

THE MECHANISM OF INSPIRING TEACHING AND LEARNING AND TRAINING INNOVATIVE TALENTS IN COLLEGES AND UNIVERSITIES IN RWANDA

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Abstract: Rwandan colleges and universities are struggling to meet growing challenges and the poor quality of education delivery remains a debatable topic in the higher education environment. The demands of labour market are rushing at a tremendous pace of innovation and technological advancement which leads to the competitive domestic, regional and global ability. To respond to this, colleges and universities are on the forefront line, however, they suffer more from traditional education mode of teaching and learning with almost zero innovative practices. The improvement of quality of teaching and learning is a result of daily changes to innovative education. The purpose of this study is to lay a cemented foundation on deeper understanding of the mechanisms that can motivate Rwandan universities to teach and train innovative talents. The paper proposes to establish “onboard innovative factory”, which will change colleges and universities teaching and learning from traditional model to effective use of learner-centred model, complete shift from knowledge transmission-based model to knowledge exploration-based model, and latter from holistic education model to individual education model with effective practices to innovation. It is of great reference value to the training model and the improvement of students’ innovative ability in various aspects of our higher education institutions.

Key words: Innovative talents, teaching and learning, training, Rwanda ‘s colleges and universities.

INTRODUCTION

Rwanda’s economic development has boomed in all sectors during the last 25 years and higher education subsector has not left behind. According to Ministry Education (MINEDUC, 2013)^[1], although Rwandan government spends more of its resources on expanding access to education and on improving the quality of its provision, it becomes even more critical to ensure the relevance of the education offered and suitability of its graduates for current and future national, regional and global labour markets which means that the low-quality risks are hidden in the process of teaching and learning.

According to Dan Lu et al. (2015), Colleges and universities graduates have been failing to meet the requirements of different industries managers which in one hand means that the university education is isolated from students’ career managements and experiential education which in other hand means that the derived education justifies its quality when it enables graduates to have determinative and competitive quality at the labour markets as well as in the society. By innovative means, universities students need work-integrated learning skills, universities should by all means relate course contents to the real-world life experiences. Diana Messum et al. ^[2] observed that If work-integrated learning is intended by universities to meet the demand for work-ready graduates, identification of skill requirements for development on placements is a critical part of the learning process. As a result, universities need to rush on innovative teaching and learning strategies to equip students with critical skills preparing them to compete locally, regionally and internationally.

Rwanda higher education adopted numerous policies that seek to improve quality teaching and learning. These policies include the 2008 bologna process and the 2013 merge of one university policy. According to Penelope B. Mbabazi et. al. (2012), Emnet Tadesse Woldegiorgis et al. (2015) and UNESCO (2002) ^{[3],[4],[5]}, the shift to Bologna, modular system was an initiative to improve the quality of students learning through emphasizing learner-centered approach rather than the teacher-centered approach that monopolized the education system previously; as well as facilitate mutual recognition of academic qualifications and enhance

domestic, regional and intra-African academic mobility while the merge aims at improving quality of teaching and learning as well as research and services in terms of knowledge and resource sharing, sweep out the unnecessary spent budgets in some higher learning institutions activities, and the promotion of competitions among higher learning institutions.

According to “Education sector strategic plan (ESSP) by MINEDUC (2013), An accessible, equitable and high-quality education system is needed to develop in every Rwandan the foundational skills of literacy and numeracy, the habits of reading and life-long learning, the skills of analytical reasoning and creativity, and mastery of both the general and job-specific knowledge demanded by the labor market. To achieve this, “2013-2018” as well as 2020 vision Rwanda long term Education Sector Strategic plan on educational teaching and learning reform proposed that teaching and learning should be based on innovative strategies in the process of cultivating talents. Therefore, educational teaching and learning based on innovation was put forward to cement the foundation of Rwanda sustainable development. My intention is to present strategies on improving teaching and learning quality and cultivating innovative talents in colleges and universities in Rwanda. By doing this, I will use descriptive and argumentative approaches and effective literature to what should be innovative strategies in teaching and learning in higher education.

The concepts: teaching, learning, and teaching and learning in the postmodern era

Teaching

James G. Derounian^[6] says: “The higher education teaching is difficult to measure, it is even the most slippery, intangible and elusive component in higher education” but the most important component. A big challenge is that there is much efforts to know what a teacher teaches and how he teaches it whether innovatively or not, with little emphasis placed on asking students what they actually learn, and very rarely are students pointedly asked about their growth and intellectual maturation over the semester^[7]. Previously there was necessity to future teachers to understand much better the important pedagogical skills and practices to enable them handle all higher education teaching and learning process challenges but contrary to know how to teach better becomes hot debate in 21st century. The teaching methodologies mastery is very important for a successful teacher, and It varies in time and space. This is meant that what works better today will not work tomorrow or if it works it is outdated and it needs quick improvement.

Teaching is a process for initiating, facilitating and sustaining students’ self-learning, self-exploration and self-actualization as well as multiple intelligence and multiple thinking^[8]. Effective teaching should let a student explore knowledge rather than receive knowledge. A teacher should be aware that what the student does is actually more important in determining what is learned than what the teacher does^[9]. According to John Biggs^[10], good teachers are expected to be clear about what they want students to learn and what students should have to do in order to demonstrate that they have learned at the appropriate level to reach the teaching and learning objectives. Teachers should be more student-centred in their teaching -learning activities and more authentic in their assessments. Additionally, the teacher must have the ability to connect the classroom to the real world, this ability will in turn help students to meet the requirements of different industry managers.

To suit the requirements of the knowledge-based society, and bring the country to middle-income status, high-quality talents are to be cultivated. In so doing, what educators do every day should have to be changed and renewed^[11], and four innovative lines need to be checked: Being aware of innovation, innovative ability, innovative behavior, and the power of innovation.

Innovative awareness

The concept of Innovation is not new in higher education but it needs emphasis. Teachers need to be aware of what innovation is and how much advantageous it is in educational setting. At first, an individual learns about the existence of innovation and seeks information about the innovation^[12], and what is its additional in his or her daily teaching activities. According to Rogers^[13], the “What?” “how?” and “why?” are the critical questions that teachers should base on before their teaching learning activities.

Innovative ability

Considering the rapid world economic competition development at labor markets, we believe that higher education is one of the most powerful pillars to achieve this. Therefore, it is very imperative to recognize whether higher education teachers have the ability to innovate or they need special training programs in innovation to help them teach better their subjects. Through capacity building programs they can improve the ability for innovation. David W. Sansom’s research^[14] on Reinvention of classroom practice innovations

found that teacher's ability and willingness to reinvent classroom practice innovations after training programs are likely to have an impact on later implementation and continuation of changes to classroom practices. However, he continued to argue that they may reject changes and discontinue innovations. Higher education field is changing day by day due to technological changes and labor market demands. Colleges and Universities whose teaching and learning values focus on teachers' innovative ability to face the changes ahead are the ones which will be successful.

Innovative behavior

Innovative behavior is very important aspect among teachers, workers and school administrators of an institution. Innovative behavior refers to intentional feelings to win, to achieve goals or realize one's dreams and can be developed. According to West and Farr (1989, 1990b, cited in (Feirong Yuan & Richard W. Woodman, 2010) ^[15], we define innovative behavior as an employee's intentional introduction or application of new ideas, products, processes, and procedures to his or her work role, work unit, or organization. The later illustrate that such behavior includes searching out new technologies, suggesting new ways to achieve objectives, applying new work methods, and investigating and securing resources to implement new ideas. Higher learning institutions should assist teachers by creating favorable and supportive innovative environment, define clearly innovative requirements and reinforce innovative culture throughout an institution to arouse teachers innovative behavior as emphasized by De Jong *et al.* (2015) ^[16] that institutions can stimulate innovative behavior amongst their personnel and take for granted that a strong focus on innovative behavior at all organizational levels is desirable^[17].

The Power of Innovation

Innovation has a cemented powerful foundation to achieve sustainable development. In developed countries, the power of innovation has been vibrating for visible and reliable development and was perceived as the only powerful tool for the central focus of higher education while in African countries, something isn't working. We need to look around, recognize and redefine what innovation is and importantly, what it isn't ^[18]; We need to consider power of innovation as the catalyst channel to our social economic development; We need to think about what will be an innovative point in our daily teaching; We need to recognize that if in our daily teaching activities do not include innovation then there is no teaching has taken place.

Learning.

There have been much debates on how best curriculum can be designed, how it can align courses with disciplinary learning outcomes and intentionally develop course sequences that can gradually and effectively build students' disciplinary understandings and competencies ^[19], how best the higher education institutions can achieve what is designed in curriculum to highly improve student-learning outcomes, and Much debates go on how the student-learning can be facilitated and guided, and what the student should know and do after he or she leaves a College or University. However, student's engagement in all these activities have been low and have had negative effect on expected learning outcomes.

According to J. Roksa et al., Quality of learning is achieved when teachers and learners together deal with content in pedagogically suitable ways, when teachers adapt new way of teaching and learning, when teaches develop a new culture of self-discovery, self-esteem, self-evaluation, self-confidence, self-responsibility, innovative thinking, asking many skillful questions and promote autonomous behavior and at last inspire a new shift from extrinsic motivation to intrinsic motivation among students. With 21st century, Learning should be more active because it is more than a technique or a tool, it is a way of life and it needs a paradigm shift from the usual approach of 'how I like to teach' to 'how the learner wants to learn and how the learner will learn better'^[20]. Having an analysis on Pranav Naithani's point of view on active learning, I can assume that teaching methods are to be more contextualized and should involve teacher's modest shift to deep modest as an additional psycho-pedagogical character. In many ways and forms, learner-centered (as a pilot to active learning approaches) were complained about its time consuming, it's weakness in the contents coverage ^[21] and so on and this has been seen as a strong pretext and self-defense for some teachers for existing poor innovative teaching situation. Bonwell, C. & J. Eison (1991, cited in P. Naithani, 2008) gave an answer that pretexts that the failure depends on the creation of the instructor himself and that is fear of failure, fear of loss of control due to enhanced classroom discussions, fear of lack of student participation, and fear of criticism of a new method. Teachers should not focus on contents coverage rather than what contents bring to students. This also means that if teachers focus is on contents coverage and do then it shows clear that the departmental culture to evaluate teachers mainly focus on teachers' contents coverage rather than what they carry for

students. Departments should build a modest culture focus on what students would learn rather than any other thing.

Teaching and learning

With technological advancement, with the growth in needs of human being, with the world full of new inventions and imaginations, the higher education subsector is a victim for numerous challenges. Teaching and learning process that is effectively applied is considered to be the change agent in creating new knowledge in the higher education. In describing a professional learning initiative, Lesaux et al. [22] argues that learning seeks to provide the intensity needed to build conceptual and applied knowledge to support teachers and policy makers in assuming the role of change agents. while teaching refers to skills of a teacher that support student learning and encourage critical thinking and innovative thinking particularly the teacher's ability to give clear explanations supported by relevant, practical examples^[23]. Teaching involves a variety of interacting variables such as teachers, learners, subject matter (content) and learning–teaching processes (pedagogy) that operate in dynamic yet connected networks ^[24]. These bring a new concept “teaching and learning”. If you think that teaching and learning is the relationship between learners and teachers it is a good answer but this is not our today's problem. Passing through teachers' assistance, assisting students with knowledge-based creativity, potential and innovation to reach their life spirit meaning; to shape and determine their future is the target of teaching and learning. Inspiring students for innovation is the main task of the teacher in the setting as Clements et al.^[25] emphasize that Teachers are on the front line in any educational controversy.

The concept of teaching and learning in the post-modern era should also be understood in the technological context since the world economy is being challenged by the technology growing changes. According to Stefan^[26] a good teaching and a flexible curriculum suited to address the need to educate minds and develop skills that are relevant in current social and technological contexts are now vital requirements for universities. He adds that those institutions unable or unwilling to look for new solutions in teaching and learning or to reimagine curriculum design and delivery face a slow, withering decline as their most likely road ahead. He ends with the point that technological change now impacts teaching and learning, and higher education is placed at the forefront of the technological revolution. Technological changes also impact on the universities' teaching and learning materials and methodologies. This argument is not meant that teachers should only rely on technological tools for innovation but how they prepare themselves to cope with world challenges for the new era, how they shape students for the new knowledge creation, how they train students to develop critical thinking matter most. Stefan, P. (2017) observes that any university interested in staying attractive and competitive cannot structure teaching around the same pedagogies and ideological directions adopted in the 1980s. Much about teaching materials and methodologies will be discussed in the next part.

To understand the same concept of teaching and learning for innovation, the new policy has been initiated in any country. For example, Rwanda has started to deeply think on sustainable development through education-based innovation as the own pillar and catalyst of achieving goals. After joining the Association for the Development of Education in Africa (ADEA), the Government of Rwanda through the Ministry of Education signed a Memorandum of Understanding (MoU) to foster education quality through the launch of the new Inter-Country Quality Node on Teaching and Learning (ICQN-TL) in Kigali on February 18, 2016. In his speech, Rwanda's minister of education Papias Musafiri Malimba (2016) said that The Memorandum signed between the Government of Rwanda and ADEA aims at enhancing the quality of education in Rwanda and in the continent, especially in promoting innovative teaching and learning. However innovative behavior among teachers is still at its primary stage according to teaching and learning International Survey (TALIS). The current research focuses on improving teaching and learning quality to cultivate innovative talents in colleges and universities in Rwanda.

Teaching and learning materials in Rwanda's higher learning institutions

In the post-modern era, the networked teaching and learning resources integrated in higher education for innovation have been proved to be effective in the production of new knowledge for students. This is to mean that nowadays technological tools in different forms and levels of education have been found to be highly influential in education system of different countries^[27]. However, teachers have been criticized not to innovatively integrate them in their daily teaching activities. Television, language laboratories for language studies, teaching machines, electronic response systems, reprographic devices, dial access devices, telephone, computers, and Electronic Video Recording (EVR)^[28], while books available in libraries and text books are used as non-media teaching-learning resources. In traditional academic setting, relying on textbooks was the most useful way to help students to learn, and it was seen favorable for teachers to communicate knowledge to

students. within this time, lecture method was reliable for many teachers. Some higher learning institutions prefer use power point presentation as a lecturing method during lecturing session and students follow passively what they are taught. With the change of higher education atmosphere in: nationalization to Regionalization, Regionalization to globalization, holism to individualism, and incremental accountabilities for stakeholders, relying on lecturing method as the only way to communicate the meaning, relying on the students' tests results are no longer seen fruitful and effective in today's society and for the future social prospects at all. However, N. MacKenzie argued that it is seen effective to a big number of listeners if only involves discussions to allow students to create new knowledge, develop students' thinking skills, apply information in new settings and promote long-term retention of information. Due to inadequate teaching resources (textbooks and module books)^[29], students may follow lecture' explanation taking notes for the whole session. At the end of lecture, they may request for lecture' power point for more reading as results of students' dependence on teachers' resources. Although teaching and learning materials may contribute to poor quality teaching and learning and It has been a chorus for teacher's pretext that the lack of enough materials is among many factors that hinder the quality of education, it is. With teacher's facilitation and guidance, teacher's dependence on students learning should be minimized by innovative technological facilities. This can promote university students reading culture, exploring knowledge and know how to learn.

Quality in teaching in Rwanda's higher learning institutions

Quality teaching raises much debates on what it is and how it must be assured. It is also a complex issue and it requires the overall commitment of the entire institution such that policy development, support for organization and internal quality assurance systems on an institutional level; the set of actions to measure and enhance the development, content and delivery of academic programs on the programs level; and initiatives that help teachers achieve their mission, encouraging teachers to innovate and support improvements to student learning and adopt a learner-oriented approach on an Individual level remain an entire institution mission^[30]. University teachers have been encouraged to prepare enough to communicate knowledge to students in the program that Don Houston and Cassandra Hood (2017)^[31] call Teaching preparation programs (TPPs) to improve the mechanism of teaching for innovation but there is no evidence appear for improvements. The role of the teacher is recognized in higher education, this is meant that teachers should be core concentration of an institutional energy to achieve the need of the students.

Joining East African community (EAC) in 2006, Bologna system adopted in 2008, The merge of one university policy implemented in September 2013 and some other quality assurance centers are all government policies for national, regional and global transformation in higher education in Rwanda. Improving teaching and learning, research and services are the key objectives of the aforementioned policies. The current research will only discuss how to improve quality teaching and learning to cultivate innovative talents in colleges and universities in Rwanda.

The academic and support staff are the implementers of quality^[32]. Quality teaching and learning can be affected by many factors including university governance and academic staff but, in many cases, teacher is accused for cutting-edge issues. There is no doubt that teacher's effectiveness is responsible for a student performance, he/she is the pilot of a student life flight to success or failure, he/she is the catalyst of a student harvest, he/she is a student behavior change agent^[33]. However, teacher's effectiveness is not the only determinant of students' academic achievement^{[34],[35]}. A big challenge that teachers face is to not realize and keep in mind wherever his/her relationship with a student. Passing through teachers' assistance, assisting students with knowledge-based creativity, potential and innovation to reach their life spirit meaning; to shape and determine their future, to encourage a student to ask questions and raise his/her thinking is the target of teaching. The late Nelson Mandela said, "education is the most powerful weapon which you can use to change the world", this meant that education which cannot change the life is immortal". It is only effective, innovative and efficient teaching that life of students can be changed. Education is to change the life of a student in all life corners.

Some teachers do not understand the importance of quality or they understand what its importance is but do not know how to ensure quality in their daily teaching activities. This is mostly appeared in how weak innovative teaching is in today's Universities especially those of Rwanda. One of the major reasons for this is the lack of management commitment in driving quality throughout the institution. The audit culture is difficult to change even though the Council for higher education (CHE) has embarked on changing its strategy through the implementation of the quality enhancement project (QEP). Since this has been implemented in the last year, cultural change in embracing quality as everyone's responsibility will indicate the success of the Quality. The system of education in Rwanda has faced many challenges that impact on quality teaching and learning.

One of the challenges is that the more the higher education expands rapidly, the more the educational outcomes decline.

Bologna reform in Rwanda's Higher learning institutions: Module system and its applicability

The Bologna system was initiated in Rwanda in 2008. The system if well applied is expected to solve many problems in any country higher education system such as improving quality of education in terms of national, regional and international credit-transfer that refers to as "mobility, coordination and comparability in higher education". However, with the influence of this system in many countries including Rwanda, teaching and learning in the classrooms is more challenged. This sub-part will not detail and explore the system of Bologna at large but to examine its role in promoting quality teaching and learning in Rwanda higher learning Institutions.

Considering the role of Bologna system as educational catalyst change in promoting teaching and learning, a shift from teacher-centered to learner centered approach was communicated. However, with the system Teachers still have been accused of poor performance in the classrooms that result in poor performance of the students in general which in turn the role of higher education in dealing with the world full of changes and complex problems is questioned. To attempt this, there have been various projects to help teachers and institutions in general to achieve their goals such as EU seven framework projects: The STEAM (Science Teacher Education Advanced Methods) which also aimed to support teachers by providing professional development or continuous professional development, PROFILES (Professional Reflection-Oriented Focus on Inquiry-based Learning and Education through Science), ESTABLISH (European Science and Technology in Action: Building Links with Industry, Schools and Home), PARRISE (Promoting Attainment of Responsible Research and Innovation in Science Education) and others^[36]. Hence, the results are still not clear; In addition, Carl-Johan Rundgren observed that the possibility of the EU to influence the member countries regarding the actual teaching and learning in the classrooms is more limited.

The way forward

If Rwanda higher education system is to compete domestically, regionally and globally then it needs to do something. We should teach innovatively for innovation, we should shift from holistic education system to individual education system, and we should build culture for success and quality. It is argued that teachers' daily activities do escape innovative activities or they do not involve students in innovative activities; it has been also argued that students are likely to passively follow teachers, rely on teachers teaching materials especially the presented power points for their after-class self-revision. This culture may be interpreted to weaken the ability of the students to discover new things, hinder the students' level of critical thinking and problem-solving ability.

"Rwanda is nicknamed Singapore of Africa". This appellation means that Rwanda's development is as quick as Singapore's. There is another saying that "a poor person does not know where a rich one is". The later appellation, according to Harriet Green (the former boss of the Thomas cook group)^[37] argues, it is meant to surround yourself with people who are better than you with different skills, learn from what rich people do to achieve what they have. Every person as well as a country needs to learn from others, Rwanda higher education needs to keep on learning from other countries higher education system but beyond this, it needs to start from the existing country's social cultural contexts. This will promote understanding foundation to young generation and increase critical thinking and problem-solving ability which in turn innovation ability will be improved among enrolled students in universities. Carl-Johan Rundgren (2017) argues that It may be easy to identify the positive sides of a foreign educational system, while it is easy to see the shortcomings of the educational system of your homeland. the fruitful and suitable approach in one country's higher education system may be weak in another country higher education system. Apart from learner-centered approaches and other sharing knowledge approaches, building on a nation culture to welcome new approach, new policies in higher education is very important to promote critical thinking and problem-solving ability that lead to one's innovative ideas. In discussing the lack of improvement in critical thinking ability as the main challenge that affect students in Universities in Rwanda which in turn affects innovative ability of the students; Rebecca Schendel (2013)^[38] found that inputs (the characteristics of incoming students, student engagement, and the characteristics of faculty members) and the university environment are very important in improving critical thinking ability. Rebecca Schendel (2015)^[39] study results found that students in Rwanda may not be improving in their critical thinking ability during university career and leave the universities with weak critical thinking skills. This poor critical thinking skills can be linked with poor performance of the university students and attributed to teacher's misapplication of learner-centered approaches and other knowledge transmission and exploration approaches. It may be also interpreted as the weakness of teachers' innovative

activities in the classrooms. All these two aforementioned factors contribute to poor innovation in an institutional setting. In her study on “constructing departmental culture to support student development: evidence from a case study in Rwanda”, Rebecca schendel^[40] found that departmental culture (Creating a culture of shared learning, A shared understanding of the academic experience and Epistemological orientation of the faculty) in only faculty of Architecture and Environmental Design has played a vital role in fostering the conditions necessary for pedagogical innovation. However, it was seen clearly that also enough funding resources and small-sized class contribute to the success of that faculty which the two factors (enough funding resources and small-sized class) cannot be availed for all former Kigali institute of Science and Technology (KIST) faculties and all universities faculties in general. Equipping students with culture contents, Helping and training them to think and reflect back on how our traditional society did, thought and lived at the same time taking into accounts the new technological advancement and modern changes cannot only be big asset to assist the new departmental culture development strategies in universities but also help students to competently innovate and broaden their minds in the knowledge of the world.

One can think that the launch of I torero (Rwanda national policy aims at training all Rwandans to grow in cultural context, patriotism, values and norms, the does and the don'ts etc.) which I can compare with the Confucianism in countries like Vietnam, China, Taiwan, Singapore, Korea, and Japan is very crucial. Ha`ng et al. (2015)^[41] emphasized that some of the characteristics of Confucian heritage culture, such as the high respect of teachers, parents, and theoretical knowledge (for instance about classical literature) can be at odds with ambitions to develop independent, creative students skilled in critical thinking, opinion forming and argumentation and imagination. Although Itorero is fixing the culture gap among new generations, there is still a long journey to walk towards its success since it happens as an occasion. Education is lifelong learning; Therefore, if it is not possible for the new cross-cutting culture course launch in universities, abundant seminars, workshops and any other kind of cultural related gatherings (ibitaramo) are necessary for future career innovative and critical thinking purpose.

Suggestions and practice on the cultivating innovative talents in Rwanda's higher learning institutions

The failure of Colleges and the Universities to innovate has been a challenge for quick social economic development. This is because in the process of talent cultivation, colleges and universities are used to adopt the traditional patterns which make it difficult to complete the transition quickly in a very short time and make the universities lose their features in the cultivation of the innovative talents^[42]. To attempt this failure, the numerous innovative projects such as national boards for professional teaching standards, providing professional development or continuous professional development, development of the departmental culture (case of former Kigali institute of Science and Technology, faculty of Architecture and Environmental Design) have been in place to support teachers to innovate. However, the result is still not visible. To support the in-place projects to assist teachers with innovative practices in their daily teaching activities we should do the following:

Innovative thinking has origin. In order to cultivate universities talents with innovative thinking, we need to first ensure their level of critical thinking and problem-solving ability is well developed. The development of critical thinking and problem-solving ability should first be acquired in social cultural related contents. Apart from attending I torero, there is no harm if Colleges and Universities initiate at least one hour a week of cultural-based cross-cutting course that will help students gain competent knowledge on how our traditional society did, thought and lived. This will be an additional asset to the new world of technological advancement knowledge. One May argue that the cultural courses are offered to students on secondary school level but we cannot help thinking about how such courses in secondary schools are perceived whenever they are optional courses and are not taken in notional examinations.

Considering foreign experience in higher education, we can see that the school-enterprise cooperative training of personnel is the world's countries for cementing innovative thinking foundation to both teachers and the students^[43]. With the government and the private sectors support, Colleges and universities need to establish an “on-board innovative factory” that will at one hand help teachers prepare innovative based activities, on other hand it will help students translate their learned knowledge into real life and finally it will sweep away a College or university governmentality dependency. Hence, it may be long-term project and cannot be done overnight. In another side, the government in cooperation with private sectors should at least have “innovative center” that acts as a pilot to innovation development. This can help not only help teachers and students but also the whole society.

A complete shift from traditional related teaching methods to effective use of learner-centered related methods, shift from knowledge transmission-based model to knowledge exploration-based model, and holistic

education to individual education. Give time and let the students discover new knowledge, make the students enjoy the lesson, focus on work integrated learning mode because the work integrated learning mode is not only able to cultivate students' teamwork ability, build their self-confidence and give them a sense of accomplishment, but also practice professional qualities in innovation and problem solving, achieve the goal of knowledge and promote the sustainable development of the students^[44]. This will earn fruits for innovation.

Teachers of the new 21st century are challenged due to the work and social pressure. As the field of higher education undergoes many world rapid development changes, teachers are criticized for their failure to adopt to the changes in the classrooms. So, what do you think will happen to students, society as well as the country in the future if teachers fail to go by time? We do not need to fight with time but we need adopt to it. S/He who fights against time, hurts himself/herself. Therefore, according to Dan Lu, Shi Chen and Qian Yang^[45], we help students understand living, life, survival and career, helping students manage time, money, pressure, relationship and moral aspirations. Dan Lu et al. (2015) also argues that the purpose of learning is to harvest knowledge; And the final aim of knowledge is to use, the purpose to cultivate students is to “Answer questions, solve problems and impart knowledge”; Answer questions and solve problems is to teach knowledge, and imparting knowledge is to teach practical knowledge, giving students the skill and ability.

Conclusion

Rwandan colleges and universities are struggling to meet growing challenges, and the poor quality of education delivery remains a debatable topic in the higher education environment. The market demand is rushing with big technological strides while universities suffer from traditional education mode and teaching methods with little innovation. In order to implement the mission of the Ministry of Education (MINEDUC, 2013) that is to transform the Rwandan citizens into skilled human capital for the socio-economic development of the country by ensuring quality education focusing on promotion of science and technology, critical thinking, and positive values, the reform of curriculum based innovative strategies, innovative teaching skills for teachers are of high consideration.

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