



## **THE IMPLEMENTATION CHALLENGES OF TRADE TEST UNDER TWO-TIER SYSTEM OF EDUCATION IN TECHNICAL SCHOOLS IN ZAMBIA**

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### **Authors:**

Phillip Tembo (Bed. Tech). Emmanuel Molande and Rabson Mgawi (PhD)

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University of Malawi, Blantyre, MALAWI

[philliptembo64@gmail.com](mailto:philliptembo64@gmail.com), [emolande@mubas.ac.mw](mailto:emolande@mubas.ac.mw), [rmgawi@poly.ac.mw](mailto:rmgawi@poly.ac.mw)

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## **Abstract**

*It has been observed that the School leavers in Zambia at both junior or secondary school cannot do anything other than taking alcohol, drug abuse and indulging into other mischievous activities in the community: Research conducted by National Science Centre (NSC) revealed that 60% school leaver at grade 9 or grade 12 are jobless and have no skill to bank on for survival. In view of the said the Zambian government introduced a policy that would give skills competences to learners to embark on even after school than loam around streets looking for white collar jobs. A qualitative research study on the implementation challenges of the trade test policy was conducted and 13 participants; 1 from top management, 2 teachers and 10 learners responded to the research instrument developed through oral and semi structured interview at Chadiza secondary school which is one among the Technical schools in Zambia. The research considered the constructivist theory and confirmation of data took advantage of the Triangulation technic. In order to interpreter data during analysis the expertise skill using the thematic area was instrumental.*

*The findings focused attention on the thematic areas namely awareness and preparations, pedagogical strategies used in implementation and capacity building of the staff. These thematic areas came from two study objectives that sought to find out how aware implementers were before implementation and what preparations they had put in place including outlining strategies used in the implementation.*

*Hence the study recommended to the country (Zambia) to have considered partial policy implementation where by parts or phase would have been considered take for instance two TT courses a in two to three years and the other follow in that manner, the country to develop more teaching and learning materials while on the other had retrain all the unqualified staff where competences are concerned in the system.*

## **Introduction**

Implementation of the Revised School Curriculum in Zambia took off in January 2014 and it included the introduction of the Two-tier system that harmonised the Secondary School and the Technical Education, Vocational and Entrepreneurship Training (TEVET) Trade Tests (TT) curricula so that learners in Secondary Schools could acquire basic labour market skills. This initiative was designed to assist alleviate high rate of unemployment and poverty among the school leavers that has become an alarming time bomb, ZECF (2013).

The implication of the harmonisation of the Secondary School and the TEVET TT curricula was that TEVETA would train and impart the desired competences in the learners using the existing teachers in the schools and instructors from the Trades institutions. While doing that TEVETA by mandate will be assessing candidates at Junior and Senior Secondary school at levels III and I respectively. This will be done to confirm capability of these learners to perform before they leave school and join society or indeed the labour market MoESVTEE, (2015). In the harmonisation, Design and Technology formerly known as Industrial Arts (INDARTS), saw new subjects harmonised in the school curriculum and these are: Bricklaying, Carpentry, Power Electrical and Metal Fabrication. Thus candidates taking this subject would be Trade Tested at Level III at Junior Secondary School and Level I at Senior Secondary School in any one (1) of the four (4) subjects mentioned.

The launch to implement TT subjects at Junior Secondary School took place in January 2014 and for Senior Secondary school was in January 2016 this was in accordance to the implementation road map designed. This launch created gap in the teaching fraternity that needed attention in terms of material preparation and capacity building for staff at the Senior Secondary School level. However, despite these issues not addressed fully the implementation road map was to be respected which meant teaching and learning started with immediate effect leaving behind the provision of the said essential educational demands. Study revealed that TT subjects such as Bricklaying and plastering, Electrical Engineering among other subjects were being taught by teachers who had no strength in that area though qualified as teachers pedagogically. Emanating from the aforesaid study discovered that the introduction of TT under the two tier system is a government policy that was implemented as a directive in January 2014 and teachers (implementers) had to adhere. This article is a professional study because it focuses interest on TT in education that requires understanding of technical people who are teachers or instructors at tertiary level to interpret its content. This manuscript highlights

research findings and recommendations advanced to better the implementation of this policy in the Zambian Technical Schools as was conducted in October 2019.

Industrial Arts (INDARTS) as a teaching subject in Zambia was deemed very theoretical and examination oriented (ZECF, 2013). It was observed that, learners were not able to develop the desired competences for the labour market (Paul Kalupa, 2017) as desired by Ministry of General Education (MoGE). According to the MoGE, Practical and Technical Subjects possess a relationship to the world of work, and hence learning them at lower levels of education prepares pupils for post-school employment or vocational training (MoGE 1996, p.35). Similarly, in Kenya, secondary education was vocationalised in 1986 to prepare school leavers for self-employment (Lauglo, J., Akyeampong A.K., Mwiria K., & Weeks, S.G. 2012). It can however be observed that, most learners in Zambia can only make simple joints to fulfil demands for Examinations Council of Zambia (ECZ) not get a pack home for real world of work. Introduction of Trade Test under the Two Tier system of education in Zambia was therefore to bridge the existing skills gap and meet demands of the labour market (Educating Our Future, 1996). However, since implementation of the revising curriculum process was a directive effective January 2014, this noble cause attracted the attention of teachers and other interested stakeholder the education system to participate while others such as writers and publisher it became an opportunity open for business venture and they started working in adherence to the road map as well.

This directive hence left behind the aspect of material mobilisation and capacity building with respect to pedagogical requirements not adequately addressed in the implementation guidelines. Government's expectation was to reduce the high rate of unemployment if at all learners were given the desired skills and competences by implementers at the grassroots, in the long run improving the economic status of the nation. According to Paul Kaluba, (2016) it was governments anticipation that learners would be self-motivated with the acquired survival skills that the labour market is looking for. Indeed, learners would also have future hope of an opening to keep upgrading while working but outside the classroom set up according to policy design (ZECF:20-13). However, it was saddening that teaching and learning of TT went ahead leaving behind supply of materials and capacity building for the academicians.

### **The Problem Statement**

Arising from the fact that implementation started as a directive for all to adhere January 2014, researcher got the concern to find out how skilled subjects such as Bricklaying and Plastering, Metal Fabrication and Welding, Electrical Engineering and Carpentry and Joinery are offered

by teachers who are not trained staff coupled with none availability teaching materials, specialised rooms, tools and equipment and other resources are addressed. Zambia's Educational Statistical Bulletin (ESB, 2017) reveals junior secondary school learners to be between 16 to 17 years old and UNICEF:2002 definition of a child is any one below the age of 17, and they are expected not to handle heavy equipment such as Welding Machines, angle grinders because they are under age, unless trainees at skills colleges who are above 18 years old have developed muscular to handle such equipment. How are TT then being handled in the technical schools in response to governments directive?

The study hence explored and analysed the teaching strategies, materials and equipment used by implementers in the process of implementation to respond to the challenge. The study responded to two main objectives.

### **Study Main and Specific Objectives**

The study topic originates from a Zambia's deliberate policy to empower youths in particular the school leavers with skills and competences for sustainability than job seeking. The main purpose of the study was to find out useful pedagogy implored by the teachers to be sure that learners get the right content and acquire necessary skills satisfying the policy designed. In order to bring in clear views about its implementation, the study was guided by two main objectives:

Investigate the preparedness of the education system in the implementation of the trade test in secondary schools and;

Explore the implementation strategy of the two-tier system of education in technical secondary schools. In line with the two objectives, the following questions guided the qualitative data collection.

**RQ1:** How did teachers prepare to implement the Trade Tests subjects under the newly revised school curriculum?

**RQ2:** What Teaching methods and strategies helped teachers implement the Trade Tests Subjects in response to the revised school curriculum?

### **Methodology**

The nature of the research problem enhanced the paradigm direction. To search for views of participants, the research utilised the constructivism paradigm and qualitative approach

(Creswell, 2003). Since the study attempted to look at issues related to policy and practice semi structured interviews were employed to generate data. The construction of the question guide was supported from the Concern Based Assessment Model (CBAM) by Marshall & Rossman, (1989). The issues to be searched were related with the CBAM constructs as shown in Table 1

**Table 1. Framework Model – CBAM**

<b>Stage of concern</b>	<b>Expression of Concern – guiding principles</b>
6. Refocusing	<i>I have some ideas about something that would work even better.</i>
5. Collaboration	<i>How can I relate what I am doing to what others are doing?</i>
4. Consequence	<i>How is my use affecting learners? How can I refine it to have more impact</i>
3. Management	<i>I seem to be spending all my time getting materials ready.</i>
2. Personal	<b><i>How will using it affect me?</i></b> Progressive officers always ask further questions and such officer may be key to the benefit of the institution.
1. Informational	<b><i>I would like to know more about it.</i></b> Some officer get inquisitive and would like to know more and such are progressive.
0. Awareness	<b><i>I am not concerned about it.</i></b> While some officers get concerned of policy others do not care, but are in place because they have to be there to survive.

For this research, only the first two constructs from the model were used as follows: *Awareness* and; *information*. To substantiate the argument Hall et al., (1979) sums up the 7 stages into three categories and named them as Stages of Concerns (SoC). This study considered the first two only, Hall et al. (1979) justifies them as awareness which is the initial stage a use consents or not about advance information to policy and information which is the self-stages or personal stage where information normally shifts to management related issues. It is at the stage of awareness where respondents indicated their positive or negative concerns about policy and its innovations. At information stage respondents indicated their interest with reference to policy implementation to support or not, it was here where actual information was obtained to beef up study facts of what is obtaining at Chadiza Secondary school.

The study targeted the Head or Deputy Head Teacher from top management subsequently moved to the Design and Technology Teachers who are TT teachers and lastly grade 10 and 11 learners to respond to the semi structured questions. Findings reflected what is obtaining at

Chadiza secondary School of which may be a true reflection of what is happening in any other Secondary School as well in Zambia. The total number of participants in the study were 13 according to the sample size design as follows:

- One (1) from top management and the Deputy head participated
- Two (2) from the teachers were interviewed of which the first one was the head of department and the second was the class teacher.
- Ten (10) from among the DT learners participated randomly picked as follows, five (5) grade 10 learners and five (5) grade 11 learners participated in the study.

In this design the Deputy Head Teacher participated representing policy interpreters while the Head of department and the class teacher represented policy implementers in which case the learners represented the end users. Therefore, a total of 13 participants were available of which the deputy head teacher and other two teachers were interviewed separately and lastly 10 learners participated in a focus group discussion (FGD).

Triangulation approach makes the study to be not a mere methodological artefact but results be cross checked and found genuine and valid (Creswell et al. 2003; Erzberger & Kelle 2003; Bryman 2004; Kothari 2004). Triangulation is one method that assist in cross checking multiple responses and makes study friendly O'Donoghur, Punch and N. Carter (2014). The study is qualitative and the sample size had three categories of responses these are, the top school management, the teaching staff and the learners therefore, triangulation technic was useful in gathering necessary and valid data. Since semi structured questionnaire was used in a semi structured interview, responses were recorded using technical gadgets not to miss any submission and expertise theory deductively and subjectively analysed responses. To achieve systematic result study focused on major themes after interpretation of research objectives and questions as a guide in progression.

### **Findings and discussion**

The findings and discussions are guided by the objectives: Awareness on policy introduction; preparedness prior to policy implementation and; pedagogical approaches implored. With reference to the sample size above study received responses in the triangulation technic where top management was first to be interviewed followed by the subject teachers and last the learners responses were recorded in that chronological order (Prashant Kulkarni, 2013), this was done not only to cross-validate data but rather to capture different dimensions of the same phenomenon (Burnard, 1995). This study discovered from top management submissions great appreciation in the outcome of the revised curriculum where trade test certificate level III and

I award to learners. What excited management more was the fact that ECZ will also issue school certificates giving learners an advantage of two credentials where one is vocational the other academic. Despite all necessary data having been availed to the school through top management, the deputy head representing top management still indicated that they were not aware of the revised curriculum being under way. It was a contradiction on the part of top management to indicate that they were not aware of the coming revised policy while on the other hand the same top leadership (Deputy Head) indicated that some workshops were conducted but data was not fully shared to the implementers. Deputy head and any other participant who attended a workshop were responsible to feedback to the other members with same knowledge obtained but they didn't. The Deputy head himself stated that as workshops and other curriculum sensitisation meetings were being conducted teachers generally had a feeling that this was a usual pattern of donors funding that goes with the diminishing of their money too.

From teacher point of view, it was heard that teachers were not aware of the revised curriculum and its content coming soon. However, the same teacher on a contrary indicated that they were catching up with content through frequent organised workshops and CPDs conducted in the province as well as the district prior to the implementation of the said curriculum.

The aspect of CPDs according to teachers were conducted at provincial, district as well as zonal level and were out spoken a year prior to policy implementation. In this case though teachers claimed they were not aware at some point they agreed they were informed but took it causal or political rhetoric stated teacher X.

Learners taking the subject of Design and Technology where Trade Testing skills seat indicated that they were also not aware of the revised curriculum coming. Interestingly when reference was made to what their teachers and management said pupil K in an interview indicated that they were not informed however they saw correspondence from their acceptance letter (grade 9 into 10) asking for TT tools and instrument be bought before they report to school. This was an indication on its own that information was disseminated but could have been late that expected.

The fact that participant indicated ignorance of prior information regarding the implementation of the revised curriculum, they were asked to present preparation if at all any were made before they took action. Expectations as response to this question were issues such as provision of text books in line with the revised curriculum, construction of necessary infrastructure as well as



capacity building. Among the expected infrastructure put up were such as shelter for Bricklaying and Plastering, special rooms for Electrical Engineering as required by TEVETA (TEVET, charts 2012). This variable component did not apply to learners but applicable to top management who could not provide tangible response. On the other hand, they did indicate that a welding bay was under construction but delayed due to financial constraints. From the researcher's point of view, the welding bay under construction was in place as a long pending project because the school benefitted through desk rehabilitation from this department but to sum it up the schools prepared nothing prior to policy implementation. This lack of preparation was due to lack of knowledge the schools needed.

It was imperative for policy makers to sensitise schools well in advance and guide them to pick up their choice of TT to be offered suggestively even five years in advance. If such was done schools would have been funded as well to put up necessary infrastructure and material acquisition as well as capacity building of staff subsequently implement new policy.

The fact that implementers claim they were not aware and did not make prior arrangements towards implementation the study then got interested to find out the methodology and materials used to attend to learners effectively and below was the findings.

Top management indicated that the school has a library in place that was useful to teachers however the books were outdated and teachers struggle to extract content from there. In agreement the teachers indicated that the library has indeed been helpful indeed but available data was out dated making is very difficult to teachers to align content with the revised curriculum as such there was variation of information given to learners against grade levels. The government has not procured any book in line with the revised curriculum for TT and work is rather difficulty indicated teacher K. there was only one book discovered written for grade 12 in Design and Technology and this was the only book found and used from grade b10 to 12 at Chadiza Secondary school. While using this material a grade 10 learner during focus group discussion indicated that the book was difficulty to follow. Research agreed with this learner's submission because the book was actually written for grade 12 according to the grade 12 outcomes in the syllabus. In other words, the book was being abused because the school had nothing to offer but need the learners have a feel of TT under Design and Technology is all about.

Other than materials provision, study discovered that google search was prominently used by both teachers and learners in the learning process. Alison Evans, Jonathan Elfont and Dick

Wiggins (2008) confirms that internet search opens up a range of potentials that goes beyond the study. Without being careful while using internet researchers have gone astray and failure to put up a clear conclusion as Sarah Maslan and Deborah Lipton (2018) while using it in the medical field agreed that much beyond measure is available online. The research methodology of delivering content is much useful in higher institutions of learning. In schools this method does not avail consistence in material acquisition to learners whose examinations are normally achievement and summative than subjective to align them where they must be with respect to achievement (Wixson et al., 1999) supported by Brown (2004:3) but learning must continue. Research was not the only pedagogy used but learners in the group discussion also revealed that field trips were used of which teachers appreciate that fact that learners themselves stated that. This has been the best method used in TT course such as building and plastering because some materials are not available within school such as clay for moulding bricks field trip just has to be undertaken.

Challenge with the policy comes in the fact that implementation went ahead leaving behind a number of issues not addressed prior to implementation. In this regard reference is made to the non-availability of technical text books, tools and equipment teachers are teaching using trial and error. The fact that teachers were not trained to deliver content of the newly introduced TT that demands for real acquisition of skill than theory as obtained from google search. The subject areas such as Building and plastering, Electrical Engineering, Metal Fabrication and Carpentry and joinery, require complete hands on for learners to acquire the desired competences failure to which half-baked man power will be off loaded on the labour market and no contractor would be interested to contract such skill on the labour market. If this aspect if not addressed the school leavers at both grade 9 and 12 junior and senior secondary school respectively will remain the same and the country achieves nothing other political rhetoric's from the policy that is well intended.

It was common knowledge for managers and teachers to claim they were not aware of the revised curriculum coming while on the other hand attended several workshops and meetings over the same. Their comments were coming in to seek sympathy for failure to perform though indeed government needed to do more, realising that curriculum review is a costly venture to undertake and necessary expenses cannot be avoided (MC Tsang, 1988).

Teaching and learning using google or internet in general is a good development and modern however, not all learners have access to technological gadget, this advantages learners in the

remote parts of the country much as we desire each learner to be computer literate we have not reached that stage yet for most of African countries.

While similar concerns for Kenya. São Paulo & Patrick Kohlmann (2014), gave an example of German and Japan who ever used two tier system in their education system the two countries recorded success because they injected a lot of money in the sector to support the policy. Coupled with a lot of money the country like German also put in place a dynamic monitoring team, to supervise and monitor effective implementation of policy and combat corruption in the implementation process. Corruption is a huge threat in the development of several African countries. Zambia and other third world countries embarking on the two tier system of education needed to emulate German, Japan and Brazil to forge ahead positively.

Failure to emulate German, Japan and Brazils pedagogical strategy Joyce, B., Weil, M., Calhoun, E. (2014). of two tier system in education sector the Mwiria (2017) advise to Kenya would suffice for African state. Mwiria advised Kenya to take partial implementation an accordance to the finances available.

It is hence the view of this study that two tier system in education is the way to go for time in memorial we have followed colonial curriculum that has not done any good to as them harm and derailed development.

### **Conclusion and recommendation**

Trade Tests are skills related subjects in Zambia introduced with the intention to reduce and overcome the high rate of youth's unemployment among the school leavers, MoGE Educating Our Future, (1996). Taking the route of Practical Skills acquisition and Competences the country's economy would grow because school leavers will contribute positively to the desires of the job market. (Kalupa: 2016). However, study findings confirmed that Zambia was not very prepared to implement the revised curriculum at the time.

Study further concluded that administrators and teachers were aware of policy implementation prior to implementation as they articulated policy issues competently but the necessary teaching and learning materials, infrastructure, as well as retraining staff were not available in technical schools an implication that desired skills and competences were not delivered and high rate of un employment would still prevail. Study made this conclusion because of the clear lamentation from administrators and teachers who are basically called for the promotion of detailed curriculum orientation to close the existing gap in content delivery because they lacked

knowledge and half-baked man power will still be off loaded to the labour market if the situation continues. In this regard the recommendations here below are proposed to overcome failure of policy implementation:

### **Recommendations**

Paul (2014), noticed that Vocational Career Pathway in Kenya was rather in a hurry with very high expectations against resources therefore, Kenya) needed to *considers a partial implementation* in accordance to the countries financial muscle. Zambia though did not take all TT subjects on board has the similar situation of insufficient funding and may as well consider a partial implementation or pilot technic would be best for or a few selected schools on a pilot basis and roll out in stages to all Technical schools would have been best.

Just like Achola, P.W., & Kaluba, H.L. (1989) observed during study on Britain and German Zambia upon revising the curriculum needed to put in place a vibrant monitoring team to oversee its implementation yield positive results.

As regards capacity building Zambia needed to continue retraining staff as well as intensify on CPDs for the teachers. Only this will address issues of incompetence's in teachers as they share knowledge as well as updates in Technology that is advancing worldwide. Acting Director General TEVETA indicated that, Schools need to move together with the modern technology, the study therefore recommend that MoGE *procures Information and Communications Technology (ICT) equipment* to support the teaching and learning of TT in the technical institutions this will stop the inconsistency in necessary data being provided to the learners.

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