

Local is beautiful :The Innovative Student centered approach SC Technology Education Stream (TES) leading to National School Certificate (NSC)is an alternativelocal pathway to the traditional SC of Cambridge: After successfully completing their Gr 9, the students have a choice between either the Internationally recognized SC (Cambridge AIE) or the new National SC (National EB) : An overview of the new Technology Education Stream 2024

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ABSTRACT: This paper elaborates the new initiative of the Government of Mauritius to progress with a new innovative approach to Curriculum and the method of learning and assessment. After the Primary School Achievement certificate PSAC for primary and the National School Certificate NCE for mid secondary, the Government comes with a new approach to the teaching and syllabus with a local touch. After their Gr 9, the students have a choice at their Grade 10. Either they pursue their studies to the Traditional SC, an international Examination by the Cambridge with the usual fields of subjects or progress to their Grade 10 under the Technical Education that is assessed for the National School Certificate, a locally designed curriculum by local institutions. Under the Technology Education, the students will be assessed by the National Examination Board instead of the Cambridge Assessment International Examination. On one side the new innovative NSC reduce the dependence on international universities and reduce the cost paid annually to the Cambridge AIE and on the other side the NSC is just meant for local applications and not necessarily recognized internationally. There is also a question mark on whether someone applying for a job with an SC will be better armed academically rather than with the new NSC since visibly it is not the same curriculum and lists of subjects. The lack of public and stakeholder consultation can be decried in the setting up and administration of this new Curriculum. Compared to SC of the CAIE, the new NSC of the NEB put Emphasis on fields of study such as (a)Engineering Technology(b) Health and Hospitality(c) Computer Technology and Innovation to the detriment of Pure Sciences like Physics. It is undeniable that results at SC level have been towards a fall since the past decade as described in previous papers and in my PhD. Thus this NSC provides an alternative pathway for those who will not be able to succeed into the SC stream.

KEYWORDS: Education, School certificate, Cambridge, innovation, Technology education, NSC, Mauritius

Date of Submission: 04-11-2023

Date of Acceptance: 17-11-2023

I. INTRODUCTION

Purpose of Education , reform, policies and innovation in Education

The purpose of Education is not simply for the end product Certificate and qualification but rather in developing the adults of tomorrow for a better society. The Education sector has the responsibility to educate children to be the law abiding citizens of tomorrow and the work force of the society. With growing development of infrastructure, technology , pandemics, wars and socioeconomic problems of the country, political reforms in the education has been necessary. For an inclusive education sector, different pathways should be provided to students with other abilities. Slow learners, those who cannot adapt to the normal schooling stream, cannot be abandoned behind. This is the role of Policy deciders , to cater for all categories of learners in the schooling sector. There is also the issue of addressing defective practices and methods of assessment as it was the case with the former CPE, successfully replaced by the PSAC. Unfortunately the rat-race of CPE not has been offloaded at the Grade 9 level. The students of Gr9 now carry this burden of rat-race to be able to either go to Academies or stay in their normal schools. The problems of Extended stream is another debate that is currently undergoing several turmoils.This paper elaborates the new option available to students who successfully pass their Grade 9. Previous it was after grade 9, they proceed to SC grade 10 and 11.Now the

new innovative pathway is that the students have an option either to continue to the Grade 10 and 11 for the SC , the international exams taken by thousands of candidates around the world , organized and assessed by the Cambridge AIE Or after successfully completing their Grade 9, they proceed to Gr 10 and 11 under the Technology Education Stream which is a local pathway, organized by the National Examination Board and leads to the National School Certificate. At this stage not much is known of the level of this curriculum and syllabus and the exam assessment. It can be assume that it will be less bulky and more affordable than the International SC of the CAIE , that has left many on the pavements. As discussed below, the NSC also lessen the dependency and financial burden of the Mauritian government towards the Cambridge. The students have no cost to pay to Cambridge at first sitting, all cost are taken by the Government but nevertheless , this money comes from the public in form of taxes and public funds.

Was there a demand for change?

With this new change in the Secondary school sector , the question that arise is , was there a need for this change.

The natural answer would be that the new NSC is not a change but rather an optional path designed by local authorities rather than the traditional SC. The Government has made Education completely free from primary to secondary, including examination fees at Sc , HSc and tuition fees at University level. The Government has to bear the cost of SC , HSC and University fees and this represent a huge budget and financial load for the finance. With this new NSC, the local authorities demonstrate that they can organize their own curriculum, syllabus and examination and not be completely dependent to the SC of Cambridge.

Recognition

This NSC and the TE, was designed by Mauritius authorities and is a local product. Thus there can be doubts whether this qualification, however good it can be, will be or not accepted internationally. It is a reality that some students will spend all their schooling of secondary locally and even go to local universities. So the question of whether recognized internationally does not arise. They will use their qualifications acquired only for local use and apply for local jobs. If they want then to apply for further studies that emphasize on Cambridge qualifications, then there can be issues.

II. LITERATURE REVIEW

Components of SC v NSC

On a personal level, as researcher I have a mixed feeling. I myself have been through the SC CAIE and grateful to their level , worth, standard and recognizance. On the other side, the NSC of the NEB is a local product by institutions that I personally know very well and cannot undermine, downgrade, mock, lack respect to their work, attempt to do locally what other countries bring here and provide another pathway for those students who cannot succeed in the normal SC pathway. An inclusive pathway.

The SC of the CAIE comprises a lists of subjects that has been categories into distinct groups.

- (a) Creative professional with subjects such as Accounting , Art & Design, Business Studies ,Commerce etc
- (b) English Language and literature grouping subjects such as English language, literature in English
- (c) Humanities and Social sciences , comprising subjects like Bangladesh Studies, Economics, Hinduism ,Sociology etc
- (d) Languages ;Arabic ,French ,Tamil, Urdu
- (e) Mathematics :Mathematics Additional , Mathematics (Syllabus D)
- (f) Sciences :Agriculture , Biology , Chemistry etc

The NSC of the NEB has a different approach and labelling.

Under the Technology Education stream,

the students will have to opt for 8 subjects of which 5 are compulsory core subjects

such as (1) English, (2) French, (3) Applied Mathematics, (4) Applied Sciences, (5) Essential skills (ICT, Arts and Entrepreneurship)

and then choose among those 3 fields of study

either

- (a) Engineering Technology
 - (6) Fundamentals of Engineering
 - (7) Engineering applications
 - (8) Engineering & Sustainability

OR

- (b) Health and Hospitality
 - (6) Health and Wellness
 - (7) Hospitality
 - (8) Leisure & Entertainment

OR

- (c) Computer Technology and Innovation
 - (6) Computer systems and maintenance
 - (7) Communication Technologies
 - (8) Fundamentals of programming

III. DISCUSSION

Curriculum and development

The innovative NSC comprises new syllabus, and new content of studies compared to the traditional SC. A new curriculum implies curriculum development had taken place. Infact a Curriculum can be viewed as (a) content and education as transmission , (b) Curriculum as product and education as instrumental and (c) Curriculum as process with aims and principles. For the success of any Curriculum should have those 3 components. Curriculum is not just merely the books to be used, the syllabus or content alone. But rather an assembly of all the learning and proof that learning has taken place. The content represent the “what” of instruction, what topics, sub topics will there be within the Curriculum. The process refers to the “how” of instruction; in what school setting will those Technology Education take place and whether fit for purpose and finally the product implies the “evidence” that instruction has taken place or not. This forms part of Curriculum evaluation whereby it is not just the learner who is assessed but the whole examination, correction and presentation of results. This will result in whether the curriculum has been successful and where changes, improvements need to take place, including in classroom practices. Here in case of Technology Education, it is assumed that more emphasis will be laid upon use of innovative technologies like for example, interactive classroom white boards and projectors instead of the usual talk and chalk. This also is an integral part of Curriculum.

Tyler’s four questions of Curriculum

Tyler (1949) suggested that the curriculum has to be seen as consisting of four elements, and curriculum planning, therefore, as having four dimensions: objectives, content or subject matter, methods or procedures and evaluation. We must distinguish in our curriculum planning what we are hoping to achieve, the ground we are planning to cover in order to achieve it, the kinds of activity and methods that we consider likely to be most effective in helping us towards our goals and the devices we will use to evaluate what we have done. Tyler’s own way of putting this point is to suggest that there are ‘four fundamental questions which must be answered in developing any curriculum and plan of instruction’, namely ;

- 1 What educational purposes should the school seek to attain?
- 2 What educational experiences can be provided that are likely to attain these purposes?
- 3 How can these educational experiences be effectively organized?
- 4 How can we determine whether these purposes are being attained?

This analysis, then, if taken just as it stands, would give us a very simple model for curriculum planning, a linear model which requires us to specify our objectives, to plan the content and the methods which will lead us towards them and, finally, to endeavour to measure the extent of our success.

IV. CONCLUSION

This initiative by the government for another pathway of studies can only be beneficial for the country and its students and need to be praised. The NSC provide another chance for those who cannot go through the normal SC stream of study and lessen the dependency on the SC of CAIE. Same as the Extended program, initially no problems were encountered. At this together do not seem any drawback of this NSC of the NEB. At later stages when this Curriculum is in application, then the lacking will be identified. The major dark spot on this innovative NSC , is that it came as a surprise to the Population and no proper consultation has been done on field from Stakeholders, parents, students, educators etc. If you ask a parent , students what is the NSC, they will not know since there has not been any inquiries done on field. This is where the problem lies because it is through dialogues that the lacking and difficulties are identified and resolved. Now the education has to wait for the first batch to attend the NSC exam to discover the success or failure of this innovative reform.