

RESCUING LILONGWE TECHNICAL COLLEGE THROUGH ENGINEERING AND SOCIAL INNOVATION

What's the value of education if we haven't used it to bring necessary solutions in our communities or field of study? Education is not meant to equip us with knowledge so that we could use it the way it ought to be used but to give us a foundation for raising new ways of using our learning more effectively. If every graduate was guilty of lack of creativity and innovativeness, I'd be exempted. In the year 2013 as a newly recruited apprentice lecturer at Lilongwe Technical College; I was enlightened by the administration of the College on the challenges the college was experiencing particularly on the lack of novelty and poor performance among students. Having already been disillusioned by my two years' experience in college by the academic emphasis on accumulation of knowledge than practical work; I was determined to bring a solution.

The college offered me two subjects to teach, Technical Drawing and Mathematics. But before undertaking any class, I was told two things: "students here fail miserably and we have many problems in Technical Drawing (TD) specifically because we don't have Drawing tools" said the Head of Engineering Department Mr Ngugi Chilalika. Many factors could lead to poor performance for students so I didn't think much about that problem but at least for Technical Drawing I had a straightforward guess. "If students are learning Technical Drawing without the use of Drawing Tools how do you expect them to pass? I mean TD is a hands-on course" I thought. To cut the story short, I was ready to use two kinds of skills to bring solutions to the outlined problems at the college. I had learnt about Psychology and philosophy of education back at the University of Malawi and I already had enough skills to be a designer for almost any kind of Engineering/ Technical object. So I deemed to use my technical designing skills and psychological skills to bring relevant solutions to the problems. I personally called the venture "**Innovate and Empower**" project.

In my first classes with the students I engaged into serious assessments to understand the students so that I could know the reasons for the relentless failures. When all was done, I had two possible solutions. Start giving the students motivational speeches on academic success and design a set of drawing tools so that every student should use them during Technical Drawing classes.

By utilizing the ideology of Locally-Made-Instructional-Materials, I innovated not just a drawing board but the whole set of engineering drawing set. The design was simple and economical for it required the use of ply wood and nails but it was specifically designed to improve on the poor ergonomics that are incurred with the common drawing tools. Within a month a set of a Drawing Board and a T-Square was designed and manufactured by the college's workshop. Though I worked within such a short period of time I happened to encounter challenges. During the design process I could work up early in the morning at around 5 Am to prepare for work and I'd knock off at 4Pm. When I came home, since I was staying with my brother and we did not have a house maid at the time, I'd have to prepare dinner. Usually my brother could knock off late from work so it was usually me who would do the cooking in the night. After taking dinner I'd have to sit myself down to design my engineering solution. It took me a week to complete the design process and it was a very hectic week. I could usually sleep around 1 or 2 Am

At the launch of the solution, the ministry of education honored the college and the administration for an excellent innovation. Officials from diverse organizations came to take a look at this development including TEVETA and other Technical Colleges. I was told by the Principal of the Lilongwe Technical College that the development was such a great one because the government had been purchasing Drawing Boards and accessories for Technical Colleges from Malaysia, Canada and some were under a continuous donation of China. “Now that we’ll be producing our own Drawing Tools using our own locally available materials, this is very great Bright you have saved this nation. Atleast they won’t be spending on this anymore” said Dr. Peter Njunga. The college first made 50 sets then produced many more for the whole college. About 300 engineering students were greatly helped by the innovation to an extent that no students failed in following Board examinations which was previously not the case. Other Technical colleges across Malawi requested of the design so that they could also produce their own. Later the college also begun selling the innovation to other training institutions. The innovation was actually preferred as compared to the imported ones.

Innovating a drawing set was just one of the solutions for the **“Innovate and Empower”** project, the journey to make an impact at the college continued. I hadn't learnt much about mentorship programs nor ever conducted one. Never had I ever offered motivation to any people but I deemed it was necessary to launch one lest if nothing wasn't done things could have remained the same. I began speaking to students from class to class; started with lower classes. Every morning I made sure I asked for some 20 minutes from a lecturer to speak to his/her students. Didn't know what to say for the first time but I still prepared something. It came out good; for it was accompanied by some good applause as I spoke. I got excited. Later this turned into an establishment of formal mentorship programs at the college which also led me to write a book called “Success and Creativity; Unleashing Dormant Cognitive potentials” which is now being used by the college to train students in creativity, leadership, academic success and innovation. Some other colleges in Malawi such as Polytechnic have also taken the book aboard for students to use. The book has so spread across Malawi as an important tool for students to use to be trained to become effective corporate and civic leaders. Organizations such as Children of the nation (CO'N), UNICEF, SOS have bought and shared this book to the youth across Malawi. From simple motivational speeches to a book; that’s about how far the initiative has reached.

Nonetheless, the journey to publish the book was not an easy one. I had been booed before for trying to give a motivational speech, I was embarrassed and I wanted to give up. But I had to read and train myself for it was necessary to empower the students to get better so I continued. When I finished my manuscript for the book, all the publishers in Malawi denied to publish my work. And some denied to even help in any way possible. Yet I kept on writing and improving my skills. Lucky enough a South African firm agreed to publish the book which as of now the world is appreciating for the good work well done. As of now I have A Mobile App for the book that not only allow people to read the book digitally but also enable an instant interaction with the author (me) where they get direct notification of articles and new updates and also enable the users to ask questions of any kind.

Simply put; that’s how I rescued Lilongwe Technical College but the impact thereof has spread beyond the college to across Malawi and growing further to the whole world.

More detail about this innovative project are found in the attachment on **SUPPORTING INFORMATION** category of the superhero challenge.