**Subject Improvement Plan (SIP) ideas – Physical Sciences Gr. 10-12**

*(Physical Sciences CAPS focuses on progression from Gr. 8-12)*

* **Junior Natural Sciences** – divides the Natural Sciences (NS) syllabus into (Physical) Sciences and Biology/Earth and Beyond. Many concepts are installed in the NS syllabus, and non-Science teachers cannot do that, since they are not conversant with the implications of the work for later grades. Only qualified Science teachers teach the Science section, since the juniors need to be properly prepared in all the basics of Science in order for them to make informed decisions when selecting Science for Grade 10 or not. Learners therefore need to be PROPERLY taught from Gr. 8 by qualified Science teachers.
* **Senior Science** teachers NEED to teach from Gr. 10-12. It is a BIG problem that teachers do not know the full extent of the syllabus, since work from Gr. 10 and 11 can be examined in the final Gr. 12 exam. Let teachers teach all grades and do not reserve Gr. 12 for “expert” teachers. Many concepts are installed in Gr. 10 and 11, a teacher needs to know why concepts are taught, focusing on Gr. 12 outcomes.

Gr. 10 – basic themes are introduced

Gr. 11 – all Mathematical skills are introduced and installed: laws, relationships between variables, graphs and the meaning of gradient, solving equations, changing subject of the formula, etc.

* **Practical work** – streamline the process in order to teach learners laboratory skills more effectively. Learners need to get hands-on experience in practical work and not only for assessment purposes – with unrealistic expectations. Guide learners more during practical sessions – it should be more of a learning experience, and not a stressful assessment.
* **E-learning** – learners complete more assessments online – it gives them a better idea of exam-type questions early in the term. These assessments can be formative or contributing to SBA, under controlled conditions (see www.socrative.com). Teachers have no marking to do; it is all done online.
* After hours **extra lessons** during which exam type questions are discussed and problems are sorted out, offered to Gr. 10-12 learners, attending on a voluntary basis for free. Science teachers who do not coach sport, can do this for “extra-mural involvement”.
* Please let me know of more SIP ideas.