

## Purity or Literacy- That is the Question!

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It is becoming increasingly clear that career choices are either expanding owing to a learner choosing pure mathematics or diminishing when a learner chooses Mathematics literacy. In examining the critical choice that learners have to make in Grade 10, SAICA conducted research to determine how and why learners pursue their respective paths.

Whilst half of the pure maths respondents indicated that they did not find maths difficult, the Maths literacy participants said that studying maths was difficult because their teachers had not explained concepts properly.

Is there a place for Maths Literacy? Learners' views are divided.

"Maths lit is nothing. By doing it I don't learn." (pure Maths learner)

"Pure maths is way too hard. Maths lit is much easier." (Maths literacy learner).

Learners who opted for pure Maths said they preferred to take pure Maths and gain "a variety of skills" and gave them more options in terms of career paths.

In some cases learners are not given a choice. If they do not achieve a certain mark in Grade 9, they are not permitted to choose pure Maths in Grade 10. In this case a learner's career aspirations are not a consideration. Is this fair and ethical? More importantly, is it legal? One begs the question- should schools and teachers consider intervention programmes – and certainly career aspirations- before they institute such drastic measures?

Learners perceive the "jump" from Grade 9 to 10 to be astronomical. They also found that their teachers "rush through" the work and do not consider the individuality of the learners and their respective needs.

But it was evident that learners did not fully comprehend how this subject choice will affect their career choice and path.

In order to assist learners to choose a career path, the KZN Department of Education has taken decisive steps to provide support to learners and parents. The assistance is two-tiered:

- Subject combinations that are tailored to specific paths have been designed to assist the learner in Grades 10-12 to choose a career path
- Information sessions will be conducted for both learners and parents, outlining these career paths as well as the corresponding subject combinations

It is clear that many learners do not understand the outcomes of studying certain subjects, especially on how it impacts on their career paths. SAICA is particularly pleased with this initiative and hopes that this is replicated in other provinces. The stumbling block with learners wanting to choose a career as a chartered accountant is the choice of maths literacy rather than core mathematics. With this initiative in place learners will know beforehand that choosing maths literacy can be restrictive in many career choices, including that of a chartered accountant.

Equally encouraging is the option that principals have of reversing subject choice combinations in 2013, allowing learners who have made erroneous choices to choose a subject combination that will allow them to pursue their desired career path.

“We have decided to declare August the month during which all learners in Grade 9 and their parents will be informed about subject choices that are offered in Grades 10-12. This is intended to provide adequate opportunities for learners to consider their career options and therefore take appropriate subject combinations in Grades 10-12,” says MEC for Education in KZN, Senzo Mchunu.

Many learners echoed the sentiment that school visits and parental intervention will assist them greatly. Learners need more “hands-on” guidance on this critical subject choice and the KZN department of Education has provided a very “learner-friendly” document that will assist learners greatly.

South Africa spent over 19,6% of its 2012 budget on education, which places it at the higher end of the global spectrum. Yet the return on investment has been abysmal. In the World Economic Forum’s 2012/2013 Global Competitiveness Report, South Africa’s education system is ranked 140 out of 144 countries. Worse, South Africa’s mathematics and science education is ranked 143 out of 144 countries.

According to Helen Thrush, past Chairperson of SAICA and an active CA(SA), “One of South Africa’s National Development Plan (NDP) targets is for South Africa to increase its mathematics and science entrants to 450 000 a year by 2030 – a long way off, but the changes needed to develop a broad enough pipeline to achieve this level of output are significant and it would take many years to develop. Indeed, if drastic changes are not made now, there is little hope that the country will get anywhere near to this target.”

“Too many schools don’t offer mathematics as a subject because there are relatively few suitably qualified mathematics teachers. And because of the importance that is put on matric pass percentages, school principals would rather offer maths literacy, which is likely to result in better pass rates.”

“As a country we seem to be obsessed with measuring the number of learners who pass matric. Little attention is paid to the quality of the pass. Even if learners achieve ‘university passes’ in matric, they will not be accepted by a university if they have not passed the right subjects,” says Thrush.

To help learners make appropriate subject choices, The South African Institute of Chartered Accountants (SAICA) runs a campaign called ‘Choose Maths’ directed at learners in the year they make subject choices. It alerts learners to the limitations associated with maths literacy and encourages them to select mathematics rather than maths literacy if they wish to enter accountancy or other professions and careers that require mathematics.

SAICA has appealed for commitment and involvement from learners, students, parents, teachers, school governing bodies and government to ensure that the country produces high quality matric learners who are eligible to study key professions such as accounting, engineering, commerce and science.

In order to pursue a career as a chartered accountant [CA(SA)], a learner requires a good pass in pure Maths- and Accountancy is not a prerequisite! A CA(SA) is expected to be adept at number crunching and the need for pure Maths is an understandable prerequisite. It is with this in mind that

youngsters are made aware of the need to choose pure Maths and thus far the KZN Department of education has spelt this out in an easily digestible format for both the learners and their parents.

Life skills educators also need to educate learners about these choices and to make them aware of choosing properly. If a learner has the ability, he/she should choose pure maths as it offers far more possibilities. Choosing the option of telling learners that “if your career does not require pure Maths, then do not choose this subject” may prove detrimental to the learner in the long-term.

After all, life is all about choices, so think long and hard before making one!