agree with some doubt	High
3	1.76-2.50	Disagree	disagree with some doubt	Low
4	1.00-1.75	Strongly disagree	disagree with no doubt at all	Very low

Source: (Likert, 1932).

### 3. Data presentation, analysis and interpretation

Through this section, the researchers attempted to analyze empirical data and discuss the findings of this study. It was subdivided into three subsections. The first subsection compared the data from the target schools in the matter of critical thinking and peace education. In the second sections, the researchers departed from the means generated by SPSS to discuss critical thinking approaches used by the secondary schools under study. Those quantitative data were clarified and supplemented by qualitative data from interviews, participant observation and school archives. The last subsection was concerned with critical thinking related challenges and strategies to address them.

#### **3.1 Comparative appreciation of the role of secondary schools in promoting critical thinking culture among youth in post-genocide Rwanda**

To compare the extent to which students and teachers appreciated the role of their respective schools in promoting critical thinking culture, twenty indicators were rated by students and teachers from the three schools under study. A particular attention was given to the indicators with a very high level and those with lower level of appreciation that were respectively considered as best practices to share with others and challenges to be addressed.

Table 3: Comparative appreciation of the role played by the secondary schools of Huye District in promoting critical thinking culture among youth

No	Indicators	School C		School B		School A	
		Mean	Interpre- tation	Mean	Interpre- tation	Mean	Interpre- tation
1	The awareness of the need for critical thinking in your school	2.57	High	3.6	Very high	2.69	High
2	Clear instructions before doing class activities	2.73	High	3.6	Very high	3.25	High
3	Class discussions during the teaching process	2.71	High	3.12	High	3.18	High
4	Open-ended examination questions	2.91	High	2.88	High	3.29	V e r y high
5	Understanding of the purpose of competency-based curriculum	2.63	High	2.48	Low	3.25	High
6	The teaching methods that promote critical thinking culture among youth	2.84	High	3.16	High	2.77	High
7	The role of clubs in improving critical thinking	3.34	Very High	2.48	Low	3.29	V e r y high
8	The school's role in promoting personal decision	2.86	High	3.48	Very high	2.38	High

9	The school contribution to personal research in studies	1.89	Low	3	High	1.81	Low
10	the level of teamwork in doing activities	2.91	High	3.36	Very high	2.96	High
11	linkages between theory and practice	2.26	Low	2.87	High	2.51	High
12	The real-life examples in the teaching process	3	High	3.43	Very high	2.88	High
13	Inclusiveness of everyone in the teaching and learning process	2.67	High	3.08	High	2.46	Low
14	Taking part of decision-making organs of the school	2.05	Low	3.44	Very high	2.14	Low
15	learning environment of the school	3.15	High	3.44	Very high	3.34	V e r y high
16	Accessibility of library materials	2.60	High	2.48	Low	2.18	Low
17	The level of criticizing a teacher	2.92	High	3	High	2.51	High
18	Ability to analyse different information	2.89	High	3.22	High	2.77	High
19	Contribution of parents in the learning process	3.42	Very high	2.57	High	3.48	V e r y high
20	The level of solving conflict with your colleagues peacefully	2.97	High	3.18	High	3.25	High
	<b>Overall</b>	<b>2.76</b>	<b>High</b>	<b>3.09</b>	<b>High</b>	<b>2.81</b>	<b>High</b>

A closer look at the table above indicates that all the three schools are in the second mean range of high level of appreciation (2.51-3.25). It means that the respondents agree with some doubt on the contribution of their respective schools to the promotion of critical thinking culture among youth. However, the Secondary School B occupies the first place with the mean of 3.09 (77.25%). It is followed by the secondary school of Elena Guerra with the mean of 2.81 (70.25%) and the secondary school of Mutunda that has the mean of 2.76 (69%).

By looking at each variable, the researchers had a particular emphasis on the indicators with very high and low levels of appreciation. The commonalities and differences across the three schools were also considered by this analysis. In fact, the secondary school of B was ranked very high on seven indicators which could be considered as the best practices to learn from that school. Those indicators were awareness of the need for critical thinking (3.6), clear instructions before doing class activities (3.6), promotion of personal decision (3.48), involvement of students in the process of decision making (3.44), a favorable learning environment (3.44), real-life examples in the teaching process (3.43) and the spirit of teamwork at school (3.36). However, three indicators that were ranked low require supplementary efforts to improve them. Those indicators were about understanding of the purpose of the Competency-Based Curriculum (2.48), the use of clubs in developing critical thinking spirit (2.48), and accessibility of library materials (2.48). Since the secondary school B is a day school (non-boarding school), the interviews with students revealed that they cannot have enough time to participate in clubs and to visit the library because after class, they rush to go back home. Indeed, the secondary School of B is one of the schools known as Nine Years basic Education (6 years of Primary school and 3 years of lower secondary School) that were put in place by the Government

of Rwanda to contribute to the global goal of “Education for all” (Benavot, Manos, et al. 2015) by increasing students enrolment (Dufitumukiza, Wanjala, Khatete, 2021).

At the Secondary School C, only two indicators were ranked very high. Those were the use of clubs in developing critical thinking spirit (3.34) and the contribution of parents in the learning process (3.42). The areas of improvements at that school include its contribution to personal research in studies (1.89), linkages between theory and practice (2.26), and participation of students in the decision making process ( 2.05). The best practices from the secondary school A were Open-ended examination questions (3.29), the use of clubs in developing critical thinking spirit (3.29), and a favorable learning environment (3.34). The shortcomings to be addressed by that school include involvement of students in the decision-making process (2.14), inclusiveness of everyone in the teaching and learning process (2.46), and the school contribution to personal research in studies (1.81). By going across the three school, this study indicated that the learning environment is more conducive at the secondary schools A and B than at the secondary school C. On the other side, the role of clubs in developing critical thinking spirit is more enhanced by the secondary schools C and A than the secondary school B. Finally, the secondary school C and A have in common the problem of not involving students in the process of decision making.

In the next two subsections of this paper, the researchers separately discussed the critical thinking approaches used by the schools under study as the best practices to learn from them, and the challenges identified in order to propose the way forward to address them.



### **3.2 The critical thinking approaches used by the secondary schools of Huye District**

Under this subsection, 5 critical thinking approaches attracted the researchers' attention. Those approaches include (1) raising awareness on the need for critical thinking, (2) real-life examples in the learning process and clear instructions before doing class activities, (3) the contribution of parents in the learning process and peace education (4) group assignments and debate clubs, and (5) open-ended questions.

#### ***Awareness raising on the need for critical thinking***

The research findings indicate that the variable about awareness on the need for critical thinking is higher at the secondary school of B than at the other schools explored by this study. Indeed, the students and their teachers are aware of the importance of critical thinking in resisting political ideologies of division and discrimination that led to the 1994 genocide perpetrated against the Tutsi. The students are also prepared to challenges their teachers, to detect intentions of political speeches earlier and to filter the narratives they hear from their respective families (interviews with students and teachers of the Secondary School B on 12<sup>th</sup> September 2019).

According to Eduard and Usher (1994), in modern education, teachers dominate students and determine their future. In contrast, post-modernism looks at education more critically. One of the students' behaviors is to criticize their teachers without being afraid of presenting the views that challenge the position of the last. In that sense, one of the aims of critical thinking is to raise awareness about the impact of alienating cultural, religious, political and socio-economic systems on human lives. According

to Podur (2015), each student should think critically in his discipline of inquiry to seek evidences for claims or to change his/her claims when new evidences show up. That is what he express in these terms:

*To think critically is to be aware and explicit about one's assumptions and premises, to not accept claims without evidence, and to be prepared to revise or change one's conclusions when presented with new evidence" (p. 35). In the same vein, Murawski notes that "critical thinking implies evaluation of thoughts, ideas or judgments with awareness, creativity and refinement of these processes as needed (Murawski 2014, p.25).*

However, for critical thinking to be effective in the learning process and peace education, the teachers have to provide clear instructions before any class activity.

### ***Real-life examples in the learning process and clear instructions before doing class activities***

The use of real-life examples in the learning process helps students learn from the grassroots experience instead of memorizing course notes from the books written with illustrations taken from other contexts. Marin & Halpern consider the learning based on real-life situations as an explicit method that transfer knowledge in practical way:

*The explicit method is found to be more effective because it is structured in the manner that provides students with the opportunity to transfer their knowledge in practical ways, it encourages both high and low learner students to participate because it uses more variables which are out of class courses and it focuses in real-life situation (Marin & Halpern 2010, p.4).*

Empirical data for this study also indicates that the use of explicit method does also consist of participating in the rituals of genocide commemoration organized by the school or by the surrounding community to learn about the plan and execution of the 1994 genocide against Tutsi and how to cope with its consequences. Thereafter, the students use the information from the ritual to write class papers or to develop their argument in the debate clubs or in the club of unity and reconciliation.

For explicit method to be effective, most of the respondents argue that when teachers 'expectations vis-à-vis the task assigned to students are not clear, there are some conflicts between them and students not only about what to do and how to do it, but also about marking schemes. This study demonstrates that the interest of students is more on academic grade (marks) rather than on acquisition of knowledge and skills. The teachers are usually expecting creativity, innovation and personal reflection from students, while the last are literally reproducing the course notes, book paragraphs, or copying and pasting from Google when they are given some homework (interview with teachers and students on 12<sup>th</sup> September 2019). Winkelmes, Copeland, et al. (2015) propose ungraded class activities to help students to be acquainted with critical thinking approaches before giving graded assignments and exams. According to those authors, a strategy that could help in making the learning process more transparent to students is to discuss the purpose, the task, the working conditions and the criteria of evaluation of different assignments and activities with them. On the researchers' view, to reinforce critical thinking spirit, plagiarism and copy paste culture have to be severely penalized from the secondary school to mitigate the risk of becoming passive absorbers of political and socio-economic ideologies.

## **Student' clubs and group assignments**

As mentioned above, the students 'clubs are critical thinking approaches which are common for both A and C secondary schools. With regard to peace education, Ingabire argues that most of the student clubs:

*work towards fighting against genocide ideology and promoting unity and reconciliation through debates, dialogues, peer education on reconciliation as well as organization and participation in outreach activities (Ingabire 2018, p.1).*

For instance, Never Again Rwanda, a local non-governmental organization involved in critical thinking activities, initiated a club called "Never again" at secondary school A. It aims at teaching history of Rwanda before and after the genocide against the Tutsi, as well as fighting against stereotypes and prejudices. They also organize different forms of artistic performance including theatres, poems, sculptures and songs from student creativity about unity and reconciliation, and the fight against genocide ideology (interview carried out on 15<sup>th</sup> September 2019).

By the time the researchers were visiting the secondary school C, their club of unit and reconciliation was discussing the topic of "tolerance, love, respect, acceptation of differences and unity through diversity" (Participant observation on 12<sup>th</sup> September 2019). In 2019, some days before the period of genocide commemoration, the students of that school organized an activity called "sport for peace and exchange." They brought different clubs together. After mixing members of different clubs, they randomly constituted casual football teams. After the match, they discussed the topic of "Engaging youth in memory, healing

and building a better future” (participant observation on 28<sup>th</sup> March 2019). Those activities initiated by students reflect on the decision of the Government of Rwanda to integrate the subject related to reconciliation and the fight against genocide ideology in the curriculum of Rwandan schools. That is what Mafeza (2013) has reminded in these terms:

*Teaching peace, reconciliation, tolerance, justice, democracy, patriotism, solidarity and national unity became class subjects of great importance in the primary and secondary schools. Subjects related to genocide were also incorporated into Rwandan primary and secondary curriculum (p. 5).*

Furthermore, one of the students of secondary school C mentioned that debate and competitions in clubs cultivate self-confidence. They equip students with skills of speaking in public, doing personal research and developing constructive arguments:

*In the club, we prepare a topic to discuss and invite other club members to follow our presentation, to discuss each group’s topic, and to ask questions. We also have competitions between clubs focusing on, but not limited to, speech preparation and presentation skills. The best group is awarded by the school (Interview held on 11<sup>th</sup> September 2019).*

According to Darby (2007), a debate is a formal contest of argumentation between two teams during which one team supports, while the other opposes a given proposition. He further indicates how debate is linked to critical thinking in these words:

*one of the advantages of debate, it requires students to work as individuals and as a team to research critical issues, prepare and present logical argument, actively listen to various perspectives, differentiate between subjective and*

*objective information, ask cogent questions, integrate relevant information, develop empathy, project confidence, cultivate poise, and formulate their own opinions based on evidence ( p.78).*

This study shows that debate strategy is a way of encouraging personal research. To prepare debate, the teacher does not give course notes to students. Instead, they are given the guidelines and the list of key references. Students are also encouraged to look for additional references that must be also properly cited and acknowledged (participant observation on 11<sup>th</sup> September 2019).

This study has also indicated that working in groups is a good strategy to resolve complex tasks that require creativity and deeper reflection. Through group work, students become more innovative and creative by meshing their knowledge and skills together. Through participation observation, the researchers realized that the students were free to express their ideas either in English or in their mother tongue. In small groups, students were also free to bring different points of view and to ask any kind of question without fear of being negatively judged by the teacher or by the large group of classmates. Also, in small groups, the level of self-confidence increased. Contrary to what was observed in the classroom where most of the students were shy, in groups, everyone was willing to speak. As discussed above, debate and group assignments are also part of implicit method of teaching by which the teacher integrates critical thinking skills by developing problem-solving skills, asking questions that require critical analysis, evaluating the sources of information used by students and letting them make decisions without being influenced by the teacher (Hayes & Devitt 2008, p. 66). In the same vein, Almeida (2010) argues that schools have responsibility of making their students creative thinkers in these terms:

*One of the main aims of secondary teaching is the development of critical, reflexive, and creative thinking, in order to provide students with the necessary tools to become active and autonomous citizens, as well as lifelong learners (p.590).*

### ***The contribution of parents in the learning process and peace education***

The role of parents in education is complex and ambivalent. Apart from payment of school fees and provision of school materials, students' parents are also part of decision-making organs. In addition, the students' parents supplement the formal education dispensed by the school. A number of respondents (both students and teachers) argue that when they go to school, they bring with them what they learned from their respective families. Whereas some of them are still impregnated with ideology of division and discrimination, others embraced the reconciliatory discourse wanted by the post-genocide government of nation unity. Also, the schools shifted from the pre-genocide academic discourse of division and discrimination to embrace the Rwandan policy of *Ndi Umunyarwanda* (I am Rwandan) that aims at promoting national identity over ethnic cleavages (National Unity and Reconciliation Commission 2005).

Like in pre-genocide period, the Rwandan schools are practically still governmental channels to disseminate national politics and ideologies. The sole difference is the shift from divisionism ideology that led to the genocide against the Tutsi to the new ideology of unity and reconciliation. In that perspective, students and teachers are compelled to follow governmental interpretation of history transmitted through the new teaching and training manuals that replaced the pre-genocide teaching materials that

have been expelled from all public and private schools. The schools are therefore the spaces of encounter between the families, state and academics. Hence, critical thinking approaches allow the confrontation between family narratives, state politics and academic knowledge toward formulation and reformulation of personal point of view. The challenging aspect in that matter is the contradiction between family narrative and the national policy for unity and reconciliation as also realized by Ingabire (2018) as follows:

*The most challenging situation reported was the divergence between public and family narratives on reconciliation. It was observed by respondents that some parents tend to be united especially in communal activities and share everything within their neighborhood, but may change narratives when it comes to their feelings about the past and how one should behave accordingly (p.2).*

Through that contradiction, critical thinking approaches will help students analyze different claims and take their own responsible decision.

### **Open-ended examination questions**

This critical thinking approach consists of evaluating students without limiting their answers. For instance, one of the students of Butare secondary school said:

*Normally, they give us open-ended questions more than other forms of questions. That type of questions helps us to develop problem-solving skills and to increase our ability of looking far because there are no limitations in answering them.” Another student said: “During exams, our teachers give a case study concerning a problem to solve. They ask us to propose what we would do if we were concerned by that situation. (Interview on 11<sup>th</sup> September 2).*

On the students’ views, such questions do not require them to



memorize the course notes. Rather, they try to understand the content and its application in real life.

One of the teachers of the secondary school A argues that the questions about defining terms and/or citing some elements (characteristics, names, numbers, etc) do not shape the spirit of critical thinking. On the contrary, the questions about discussing a given topic, comparing and criticizing assumptions, compel students to personal reflection (interview with teachers on 15<sup>th</sup> September 2015). In this regard, Chong (2017) reiterates six types of Socratic questions that can be used by both teachers and students to develop critical thinking spirit. Those are the questions of clarification (what did you mean by...? Can you give me an example? Could you explain a bit more?), the questions to challenge assumptions (why do you assume that...? Is that always the case?), the questions to probe evidence (What do you think causes this to happen? How do you know this? Why do you say that?), the questions to discover other's viewpoints and perspectives (could you propose another way to look at this? What are the advantages and disadvantages of this alternative? Who can benefit from this project? Why is this proposition the best?), the questions about implications and consequences (what are some possible consequences of this policy? Who would be affected by this intervention?), and finally the questions about questions (Why did you ask that question? What did you mean when you said this?). According to Bait (2018), the Socratic questioning uses “*counter examples to improve a series of questions that could increase the number of thoughts, ideas, examples, and views to carry out the dialogue to a maximum advantage*” (p.19).

This technique of setting open-ended questions is

consistent with the REB (2015) approach of competence-based assessment. It is a process through which the learners are confronted with a complex situation related to their everyday life. They are then asked to put into practice what they have learned in terms of knowledge, skills, and attitude in order to resolve a complex task they have been assigned by their teachers (p. 42). REB argues that this method produces high learning outcomes and ensure that the verbs used in the formulation of questions do not require memorization or direct answers only, but test broad competences of the students. It is in the same perspective that Halpen (2006) suggested that the examination questions asked to students should refer to the skills of reasoning, argument analysis, decision making, and problem-solving (p.4).

#### **4. Critical thinking challenges in Rwanda Secondary schools. Coping strategies**

This study identified five main hindrances of critical thinking in the secondary schools of Huye District. They include the language barrier, lack of self-confidence, insufficient teaching materials, the culture of blind obedience, lower level of reading culture and the contradiction between family narratives and official discourse of unity and reconciliation.

In fact, the findings of this study reveal that the use of English as teaching medium is a common challenge for both students and teachers. For instance, one of the students interviewed at C secondary school said:

*Studying in a foreign language like English is a challenge, because*

*many of the students here cannot really understand anything without translating everything in Kinyarwanda. When we are given a book to read, it is really difficult to grasp the meaning of its content (Interview on 11<sup>th</sup> September 2019).*

In the same perspective, a student of B secondary school states that some of their teachers have also a low level of English. When they are not being supervised, they teach in Kinyarwanda. In addition, the teachers and school leaders deplore that it is not easy for students to express their point of view in a foreign language (Interview on 11<sup>th</sup> September 2019).

The ground reality is that both teachers and students feel more comfortable when they communicate in Kinyarwanda (mother tongue) than in English. However, because the use of English as teaching medium is compulsory in Rwandan education system, all the schools have to comply with that requirement. It is obviously unlawful to teach in another language than English, except some international schools that have been allowed to teach in French. But why a country whose citizens speak one common language decides to teach in a foreign language? If China teaches in Chinese, The Netherlands in Dutch, Germany in German, Japan in Japanese, why is not Rwanda teaching in Kinyarwanda? Through interviews and informal discussion with teachers and school leaders, some reasons of using a foreign language as teaching medium were identified. For many of them, English is used simply because it is a requirement of the Ministry of Education. For others, teaching in a foreign language, a colonial legacy. Rwanda has been using French because it was colonized by Belgium. The British colonies like Uganda and Kenya use English as teaching medium. For some respondents, the use of English would have been triggered by the worldwide phenomenon of globalization. Since English is spoken

by many countries in the world, Rwanda to adopt and prioritize so that the country stays connected to the world.

Other respondents associated the use of foreign languages in teaching with the issues underpinning underdevelopment. Since Rwanda does not have competitive industries and schools, none else could be interested in a language spoken in one country. Therefore, the promotion of national language must go hand in hand with socio-economic development to attract attention of external world. Although teaching in a foreign language is a strong factor of cultural hegemony and socio-economic dependence, in a globalized world that requires good communication skills and collaboration; no country should remain locked in the boundaries of its language and other national cultural patterns. That is what Hernawati and Nurbayani (2018) express in these terms:

*Good communication skills are valuable skills in the world of work and everyday life. Communication skills include skills in expressing thoughts clearly and persuasively orally or in writing, the ability to express opinions with clear sentences, convey orders clearly, and can motivate others through speaking skills. Collaboration and teamwork can be developed through the experiences that exist in schools, between schools, and outside of school (p. 158).*

In that way, the best and practical alternative to address the question of language barrier should not consist of a quick avoidance of foreign languages as teaching medium, but a long-term plan informed by an academic analysis of the situation. Meanwhile, the three official languages of Rwanda (Kinyarwanda, English, and French) must be given equal weight in the teaching curriculum from elementary school to university level to open

students' opportunities and to prepare a long-term plan of recognizing Kinyarwanda as teaching medium in Rwandan schools. In doing so, Rwanda will be able to anticipate a long-term plan of expressing knowledge in the mother tongue. This project requires enhancement of institutional culture that may guarantee sustainability of achieved steps instead of repetitive amendments of education policies. To refer to the concepts used by Denis (2010), there is a need for raising awareness on the necessity of seeking a balance between "internationalization" and "localization" of Education to avoid the risk of being completely uprooted by globalization.

Also, this study indicates that a number of critical thinking approaches like group assignments and debate clubs can partially respond to the issue of language barrier by way of peer learning. Indeed, when students are not under strict control of the teacher, they are free to use any language to express their ideas. They can also get new insights and vocabularies from their classmates who have a better understanding of their limitations than the teacher who belongs to another generation (participation in group work on 12<sup>th</sup> September 2019). Thus, as Hernawati and Nurbayani (2018) put it, collaborative group work can develop students' skills "through peer tutoring learning in groups" at local, national and international levels (p.158).

With regard to the shortage of teaching materials, the researchers realized that at the secondary school B, five students were sharing one book. Also, there was no computer lab at that school to supplement the shortage of printed books by electronic resources (Observation done on 12<sup>th</sup> September 2019). The situation was not different in other schools where students were claiming the increase of text books related to the programs taught in their

respective schools. Although the secondary schools A does have computer laboratory, their students deplore insufficiency of computers and weak internet connection. Consequently, without essential learning materials, students are still relying on course notes provided by teachers and on undocumented information from everywhere.

Another critical thinking challenge that was highlighted by the secondary school A is the lack of self-confidence among students. One of the school teachers explains that issue as follows:

*Some students are afraid of speaking in public because of language barrier, unwillingness to practice, and family background. Given that some of the parents do not encourage children to take their own initiative, it takes longer to change those students (Interview on 15<sup>th</sup> September 2019).*

This observation reiterates the question related to the culture of obedience to authorities and elders that prevent children from speaking in public. Furthermore, the issue of limited general knowledge and skills, the language barrier, and negative attitude of audience (laughing, critics) reduce self-confidence. To address that challenge, there is a need of enhancing the reading culture (Ruterana 2012) and sensitizing parents on their role in opening the space for interaction between family members. It is also important to change the mindset of considering the teaching medium as one the main criteria of measuring knowledge and competencies even beyond non-linguistic subjects. On the researchers' view, what is more important in the learning process is the communication and transfer of knowledge and skills by using all possible meanings including translation in other languages, gestures, and other visual and audible illustrations instead of being enslaved by a single approach or/and teaching medium.

Also, the users of critical thinking approaches must be ready to tolerate errors, digressions and challenging questions. In doing so, they will be effectively implementing the John Dwell's principle of "*learning by doing*" (Richard, Rebecca, et al. 2016; Bot, Gossiaux, et al. 2005) and the Edward Thorndike principle of "*learning by trial and error*" (Thorndike, 1898; Callander 2011). Finally, the contradiction between family narratives and national discourse of unity and reconciliation is on the one hand a challenging situation in the matter of unity and reconciliation, but also an opportunity for critical thinking to allow young generations to take their own decision by confronting those contracting views.

## 5. Conclusion and recommendations

The aim of this study was to carry out a comparative descriptive study on critical thinking approaches used in post-genocide Rwanda with regard to peace education. By looking at the role of secondary schools in promoting critical thinking culture among youth, the researchers combined qualitative and quantitative approaches to analyze empirical data collected from three secondary schools of Huye District of the southern Province of Rwanda. The study focused on how critical thinking contributes to the noble mission of educating a responsible generation capable of challenging and questioning existing theories, resisting the influence of ill-intentioned politicians and making personal decisions. On a rating scale ranged from 1 to 4 (from very low to very high), the researchers found out that all the three schools were ranked high (agree with some reservation) in promoting critical thinking among students with the means of 3.09 (77.25)

for the Secondary School A, 2.81 (70.25) the secondary school B and 2.76 (69%) for the secondary school C.

Through this study, the critical thinking approaches like awareness raising on the need for critical thinking, students' clubs, group assignments, real life case studies, and open-ended examination questions, were identified as the best practices to share with the readers of this paper. However, some challenges such insufficient teaching materials, a colonized mindset, lack of self-confidence, absence of reading culture, the culture of blind obedience, lower level of English as teaching medium, and contradiction between family narratives and official discourse of unity and reconciliation were pointed out as key hindrances of critical thinking and peace education. To address those challenges, the researchers formulated the following recommendations:

- To transform the youth of Rwanda into independent critical thinkers by addressing the Rwandan culture of blind obedience and enhancing the reading culture,
- To facilitate the confrontation between family narratives and official discourse of unity and reconciliation in post-genocide Rwanda so that students may take their own and responsible decisions;
- To consider extra-curricular activities (clubs, sport, preparation of and participation in school events) as part of official teaching approaches;
- Decolonization of the Rwandan mindset of considering Western and American cultural patterns as blueprints to be blindly applied to all



situations and contexts;

- To raise awareness of policy makers about the need for consistent philosophy of education in Rwanda and a long term plan of addressing the issue of language barrier in the learning process by giving equal weight to the three official languages (Kinyarwanda, English and French) and envisioning a long-term plan of communicating and transferring knowledge and skill in the mother tongue;
- Early initiation of students to personal and collaborative research in respect of academic integrity;
- Supplying schools with enough and appropriate teaching-learning materials (text books, computers and strong internet connectivity)
- To carry out further studies countrywide to analyze how other Rwanda schools are addressing critical thinking related challenges to learn from their best practices.

## References

Agbibo, D.E. (2019). *Descartes's Methodical Doubt: Does it achieve its Aim?* [https://www.researchgate.net/publication/254259679\\_Descartes's\\_Methodical\\_Doubt](https://www.researchgate.net/publication/254259679_Descartes's_Methodical_Doubt)

Ariola M.M. (2006). *Principles and methods of research*. Book Store.

Bamberger, M. (2012). *Introduction to mixed methods in impact evaluation*. <http://www.interaction.org/sites/default/files/Mixed%20Methods%20in> .

Bassham, G., Irwin, W., Nardone, H. & Wallace J.M. (2010). *Critical thinking: A student's introduction* (5<sup>th</sup> Ed.). McGraw-Hill.

- Benavot, A.; Antoninis, M.; Nicole Bella, N.; ... McWilliam Asma M. (2015): Education for All 2000–2015: Review and Perspectives. 38. Jahrgang, Heft 2, 2015.
- Blake, N. (1996). Between Postmodernism and Anti-Modernism: The Predicament of Educational Studies. *British Journal of Educational Studies*, 44(1), 42-65.
- Bot, L., Gossiaux, P.B., Rauch, C.P. & Safouana Tabiou, S. (2005). 'Learning by doing': A teaching method for active learning in scientific graduate education. *European Journal of Engineering Education*, 30(1), 105-119.
- Brannigan, A. (2012). Genocide in Rwanda: From pathological altruism to pathological obedience. In Oakley, B.; Knafo A.; Madhavan, G. & Wilson, D.S. (Eds.): *Pathological altruism*. Oxford University Press.
- Chong, C.S. (2017). Critical thinking skills in the classroom: Socrates, Bloom and De Bono. *English Teaching Professional*. <https://www.etprofessional.com/critical-thinking-skills-in-the-classroom-socrates-bloom-and-de-bono#:~:text=>
- Callander, S. (2011). Searching and learning by trial and error. *The American Economic Review*, 101(6), 2277-2308.
- Copleston, F. (1994). *A History of Philosophy Vol. IV: Modern Philosophy from Descartes to Leibniz*. Image Books Doubleday.
- Da Silva Almeida, L. & Rodrigues Franco A.H. (2011). Critical Thinking: It's Relevance for Education in a Shifting Society. *Revisita de Psicologia (Lima)*, 29(1)
- Darby, M. (2007). Debate: A teaching-learning strategy for developing competence in communication and critical thinking. *Journal of Dental Hygiene*, 81(4), 1-12.
- Denis, S. (2010). *From Localization to Internationalization of Higher Education: Globalization and Transformation of University Education in Uganda*. <https://files.eric.ed.gov/fulltext/ED512372.pdf>
- Dietrich, W. & Sütz, W. (1997). *.A Call for Many Peaces*. Peace center burg schlaining. <https://www.aspr.ac.at/fileadmin/Downloads/Publikationen/>

[Publikationen\\_bis\\_2014/Schlaininger\\_Arbeitspapiere/wp7\\_97.pdf](#)

Dufitumukiza, A., Wanjala, G., & Khatete, I. (2021). Nine year basic education policy interventions and students' enrolments rates at lowersecondary level: A lesson from Rwanda. *Journal of Higher Education Policy and Leadership Studies*, 2(1), 94-112.

Gatwa, Th. (2019): Home grown initiatives: A paradigm shift in the ethics of reconstruction. In Gatwa, Th. & Mbonyinkebe, D. (Eds.): *Home-grown solutions: A legacy to generations in Africa*. (pp 15-43). Globethics.net.

Gatwa, Th. (2005). *The Churches and Ethnic Ideology in the Rwandan Crises 1900-1994*. Regnum Books International.

Harris, I.M. (2009). Peace education: Definition, approaches, and future directions. In Aharon, A. (Ed.): *Peace, Literature and Arts Vol. 1*, 77-98. Encyclopedia of Life Systems.

Bait H.A.M. (2018, August18-19): *Students 'critical thinking enhancement through Socratic questioning. A pedagogical study*. [Conference paper]. The IIER International Conference, Langkawi, Malaysia.

Hayes, K. & Devitt, A. (2008). Classroom discussions with student-led feedback: A useful activity to enhance development of critical thinking skills. *Journal of Food Science Education*, 7(4), 65-68.

Hernawati, A.; Nurbayani K.S. (2018). *The importance of critical thinking to face global challenges in the era of industry 4.0 through social studies* (Proceedings of the 3rd International Seminar on Social Studies and History Education (ISSSHE) 2018).

Iyadurai, J. (2010). Mission in Postmodernity: An Asian perspective. In *Dharma Deepika* 14(2).

Ingabire, C. (2018): *Youth perspectives on reconciliation: Challenges and opportunities in post-genocide Rwanda*. African. Peacebuilding Network (APN), Note number17. [https://s3.amazonaws.com/ssrc-cdn1/crmuploads/new\\_publication\\_3/youth-perspectives-](https://s3.amazonaws.com/ssrc-cdn1/crmuploads/new_publication_3/youth-perspectives-)

Karamaga, A. (1990): *l'Evangile en Afrique: Ruptures et continuité*. Cabedita.

King, E. (2014). *From Clasrooms to conflict in Rwanda*. Cambridge University Press.

Lindgren Alves, J.A. (2000). The Declaration of Human Rights in Postmodernity. In *Human*

*Rights Quarterly* 22(2), 478-500. The Johns Hopkins University Press

Mafeza, F. (2013). The Role of Education in Combating Genocide Ideology in post-genocide Rwanda. *International Journal of Education and Research*, 1(10), 1-10.

Marin, L. M., & Halpern, D. F. (2011). Pedagogy for developing critical thinking in adolescents: Explicit instruction produces greatest gains. *Thinking Skills and Creativity*, 6(1), 1–13.

Mbonimana, G.: The Kingdom of Rwanda from the beginning to 1900 (pp.85-129). In P. Rutayisire, P, & Byanafashe, D. (Eds.): *History of Rwanda: From the beginning to the end of the twentieth Century*. National Unity and Reconciliation Commission.

MINEDUC/ REB (2015). *Competence Based Curriculum: Summary of curriculum framework pre-primary to Upper Secondary*. Kigali, Rwanda.

Murawski L.M. (2014). Critical Thinking in the Classroom...and Beyond. In *The Journal of Learning in Higher Education* at spring 10(1).

Never Again Rwanda (2016). *Critical thinking toolkit for facilitators*. <https://neveragainrwanda.org/wp-content/uploads/2017/08/Critical-Thinking-Toolkit.pdf>

National Itorero Commission (2013). *Strategic plan (2013-2017) of National Itorero commission*. Kigali, Rwanda.

National Unity and Reconciliation Commission (2005). *Unity and reconciliation processes in Rwanda*. Kigali, Rwanda.

Podur, J. (2015). Critical Thinking for the Modern Muslim Woman Psychology Student: A Summer in Islamabad. In *Radical Teacher: A Socialist, Feminist, and Antiracist Journal on the Theory and Practice of Teaching*. vol. 101.

Popper. K. (1990). *The logic of scientific Discovery*. Unwin Hyman.

Rhem, J. (2015). *The National Teaching & Learning Forum* (Ed.). 24 (4), pp. 4-9.



**Cluster 4: Partnership and Cooperation in Promoting Quality Education**

# 9

## **The influence of Diakonia Ministry on Quality Education in Rwanda: Case of Rubengera Technical Secondary School**

*Eraste Rukera*

### **Abstract**

Quality education refers to the education in which the learners perform well and get knowledge and skills that allow graduates to pursue further studies or to fit with requirements of the labour market. Much effort has been made to achieve quality education in Rwanda. The Ministry of Education has conducted, in October 2018, evaluation of quality education in primary and secondary schools and the schools were ranked according to their performance. Despite many interventions made to improve quality of education, the influence of the Diakonia ministry<sup>6</sup> in improving quality education in Rwanda remains unknown. The aim of this paper is to assess the influence of Diakonia in integrating quality education principles in Rwanda, in general and in Rubengera Technical Secondary School (RTSS) daily teaching activities in particularly. To conduct this research, we used the desk review and interview method. A sample of 30 people was taken by purposive technique, from the population made of students, graduates, teachers and school management team of RTSS. Field notes had been taken during the visit at RTSS. The results of this study show that Diakonia Ministry had allowed churches

6. Reference is being made here to social services offered by religious organizations within the protestant churches, including women's like, the Abaja ba Krisito in Rubengera, a Christian mission center of the Presbyterian Church in Rwanda.

in Rwanda to establish schools and enhance quality education in them. The RTSS has enhanced the quality of education via Dual Integrated Technical Training (DITT) program and innovative training combined with professional development for trainers. Results show that advocacy at different levels of decision making and policy makers is still needed to advance the education quality in order to provide to Rwandan Society graduates with relevant knowledge and skills for employment, self-employment or further studies.

### 1. **Background of the study**

The 2019 UN report about “The Sustainable Development Goals” states that millions of children in different countries do not attend the school and those who attend are not learning adequately; half of the children and adolescents worldwide do not meet the minimum proficiency in reading and mathematics (UN, 2019, p. 30).

Of the 18 SDGs, the fourth goal is about inclusive education and equitable quality of education and promotion of long-life learning for all. The commitments of the governments and states members of the UN to education for all at all levels is stressed in the 25<sup>th</sup> article of the UN declaration, a world commitment to inclusive education and equitable quality of education (UN 2015, p. 15). The slogan of education for all has increased the level of literacy and numeracy over the World. However, it is criticized for failing in raising the standards of education due to challenges faced. The challenges include among others, the low level of job satisfaction among teachers, chronic shortage of teachers at the time of dramatic expansion of primary education population; for Compion and allies, such an expansion occurs at the expense of school quality (Compion, Steyn, Wolhuter & van der Walt 2012, p. 160).

Rwandan education Ministry conducted in October 2018, an evaluation of quality on education campaign in primary and secondary schools and the schools were ranked according to their performance. In this Quality Education campaign, 895 schools from the whole country were assessed on five criteria which are Drop out, repetition, school leadership and management, teaching and learning process, school hygiene and sanitation and Use of ICT in teaching and learning. Each evaluated point was scored by 5 marks. Schools were ranked according to their performance. The first school obtained 90 per cent while the last schools got 22.9 per cent. RTSS was at the third position at national level with average of 88.8 per cent (MINEDUC, 2018, p. 2).

The history of RTSS shows that it is a private school owned by the community of Sisters, Abaja ba Kristo (ABK), a Faith Based Organization. Among its activities include Diakonia. From this diaconal ministry of ABK a question rises. What is the role of Diakonia in education performance which allows RTSS to be ranked at the third place?

## **2. Statement of the problem**

The education problems remain a burning issue for the world despite, conferences and summits on education s. For example, the Education for all was introduced by the World Conferences on Education, like the one held at Jomtier in Thailand in the period of 1990-2015 (Compion, Steyn, Wolhuter & van der Walt 2012, p. 161). The issue of education was discussed in the UN summit of 2000 that adopts MDGs; the second within the frame of resolutions aim at achieving the universal primary education. At the end of 2015, as following these different assessments about the long way still to go before an ideal situation is found. Consequently, The UN adopted the 18 SDGs.



The 2019 UN report on sustainable development mentioned above states that all children at the age of primary school are not enrolled in and the learning quality of those enrolled remain questionable in Asia and Sub-Sahara Africa due to lack of adequate facilities and well-trained teachers. The same report shows that “Despite progress, 750 million adults still cannot read and write a simple statement; two thirds of those adults are women” and that even Early childhood education offers a head start in school, the one third of the world’s children are being left behind (UN 2019, p. 31-31).

The churches are involved in this process of quality education. Most of well-known universities in the world are established by the churches as results of Diakonia intervention in Education.

In Rwanda, churches are the important partners of Rwanda Government in promotion of Education. Through Diakonia Ministry, churches in Rwanda intervene in government aid schools and private schools. They build classrooms, toilets, fences and provide equipment and trainings to teachers at different levels. It is in this way the Diakonia Ministry of the community of *Abaja ba Kristo* intervene in enhancing the quality education via its learning institutions.

Despite those interventions made to improve the quality of education, the influence of Diakonia Ministry of churches in general and of the community of *Abja ba Kristo* remains unknown. In this paper, the researcher highlights the role of Diakonia Ministry intervention in advancing the quality education.

### **3. Objective of study**

Research is an inquiry and it is done when there is a problem that needs to be solved or a question that needs to be answered (Ahmed

2010, p. 1). The aim of this paper is to highlight the influence of Diakonia in integrating principles of quality education in Rwandan schools daily teaching activities. In other words, the researcher wants to know what are initiatives of Diakonia ministry of *Abaja ba Kristo* in promoting quality education in Rwanda in general and in Rubengera Technical Secondary School in particular, the challenges faced and ways forwards.

#### 4. **Research Design and methods**

This paper uses descriptive method by review of written documents, interviews and observation. To conduct this study, the desk review was done with the aim of having deeper understanding of quality education and of Diakonia as factor influencing education quality in daily teaching activities in Rwanda in general and in RTSS in particular.

To collect the needed information, the researcher uses documents from public and private sources (Mogalakwe 2006, p. 223). To handle the documents available, quality control criteria have been observed. Those criteria are authenticity, credibility, representativeness and meaning. With Authenticity, the researcher will examine the document and see if the evidence is genuine and from impeccable source. For the credibility the researcher seeks to know whether the evidence is typical of its kind, representativeness refers to whether the documents consulted are representative of the totality of the relevant documents, and meaning refers to whether the evidence is clear and comprehensible (Mogalakwe 2006, p. 223).

The study population was the members of the community of sisters, students, graduates, management team and workers of RTSS. A sample of 30 people is taken by purposive sampling or

personal judgement (Kothari 2004, p. 59). Notes field has been collected from the interviews. The data analysis uses the coding and content analysis.

## **5. Literature Review**

### **5.1 Definition of Key concepts**

#### **5.1.1 Diakonia**

Diakonia Ministry is linked to churches or faith-based organization. Diaconal ministry has three dimensions. First is where it is related to a service done on the table to care the human body (Rwamunyana 2017, p. 34). This means that you serve people you love and whose needs are known. Theological the word diakonia is used to mean the God' service, Christ's service, community service or fraternity's service done for who are marginalized (Rwamunyana 2017, p. 34). It is what Christian believers "owe to the fellow-members" (Gatwa& Mbonyinkebe, 2019, p. 240). Diaconic Ministry includes also activities of advocacy.

Diakonia is the way of translating the love of God proclaimed in preaching into action. As Jesus was a highly appreciated teacher whose teachings had radically transformed the life of people who follow him, the church has the mandate of promoting the quality education that change positively the life of learners.

#### **5.1.2 Quality Education**

The quality education is made by two words, quality and education. Quality does mean the standard of something when it is compared to other things like it; how good or bad something is. Quality is used on every commodity e.g quality shoes, shirts, cars, etc (Eze, 2017, p. 1). For Eze (2017) quality education involves healthy learners, healthy environment, content that is reflected in relevant curricular

and materials, process through which trained teachers are child-centred and beautiful outcomes are achieved (p. 7).

According to van der Merwe (2011), quality education is a shared aspiration due to its importance for social and economic mobility (p.772). Quality education is a prime indicator where the Education for all is achieved (EFA 2005, p. 29). The cognitive development is identified as a major explicit objective of all education systems. The degree to which systems actually achieve this is one indicator of their quality (EFA 2005, p. 29). The quality education allows all learners to reach the fullest potential in terms of cognitive and creative capacity (EFA 2005, p. 30). It is important to notice that quality education varies from one school to another when the school raises its standards the learners have to work hard (774). In this paper, quality education is the education that has transformational power susceptible to bring a positive change in the life of its beneficiaries and of their country.

The right to education is rooted into different International Human Rights treats and UN declarations, such as Universal Declaration of Human Rights (1948), the United Nations convention on the right of Child (1989), The United Nation Convention on the Right of Persons with Disability (2006), African charter on Human Rights (1986), MDGs (UN 2000) and SGDs (UN 2015, p. 3). For the SDGs, all governments must eliminate all obstacles that prevent all people to access to education at all level by 2030 (UN. 2015, p.3).

Learners have equal right to access education at all level and lifelong learning opportunity (UNICEF, 2017, p. 3). This principle involves access to and progress in high-quality formal and informal education without discrimination. It seeks to recognize the diversity and to promote participation, to overcome barriers of learning and participation for all by focusing on success and

well-being of the students. Achieving high quality education for all learners, the United Nations believe, is advancing a peaceful and fair society (UN 2016, p.3).

The Goal four of SDGs is divides into two parts. The first part talks about the inclusive education implementation process while the second speaks about building facilities, availability of scholarship and qualified teachers for developing countries.

The first part is made of seven points. The first three points are related to the equal care for boys and girls at the childhood, equal access to pre-primary up to secondary education for free with relevant and effective learning outcomes. They also talk about the equal access for men and women to affordable and quality technical, vocational and tertiary, including university (UN 2015, p.19). The fourth point focus on the increase of youth and adults who have relevant skills including technical vocation training skills for employment, while the fifth talk about the elimination of all gender disparities in education and ensure equal access for all leaners to all levels of education. The last point of this party emphasizes the access of youth and adult, both men and men to literacy and numeracy.

The second part of Goal four of SDGs shows what facilities are needed for successful implementation of inclusive education. Building and upgrade education that ate child, disability and gender sensitive and provide safe, non-violent and provide effective learning for all learners is one of core condition for the success of inclusive education. The second condition for its success is the global expansion of scholarship available to students from developing countries for enrolment in high education including vocational training. To increase the number of qualified teachers through the international cooperation for teacher training in the

developing countries is the third key for the success of inclusive education (UN, 2015, p.19-20).

The UN document shows that inclusive education and quantity education go together. The inclusive education has to ensure that all learners acquire the knowledge and skills needed to promote sustainable development (UN, 2015, p.19). Consequently, the quality education is that takes into consideration all learners at all levels without any discrimination and promote sustainable development and sustainable lifestyle, human Rights, gender equality, culture of peace and non-violence, global citizenship, appreciation of cultural diversity and culture's contribution to sustainable development (UN, 2015, p.19).

## **6. Presentation of Findings**

The case study of RTSS was analyzed through responses from 30 respondents (selected by purposive sampling), reports, observation and notes taken during the processes. For the presentation of the findings, data are grouped under the theme created by content analysis.

### **6.1 The contribution of Diakonia Ministry in improving quality education in Rwanda**

On the question “What is the contribution of Diakonia in Rwandan education?” respondents put it as follows:

All Respondents affirmed that Diakonia ministry helps the churches of Rwanda to establish the schools from primary level up to High Learning Institutions and vocational training schools. The formal education was introduced in Rwanda by the missionaries in the time of colonization (Twagirayesu & Betselaar 1982, p. 157). It focused on literacy with the intention of making the Word of God accessible for Rwandan Christians. It has also the objective of training

local people to be translators and workers for missionaries and colonial authorities. For the protestant missionaries, they started by the installation of the primary schools at missionary stations. At the time of predominant religious intolerance, the Protestant realized that they couldn't send their children to senior schools in Roman Catholic Church. The first protestant secondary school was created in 1946, in Shyogwe, an Anglican missionary station near the city of Gitarama, in the centre of Rwanda; it became a training center for teachers of primary schools (Twagirayesu & Betselaar 1982, p. 157). Respondents point out that the churches continued to build the school at all levels up to high learning institutions. The first protestant high learning institution giving access to university studies was created in Kigali, in early 1960s by the Prosbyterian Church of Rwanda with the assistance of the Protestant churches in Switzerland, the well-known, College Officiel de Kigali (COK), the present site of the University of Rwanda. The high learning theological formation was established in 1970 in Butare through the collaboration with Presbyterian Church of Rwanda, at The Union of Baptist Churches in Rwanda, later joined by the Anglican Church of Rwanda and the Free Methodist Church. It was inaugurated as "Ecole de théologie de Butare" which later became the Faculty of Protestant Theology and finally the present day Protestant University of Rwanda (PUR). This background reveals that the tradition of high learning education within protestant churches is a most recent phenomenon. The activity has since 1963 been a ministry of the National Office of Protestant Churches (BNEP) within the Protestant Council of Rwanda (CPR), and the number of secondary and high schools has been growing.

The second response is related to equipping schools with teaching facilities and libraries. Diakonia ministry, through the advocacy, looks for equipment, school material and books and

other materials needed in the churches' schools. The setup of schools went to gather with the enhancement of the quality of the teaching aids (libraries, computer lab, Laboratories, workshops..) and reduction of the overpopulation in classrooms.

Thirdly, school fees paid by the students who come from the poor families have been a hindrance to access to education. The Diakonia ministry support students from poor families to access to quality education. In addition, the support for education is not limited to students; it reaches teachers and trainers in order to upgrade their skills and competences so as to qualify as teachers or trainers.

Lastly but not the least participants say that the Diakonia ministry does advocate for sharing resources and knowledge where churches sent volunteers and experts from abroad to qualify as educators at different levels which contribute to enhance the quality education.

Despite the proven contribution in education improvement by different actors including the diakokina ministry, the journey is still long. The problem of overpopulation in schools, low rate of success, poor infrastructures, insufficiency of classrooms... remain a challenge for many protestants primary schools. The advocacy has to play its role in this area the participants said.

## **6.2 Promoting quality education at Rubengera TSS: The contribution of Abaja ba Kristo**

To the question “What are the initiatives of the Diakonia ministry of *Abaja ba Kristo* with”, the participants to the study put as follows:

The construction of the “Ecole Etoile” is one of the well-known first schools of this women religious order build in Rubengera



as recounted by Rukera (Rukera 2009, p. 53); then came the Rubengera technical secondary school and Indatwa School Rubengera. These contributions are well known by the participants to the study. The leader sister informed the researcher that those schools receive students from Rwanda and outside.

The second initiative mentioned is the construction of classrooms, the erection of infrastructures that provide a viable environment for learning, including the construction of cleaned toilets, kitchen, refectory; dormitory and any other required facilities.

Giving school fees to students who come from poor families and helping them to access to quality education through the admission in schools of excellence. Empowering parents with low income through the creation and strengthening self- help groups for them in order, in the future to pay themselves the school fees for their children. These initiatives have contributed to improving access to quality education by transforming life of students' and of their families which play an important role in quality education enhancement.

### **6.3 Diakonia Ministry of Abaja ba Kristo in promoting quality education Rubengera Technical Secondary School**

On the question of the contribution of the Diakonia ministry in promoting quality education in Rubengera Technical Secondary, the responses explore the brief history of the school then showed its impact on local communities.

First, let's start with a short introduction of the Rubengera Technical Secondary School. This secondary learning institution (RTSS) is an accredited private school established in 2010 by the community of sisters *Abaja ba Kristo* with the objective of supporting the development of personal and technical skills of

young people. It was officially launched by the Minister of States in charge of TEVT, Albert Nsengiyumva in 2013, and started to receive students, both females and males (MINEDUC 2013). The project aimed at including more girls in Technical Vocational Education and Training (TVET).

Secondly, the initiatives of deaconesses *Abaja ba Kristo* in promoting quality education at RTSS show that RTSS is innovative in two ways. First, it has integrated “Dual Integrated Technical Training” (DITT) in Rwandan context. The application of the learning methodology founded on close link between learning in technical schools and production for the market has not been practiced before in Rwanda. Secondly, promoting the participation of girls in technical education, especially in wood technology and carpentry, is considered as another innovative element of the project with a specific approach to mobilizing women to support TVET for their children (Innovation for Education s.d, para 4).

RTSS teaches carpentry and wood technology for three years and offers the opportunity of lifelong learning for its graduates and people surrounding who want to upgrade their skills in carpentry (Gahigi, 2012). It means that RTSS has three programs: regular training (takes three years). The students who enroll in this program are those who finished ordinary level or NYBE and secondary school. The second program is Training of Trainers (ToT). It is designed for upgrading the skills of the teachers who teach carpentry in all TVET schools that teach carpentry in the whole country. The third program is the short courses where the school offer training for starters and people of all levels who want to get skills in carpentry and wood technology.

The respondents had shown that RTSS, through Diakonia ministry, has introduced the education fund that helps students to get school fees according to how they keep performance during their studies. This Education fund is not only limited to students; it concerns also teachers. It gives them the scholarship for upgrading their skills and knowledge through trainings and studies at different training Institutions and universities. Having well trained and qualified teachers contributes in quality education enhancement.

Respondents have mentioned the creation of the production unit and wood technology research centre. first task, it offers internship to students in their studying period and after the studies in order to keep the standards of quality production. It also motivate them to conceive a business venture still at school that will help them integrate the labor market. The second institution serves to help researchers, graduates of RTSS and people who want to upgrade their knowledge in carpentry and wood technology. It serves as an incubation center for new starters of wood products business. Both institutions are important for long-life learning at different level.

#### **6.4 The Satisfaction of the RTSS performance from 2015-2018**

The school has shown a satisfactory performance during its period of its existence. From March 2016 to March 2019, the school has made tree graduation. The results of National examination of 2015 have shown the good performance of RTSS students. RTSS has been ranked the first among all schools that teach carpentry in Rwanda and the third among technical schools in general (National Examination Result Report, 2015). The 50 graduates of RTSS in three years are well appreciated by the society. According to the research conducted about where the graduates of RTSS go,

the findings showed that 7 among them are studying in different polytechnic institutions in Rwanda, 10 are self-employed and 33 graduates are employed by different companies (speech of school manager at the third graduation, Mach 2019).

The satisfaction of the RTSS to people needs is also shown in their contribution to local communities. The students-built houses and toilets to poor people in Rubengera neighborhood. The number of students who apply for studying at RTSS and who order wood products is another indicator of how the Rwandan society appreciated the school. The RTSS wood products have changed the quality of wood products that were available at the Rwandan Market. RTSSS has contributed significantly to the promotion of Made in Rwanda Program especial in wood sector through its products of high quality.

### **6.5 Factors influencing the RTSS present success**

The present success of RTSS is based on the combination of enabling environment created by international and regional legal instruments: treaties (conventions, covenants, charters), Rwandan laws, policies, and programs about education and good leadership, policy and programs set by RTSS for creating the favorable learning environment (Green Net, 2018, MINEDUC, 2020).

In its deferent policies, RTSS has put emphasis on quality education by admitting 20 students in each class so as to be able to offer enough follow-up, guidance and coaching of students in theory and practical courses. The number of students goes together with dual integrated technical training. RTSS offers four programs. The first is the regularly teaching that takes three years and offers A2 certificate in carpentry. This program is changing with the WDA

new curriculum of TVET Schools; students will follow the levels program. At the end of three years, they will get a certificate of level V.

The ToT is another program run by RTSS that aims at upgrading the skills of teachers of schools who teach carpentry in Rwanda. ToT trains all teachers from school of carpentry in order to promote the quality of education and to meet the labor market requirements. This program of TOT is linked to the second part of education fund that provides scholarship to teachers of RTSS in order to help them pursue their studies at university level.

In addition, RTSS has a program of long-life learning. RTSS had established Wood Technology Research Center (WTRC) that helps the graduates of RTSS to continue to develop their skills during the time they are waiting to be employed or to start their own business. This program goes together with a program of short courses where the RTSS make advocacy to WDA for financing a Skills Development Funds (SDF).

The success of RTSS is laid on the effort of building strong partnership with public and private sector at national and international level. This partnership allows RTSS to enhance its capacity building through financial support and knowledge sharing.

## **7. Findings and Discussion**

### **7.1 Analysis of RTSS educational activities in the light of the Goal 4 of SDGs**

The Goal 4 of SDGs is divided in two parties. Part one is related to inclusive education and the second part is related to quality education. The present discussion will focus on quality education.

The trainings offered by RTSS give to learners the access to quality education. In regular training both male and female have equal access to education. Female and male do the same theoretical and practical courses in the carpentry and wood technology. The Community of ABK, the owner of the school, through advocacy, has put in place education infrastructures and education fund that allow students to keep performing during their studies. It implies that by Education Fund students work hard to continue to benefit from that fund.

Students who finished their studies at RTSS are employed by RTSS, companies or self-employed and others pursue their studies in high learning institutions (RTSS, 2019, p. 3). This implies that the skills and knowledge graduates get from RTSS fit with the requirement of the labor market (Ngendahayo, 2014, pp 35-36).

The equality education is the result of the combined effort. The role of different actors that intervene in quality education enhancement was confirmed by interviewed. First, the parents provide the school material; the school provides teachings and different state institutions provide the security, programs and other things needed. The hygiene and security create a favorable learning environment in well-built and equipped classrooms. Discipline allows students to succeed in school works and, in the society, because it is a bridge between school goals and their achievements. While good leadership and school management of available resources serve as an example for students in their way of taking responsibility.

From those activities mentioned by respondents, RTSS contributes to achieving the goals of 4 of SDGs by making available facilities and the implementation of the principles, program, rules and regulations related to quality education.

## **7.2 A RTSS opportunity to contribute to the achievement of the SDGs**

Diakonia has a care dimension, service and advocacy; it is a good opportunity for the community of ABK, through the RTSS, to work and speak loudly for the promotion of quality education as the right of all human being ( Ndikumana 2017, p. 15). Diakonia activities offered include building educational facilities, looking for different supports that allow learners to have access to education of quality at all levels and making available qualified teachers.

For the technical matter, through Diakonia ministry, the community of sisters, ABK gets qualified technicians and professionals for RTSS and contribute in the training of local teachers. It implies that through the cooperation with others, RTSS gets the volunteers or paid workers who are professionals in different domains in which people need to be trained at international standards.

Quality education is, for RTSS, the opportunity to show to the world that marginalized people are also able to study different subjects and practice them as their brothers and sisters who come from richer families do. For example, it is an opportunity to speak for the poor and demonstrate that when they have access to quality education, especially, in technical subjects, it is possible for them to eradicate poverty and become self-reliance, a step in advancing and achieving an inclusive society (UN 2016, p. 4).

To reach quality education does not mean to put learners together in the well-equipped classrooms. It requires meeting school standards, to have qualified teachers; and for that all students need to work hard for advancing quality education. It requires appropriate and accessible teaching and learning materials (Singal, Ware.& Khanna Bhutani (2017, p. 66), favorable learning environment and improved life conditions of teachers. These

actions have been a priority of the deaconesses, Abaja Ba Kristo, in creating, equipping and empowering the vocational schools mentioned above, in particular the RTSS.

### **7.3 Challenges faced by RTSS in promoting quality education**

In promoting quality education, RTSS faces the same challenges as other schools and organizations that intervene in education sector. There is a problem of funds and the dependence on the support from outside. For financial sources of income, the deaconesses have created a production unit Ltd; however, the resources generated are not enough to finance the school daily activities.

Beside of that, many children enter the school unprepared to learn. For a good learning environment, children need an ethics of effective schooling that provides consisting and regular acquisition not only of know-how and skills but also positive attitude for social and economic mobility (UN 2019, p. 30). The global learning crisis reported by UN does not stop in primary and lower-levels in school (UN 2019, p. 30); it moves as the learners move to higher levels of their studies and this learning crisis affects the standards of quality education.

The lack of basic elements such as basic facilities and well skilled and trained teachers in Africa (UN 2019, p. 30) oblige RTSS to receive a limit numbers of students. Through the network of their relations worldwide, the deaconesses of Rubengera look for qualified technicians and professionals outside of Rwanda to fill in the gap. And yet, the gap keeps stay, and the RTSS continues to face the departure of qualified teachers who quit the educational sector for other sectors more lucrative. This has negative impact on the students and on the school, funds invested in human resources development, in this case, teachers' studies.



To overcome those challenges a combined efforts to improve teachers' working conditions, to effectively advocate at different levels of decision making and policymaking for the advance of quality education that provides graduates with knowledge and skills that are relevant for employment, self-employment or further studies.

## **8. Conclusion and Suggestion**

The educational quality is the key for the development of society. Literature review shows that quality education is an important tool in producing graduates who are well equipped with a transformational power advancing a peaceful society for labor market to prevail. The Diakonia's contribution in remarkably promote quality education at RTSS through the implementation of principled rules and regulations related to education quality. The deaconess ministry also provides facilities that allow all leaners at different levels to access to quality education. Through the support of the Diakonia ministry, the RTSS provides to its graduates skills and knowledge that are relevant at labor market in wood industry. The lack of enough educational facilities, qualified teachers added to financial dependence remain a serious challenge to overcome for the sustainability of the results achieved so far. To maintain what have been achieved and to go beyond, the availability of qualified teachers, the improvement of the working conditions of the teachers, the creation of good learning environment and the integration of the best practices eventually borrowed from home and outside but adapted to Rwanda, are central to the advancement of good educational relevant for employment, self-employment or further studies.

## Selected References

Ahmed, J. U., (2010). Documentary Research Method: New Dimensions. In *Indus Journal of Management & Social Sciences*, 4(1):1-14 (Spring 2010). <http://ideas.repec.org/s/iij/journal.html>

Compion J., Steyn H., Wolhuter C. & van der Walt H.( 2012). Meeting challenges in rural African education: a Zambian case study. In *Acta Academica* 2012 44(1): 159-190. <http://www.ufs.ac.za/ActaAcademica>

EFA (2005). Global Monitoring Report 2005: Understanding education quality. [http://www.unesco.org/education/gmr\\_download/chapter1.pdf](http://www.unesco.org/education/gmr_download/chapter1.pdf)

Eze, S.G.N, (2017). Features of Quality Education, Faculty of Education, ESUT, Enugu.

[https://www.researchgate.net/publication/317570906\\_FEATURES\\_OF\\_QUALITY\\_EDUCATION/link/594065b10f7e9ba171b2447d/download](https://www.researchgate.net/publication/317570906_FEATURES_OF_QUALITY_EDUCATION/link/594065b10f7e9ba171b2447d/download).

Gahigi (2012). Rwanda : Rubengera Gets New Technical Secondary School. In *Rwanda News*, <http://www.newsforrwanda.com/ibikorwa/11259/rwanda-rubengera-technical-secondary-school/>

Gatwa T& Mbonyinkebe D,( 2019). *Home-Grown Solutions Legacy to Generations in Africa* (Vol. 1), Globethics.net Series 50, Geneva.

Green Net (2018). Right to Education Initiative, <https://www.right-to-education.org/page/international-law>

Innovation for Education (n.d) Set up of Rubengera Technical Secondary School <https://educationinnovations.org/sites/default/files/06%20Set%20up%20of%20Rubengera%20Technical%20Secondary%20School.pdf>

Kothari C.R, (2014). *Research Methodology: Methods and Techniques*, New Age International, Second Ed, New Delhi.

MINEDUC (2013). Rubengera Technical School Officially Launched. In *Igihe* <http://en.igihe.com/news/rubengera-technical-school-officially-launched.html>

MINEDUC, (2018). Ranking of 895 Primary and Secondary Schools in Rwanda: Executive Summary. Ranking period from 10<sup>th</sup> to 21<sup>st</sup> September 2018, Kigali.

MINEDUC, (2020), Education laws, Kigali, <https://mineduc.gov.rw/index.php?id=145>

Monageng Mogalakwe(2006). Research Report: The Use of Documentary Research Methods in *Social Research*, *African Sociological Review*, 10, (1), 2006, pp. 221-230

Ndikumana V., Diaconia in Old Testament Perspective. In In PUR (2017). *Diaconia in Protestant Churches in Rwanda 2017*, n o 9, pp. 9-18.

Ngendahayo E., (2014). Rethinking Rwandan higher education assessment system and approaches. In *Rwandan Journal of Education–Volume2–Issue2*[2014]

RTSS (2018). Report on the employment of graduates of Rubengera Technical Secondary school.

Rukera, E., (2009). *La Communauté de Diaconesses Abaja ba Kristo-Rubengera: Sa mission et sa vocation 1984-2009*, Pallotti Press Kigali.

Rwamunyana J., Practice of Diaconal Ministry within the Church. In PUR (2017). *Diaconia in Protestant Churches in Rwanda 2017*, n o 9, pp 34-40

Singal N., Ware H.& Khanna Bhutani S (2017). *Inclusive Quality Education for Children with Disabilities*

UN (2015). Transforming our World: The 2030 Agenda for Sustainable Development. <https://sustainabledevelopment.un.org/content/documents/21252030%20Agenda%20for%20Sustainable%20Development%20web.pdf>

UN (2019). The Sustainable Development Goals Report 2019, <https://unstats.un.org/sdgs/report/2019/The-Sustainable-Development-Goals-Report-2019.pdf>

UN (September 2016). Convention on the Rights of Persons with Disabilities: Committee on the Rights of Persons with Disabilities General comment No. 4 (2016) Article 24: Right to inclusive education. CRPD/C/GC/4, [https://www.right-to-education.org/sites/right-to-education.org/files/resource-attachments/CRPD\\_General\\_Comment\\_4\\_Inclusive\\_Education\\_2016\\_En.pdf](https://www.right-to-education.org/sites/right-to-education.org/files/resource-attachments/CRPD_General_Comment_4_Inclusive_Education_2016_En.pdf)

Unicef (2017). Inclusive Education: Including children with disabilities in quality learning: what needs to be done?, [https://www.unicef.org/eca/sites/unicef.org/eca/files/IE\\_summary\\_accessible\\_220917\\_brief.pdf](https://www.unicef.org/eca/sites/unicef.org/eca/files/IE_summary_accessible_220917_brief.pdf).

Van der Merwe, H.M. (2011). *Education of quality to the poor*. *Koers* 76(4) 2011:771-787.

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Also published and available in PIASS Library, volumes of contributions to PIASS Annual Scientific Week: “Quality education in Rwanda: Challenges and opportunities” (2019); “Together for

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