SUCCESSFUL TEACHING AND LEARNING IN GRADE 10-12 SUBJECTS

Best practices from the classroom

> Good teaching is open to change: it involves constantly trying to find out what the effects of instruction are on learning, and modifying the instruction in the light of the evidence collected
>
> Paul Ramsden

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Basic Education
REPUBLIC OF SOUTH AFRICA

Read to Lead
A Reading Nation is a Leading Nation

NDP 2030
NATIONAL DEVELOPMENT PLAN 2030

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Foreword

A multilevel analysis of the National Senior Certificate (NSC) results in 2017/18 indicated a continuing decline in learner performance in a number of subjects, both in terms of quantity and quality. The analysis also revealed a number of schools, from various provinces, who consistently outperform the national average over a protracted period, despite the less than optimal conditions they face. The research included a trend analysis by subject experts of learner performance, in order to diagnose deficiencies or misconceptions in particular content areas. In addition, expert educators across the spectrum of schools were interviewed to determine the best practices to ensure mastery of the topic by learners and improve outcomes in terms of quality and quantity.

The results of the research formed the foundation and guiding principles for the development of this book. In each subject, best practices from educators, focussing on the role of assessment for learning, including formal and informal assessment, innovative methodologies, optimum utilisation of baseline resources and the role of planning and reflective teaching practices to improve teaching and learning are shared. Educators share methodologies to teach challenging content in a differentiated manner to accommodate the diverse learning needs of all the learners and ensure success for each learner.

Structured and unstructured focus group interviews were also conducted with learners to determine the role of learners in improving learning and ultimate success. These practices are explained as part of the book.

The main purpose of the book is to share successful teaching and learning experiences between educators in order to improve learner attainment. This book also illuminate the role of school management in supporting teaching and learning.

It is envisaged that this book will serve as a tool to support educators in reflecting on their own pedagogical practices in order to improve curriculum implementation.

Purpose

This chapter is the result of a mini research undertaken to understand and determine the reasons/best practices that are contributing to excellent performance in the subject and in particular to investigate topics where learners have been underperforming over a period of time and find possible approaches that could support teaching and learning in these topics.

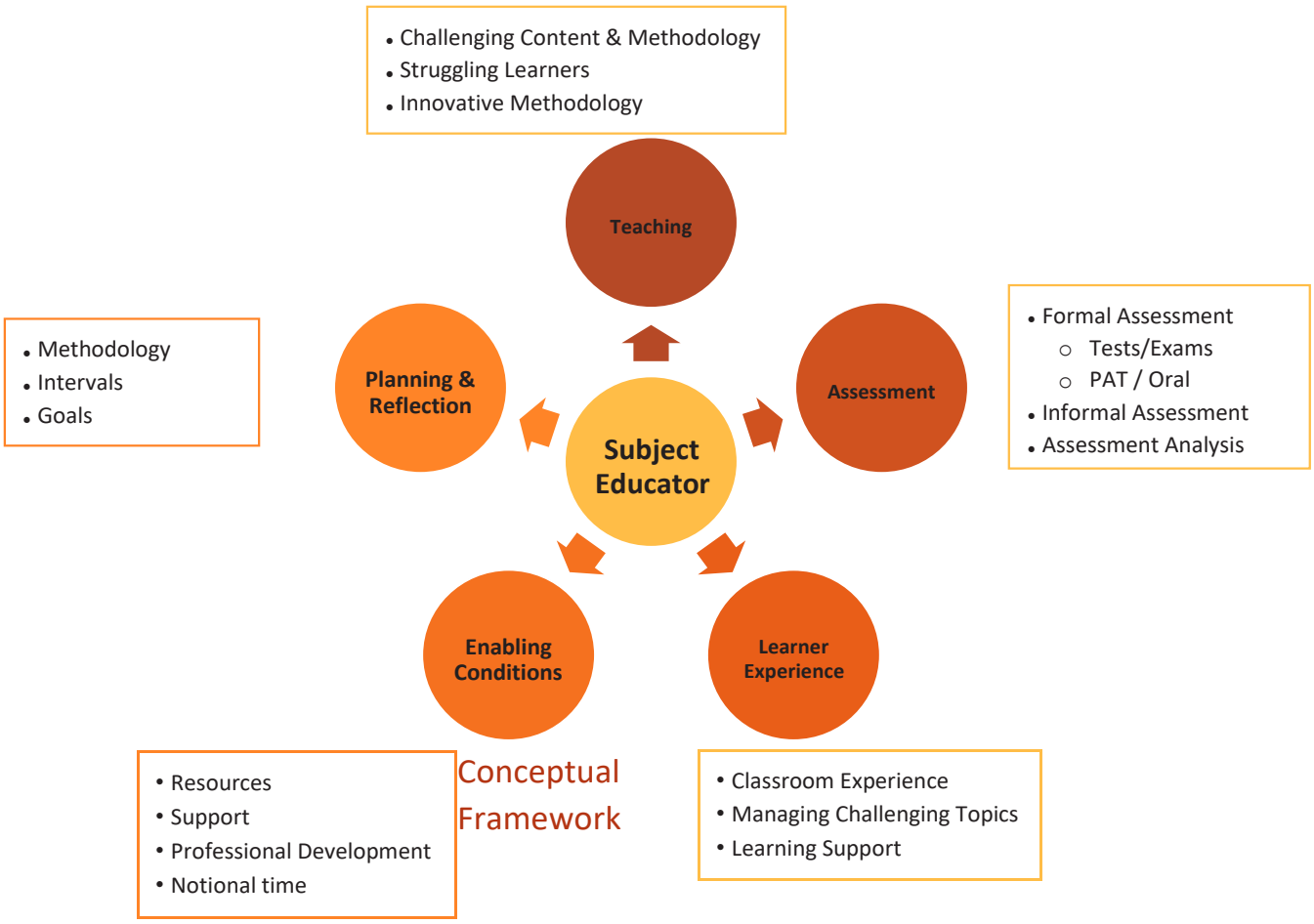
Methodology

The research methodology adopted was a mixed approach which entails both the quantitative, qualitative gathering and analysis of data. The aim was to collect rich data for analysis and interpretation.

Good teaching is everything to do with benevolence and humility; it always tries to help students feel that a subject can be mastered; it encourages them to try things out for themselves and succeed at something quickly.

Paul Ramsden

Successful learning does not just happen...
Persevere, revise frequently and become self-directed



Conceptual Framework

Good assessment avoids those assessment methods that encourage students to memorize and regurgitate. It recognizes the power of feedback to motivate more effort to learn.

Paul Ramsden

Section A: Non-Languages

Chapter 1: Successful Teaching and Learning Framework Accounting

Best Practices from the classroom

Introduction

This chapter provides guidelines on innovative teaching methodologies on challenging topics/concepts as identified during educator and learner interviews. It also highlights general enabling conditions that supports teaching and learning in the classroom.

In all the schools visited all the learners had textbooks for the subject and educators had more than one title that they utilized for lesson planning. In addition, extensive use is made of National Senior Certificate (NSC) past papers for informal assessment.

All the schools visited used Accounting stationery for their daily activities as they were of the opinion that the use of workbooks has many disadvantages for example:

- Learners use a pencil to write and simply erase the wrong answer and put in the correct one when marking is done instead of writing corrections.
- Learners and educators do not use the red pen to mark because the books are going to be used again next year
- Lazy learners who receive the workbooks that were used last year with the correct solutions are tempted not to erase last years' answers and instead keep them as they are and as a result never have to do any home work for the entire year.
- The biggest disadvantage is that educators that use the workbooks tend to be married to only one textbook and learners are derived an opportunity to be exposed to alternative styles of questioning from other textbooks and past papers.

All the schools visited adhered to the notional time of four hours per week, however all the schools have extended their school days to have morning study, afternoon classes and evening classes.

The extended hours afforded the schools the advantage of completing the syllabus as early as May or June, the rest of the year is then used for revision. Some schools allocate an extra hour for Economis Management System (EMS.)

The School Management Teams (SMT') support educators by creating an environment that is conducive for effective teaching and learning. In all the schools visited the level of discipline in terms of school attendance, punctuality and general atmosphere is impressive.

Districts support the schools by providing them with Learning and Teaching Support Materials (LTSM) and Subject Advisors visit mostly for moderation of School Based Assessment because the districts normally prioritise under-performing schools for regular support visits.

Most of the educator development is district or provincially initiated and educators from the schools attend the workshops organised at this level. However, the general observation is that these are not enough to meet their developmental needs.

The workload of educators in most schools visited in relation to the number of subjects and classes teaching was reasonable. Most educators were only teaching one or two subjects in one or two grades. In three of the four schools visited they have more than one educator offering the subject in Grade 12 and this creates an opportunity of sharing ideas and implementing team teaching.

Best Practices: Lessons from Educators

Best Practice 1: Teaching Strategies – Best Practices

Challenging topics:

The following topics were identified as challenging by both educators and learners: Cash flow statement, Balance sheet and analysis and interpretation of financial statements.

Most educators seem to apply the same strategies to deal with challenging topics, most strategies are the same as the strategies suggested in the diagnostic report with some small variations.

Balance sheet:

- The Accounting equation must be used as an entry point to teaching this topic. The learners must understand the classification of accounts and the effect of transactions on the different elements of the accounting equation. If learners can master this, they will less susceptible to including foreign items or misplacing items in the Balance sheet.
- Treat the basic format of the Balance sheet of a Company (grade 12) and highlight the similarities and differences between it and the Balance sheets of a partnership (grade 11) and sole trader (grade 10). Learners must be assessed regularly on the format of the Balance sheet without figures.
- To reinforce the format of a balance sheet, a partially completed Balance sheet without any adjustments or additional information may be used where learners are required to work backwards to calculate missing figures e.g. you may give to total of the Non-current assets and amount of the fixed assets and learners have to use the two to calculate the missing amount for financial asset.
- Expose learners to activities that shows different ways in which information may be presented in a question on the balance sheet:
    - Pre adjustment Trial Balance and adjustments (long activity.)
    - Net profit, Balance sheet accounts, adjustments and additional information given.
    - Information for the preparation of specific notes, e.g. Ordinary Share Capital and Retained Income.
    - Partially completed Balance sheet and additional information.
    - Using financial indicators to determine missing figures.

- In lower grades, i.e., grades 10 and 11, sections of a balance sheet may be taught in isolation. You may start with assets (do a number of activities on them, then move over to equity then liabilities section. After this, learners can then be given activities on the entire Balance Sheet. This method is discouraged for Grade 12 because some adjustments e.g. SARS: Income Tax may be either an asset or liability depending on the amounts of tax liability and provisional payments made.
- A number of class tests must be administered testing various ways in which content may be presented.

Cash flow statement:

- Ensure that learners understand the balance sheet and income statement before starting with this topic because learners must know exactly where to get the information required.
- Explain and demonstrate the concept of inflow and outflow and the use of brackets
- Explain the purpose and main headings of the cash flow statement: operating, financing and investing activities including the net change in cash and cash equivalents.
- Make sure that the learners understand the format of the statement, assess them on the format without figures.
- Treat the various sections of the Cash flow one at a time starting at the bottom, that is, with net change in cash and cash equivalents, then financing activities followed by investing activities and lastly the more challenging one operating activities. When dealing with each section a number of activities must be administered to expose learners to different ways in which information may be presented.
- The advantages of adopting this approach, that is dealing with the section in a piece-meal basis is that learners are not overwhelmed by having to do the whole statement at once which may be intimidating. The advantage of starting from the bottom and working upwards instead of the traditional way of working from top to bottom is that the bottom sections are more easier even for progressed learners and learners become aware that they can earn marks on these sections and it also gives them confidence to tackle the more challenging section at the top of the statement.

More importantly it is seldom that the whole statement is asked in an examination, most of the time you are asked to calculate some items.

- After all the sections have been completed, learners may them be required to prepare the whole statement.
- Class tests must be administered on completion of each section of the statement to check understanding.

Analysis and interpretation of financial statements:

- Teach the relevant financial indicators in the grades where they are supposed to be taught, all profitability indicators, current ratios, acid test ratio, solvency ratio and return on owner's equity must be treated in grade 10. In grade 11 we add only the other four liquidity indicators, that is, stock turnover rate, stock holding period, debtors' collection period and creditors' payment period. In grade 12 we add financial indicators that are peculiar to companies, e.g. EPS, DPS, ROSHE, ROTCE, NAV etc.
- In grade 12 the educator must conduct a baseline assessment to ascertain whether the financial indicators in grade 10 and 11 were adequately covered, if not these must be retaught.
- It is critical that the financial indicators are taught per group of indicators focusing on one group at a time, i.e., profitability, liquidity, solvency, risk & gearing and returns.
- Learners must also be guided where to obtain information to calculate financial indicators e.g. information to calculate all profitability rations is found in the Income statement, to calculate Earnings per share you will get the information from both the Income Statement and Balance sheet whereas to calculate current ratio you will obtain the information only in the Balance sheet.
- In order to be able to remember the formulas to the financial indicators learners must first identify what is it that they want to calculate, e.g. Return on Shareholders' equity measures how much did the shareholders earn (net profit) on the equity (money) they invested in the business therefore the formula will be Profit after tax/shareholders' equity x 100. Others are straight forward e.g. Dividends per share that is what dividend (how much) did each share receive and the formula will be total dividends/number of issued shares x 100.
- The biggest challenge that learners experience is when they are required to comment on certain financial indicators, the following guidelines are recommended:
    - Consider what the question is asking you to analyse (e.g. liquidity). Decide on the relevant financial indicator(s).

- Name the financial indicator(s) giving figures or ratios or percentages.
- Compare the current year's indicator(s) with that of the previous year. Say whether it has increased or decreased. You can also compare to other alternatives e.g. interest rates.
- If possible, provide a general comment that is whether it is good or bad for the business.

- Class tests must be administered on completion of each group of indicators and another one that covers all groups of indicators.

Best Practice 2: Planning

- All the educators reported that they do not prepare detailed lesson plans instead they do topic preparation, which means that they take a topic and break it down into a number of units or lessons. The number of lessons (lesson does not necessarily mean a period; it may cover a number of periods) is determined by the amount of time allocated to the topic in ATP. Under each lesson main ideas / content that must be covered is outlined and the activities that must be completed are indicated. Dates on which each unit / lesson must be completed. It is important to note that educators teaching the same grade are expected to move at the same pace and administer the same activities on the same days.
- The educators at these schools plan together and they brainstorm the best approaches to teach a particular topic after consulting a number of activities and other on-line resources. Reliance on a single textbook for preparation is discouraged.
- In as far as the teaching method is concerned, the educators argued that the nature of the subject dictates that for most topics the orthodox educator centred approach should be used especially when presenting new content. However, the question and answer method will be used during the lesson presentation to involve learners and to check whether they are following the lesson.

  Learners are given to raise questions at any point during the lesson when they do not understand a particular step / procedure or calculation. At the end of the lesson the educator will then give learners an activity to do and will walk around the class and monitor learners whilst they are busy and give guidance to learners that are experiencing challenges.
- A different approach is adopted when learners have already been exposed to the content where the educator will then shift to a more learner centred approach. For example, when learners have been given a home work the educator may give learners the opportunity to come to the front and

lead the marking of the activity, the educator then takes the role of the facilitator by guiding learners through leading questions when they go astray.

- For some topics like ethics and internal control the "flipping the classroom approach may be used where learners are given a topic to research on their own. The learners are then asked to report their findings to the class. The role of the educator is then to summarize and highlight the major points that he wants the learners to know and also to clear misconceptions.

Best Practice 3: Assessment

Formal Assessment:

- Most of the schools visited indicated that they write common district and provincial papers and tests which are set and quality assured at that level. The schools are not able to quality assure the standard of the papers because they are received a day before they are administered for security reasons.
- The other non-test or examination tasks are set and moderated at cluster level and the Subject Advisor at the District level usually also moderate the tasks before sending them to schools. Despite the moderation carried out at the various levels the schools indicated that they also satisfy themselves that the tasks are of the appropriate standard before administering them
- Some schools indicated that they write their own tests and examinations because they feel that the standard of the district or provincially set papers is set at a level that will not extend their learners, that is, their learners find the papers to be very easy. Different educators are allocated the responsibility of serving either as an examiner or moderator for a particular task/test in a grade, the Departmental Head acts as the final level of moderation.

Informal Assessment:

The schools attributed much of their successes to how they conduct informal assessment. The schools use informal assessment extensively to prepare learners for formal assessment. Schools give learners homework and classwork daily for practice because Accounting like Mathematics needs regular practice. In addition to this class tests are administered at completion of each sub-topics within a topic and monthly tests are written on the work covered during the month.

The most important part is that learners must be given immediate feedback on their performance in these tests otherwise they become meaningless. One educator argues that he tries by all means to mark the tests the same day so that learners can get their scripts the following day. In such a way the revision to correct errors and clear up misconception is done while the test is still fresh in the minds of the learners as he puts it "you must strike the iron whilst it is still hot". After remedial work another test is set on the same work.

In summary the strategy is teach, assess, reteach and reassess until the learners understand the topic and only then can you move to the next sub-topic.

Best Practice 4: Struggling learners

- Different strategies are employed by schools to deal with struggling learners, for example at one school the "weak" learners are all put in one class and are allocated the most experienced educator. The educator ensures that before teaching the grade 12 content on each topic he first starts with recapping the grade 10 and 11 content that learners need to be able to tackle the grade 12 content for an example before teaching the analysis and interpretation of budgets the educator will devote a lot of time in re-teaching the preparation of the Debtors' collection schedule, creditors payment schedule, the projected income statement and cash budget. When presenting new content, it is important that the content is presented in small manageable bits so as not to overwhelm learners as the weak learners easily get discouraged.
- For this strategy to work effectively extra contact time is needed in the form of afternoon and weekend classes so that the educator keeps pace with the Annual Teaching Plan whilst simultaneously allowing the weak learners to learn at a much slower pace than the rest of the other classes because content is broken down in manageable chunks.
- In order to motivate the weak learners those that perform well in monthly tests are promoted to well performing classes.
- In another school they have a system called the "help desk", educators set aside time in the afternoon from 15H00 to 17H00 to give individual attention to learners. During the day learners that have challenges on any aspect will then write their names in the register to make for an "appointment" at a specific time. During this time a learner is expected to ask specific questions on the content that they do not understand. It is not allowed for learners to just say I do not understand

this topic; they have to be clear on what it is they are unable to do. The educator will then address the learners' challenges and give him or her extra work to do after explaining to check understanding.

Best Practices: Lessons from Learners

Best Practice 5: Learner Experience

- Most learners remarked that they enjoy their classes because the educators make learning fun by making content related jokes and always engage them to participate actively in class by asking them questions, allocating them tasks to perform in class e.g. leading the class in marking the home work or class work. The educators always endeavour to respond to the learners' questions to the best of their abilities.
- The learners identified the cash flow statement and analysis and interpretation as initially challenging to them but are now comfortable with the topics because they asked those that understood better to assist them (peer education) and they studied and practised on their own using study guides and past NSC papers. Others approached the educators to assist them with work that they struggled with.
- Extra support is provided to learners that need it as the educators are always available to assist learners during study periods in the afternoon and night.
- The learners in the schools are self-motivated/driven and confident and display a sense of purpose, they attend school, are punctual and always do their homework. The learners interviewed indicated that they chose to take the subjects themselves and were not forced to take the subject because they are aware of the importance of the subjects in the university course and future careers that they want to pursue. All the learners have applied for entry into tertiary institutions for a variety of courses e.g. B. Com Accounting, actuarial sciences etc.

Best Practice 6: Revision Strategy

- One of the challenges that educators complain about is that the learners normally perform poorly in the topics that were taught earlier during the year or that were revised earlier and only do well on the most recently revised topics. In order to mitigate against this trend, the cumulative revision strategy is recommended.

- Administer a test on the easiest topic first e.g. manufacturing then revise the test with learners to rectify their mistakes.
- The next test should be on Manufacturing and Stock valuation method, again revise the test with learners to correct their errors and clear up misconceptions.
- The next one will be on Manufacturing, Stock Methods and Reconciliations, corrections will then be done.
- The process should be repeated adding one topic at a time until all topics have been covered and they write a test on all topics.
- It is important to start with the easiest topics and end with the more challenging topics, this will boost the confidence of especially weak learners.
- This strategy requires a lot of marking on the part of the educator, depending on the size of the class learners may be used to mark, however marking should preferably be done by the educator for diagnostic purposes.

Concluding Remarks

The research findings show that schools that have very good results in Accounting with respect to the pass rate and the quality are distinguished by the following characteristics, they have educators that are committed and passionate about the subject, the level of commitment is demonstrated by the amount of extra time that educators spent with their learners and the early completion of the syllabus allowing for more time for revision. The educators at these schools prepare thoroughly for classes by planning together and use innovative methods to present content. Well performing schools also put a lot of emphasis on assessment, learners are frequently tested and immediate feedback is given to learners. Finally, the ethos and culture of these schools create an environment that is conducive to teaching and learning and allows learners to thrive.

Chapter 2: Successful Teaching and Learning Framework Applied Art and Performing Arts

Applied Art

The term "applied art" in this report has been loosely used to refer to the Arts Subjects that connote to an artistic product of artistic design for functional everyday use. These subjects may also be used for intellectual and/or aesthetic stimulation to the observer. Examples that may be cited include 2Dimensional (2D) or 3-Dimentional (3D) products, but are not limited to, benches, mugs, architectural designs, computer graphics, and clothes. Depending on whether it is a 2D or 3D, Applied Art relies on media such as canvass, paper, and static or physical entities. The subjects in the Arts Subjects CAPS curriculum making up the Applied Art are Design and Visual Arts.

Performing Arts

Performing arts, on the contrary, are physical expressive forms of art in where inanimate objects, bodies, voices are used mostly used in accompaniment of animate entities to negotiate meaning. The Performing Arts usually relies on a particular audience to find expression. These will include a (live) audience, performance space (be it public or private), sound, and movement. The subjects in the Arts Subjects CAPS curriculum making up the Performing Arts are Dance Studies, Dramatic Arts, and Music.

Indigenous Arts

Indigenous Arts is a body of indigenous artistic ‘performed or inanimate’ innate knowledge which usually combines Applied Art and Performing Arts. The aesthetic value in Indigenous Arts (IA) is the sustenance of interest, whilst its purpose (IA) is chiefly functional for everyday use. This indigenous body of created and performed knowledge has been accumulated through a process of indigenous scientific processes that lasted for centuries of time. In the Arts Subjects CAPS curriculum, Indigenous Arts is not separate but has been infused within the above-explained Applied and Performing Arts. All Arts Subjects CAPS curricula (Dance Studies, Design, Dramatic Arts, Music, and Visual Arts) have Indigenous Arts immersed within.

Applied Art: Design and Visual Arts

Best Practices from the Learning Spaces

Introduction

This chapter provides guidelines on innovative teaching methodologies on challenging topics or concepts as identified during educator and learner interviews. It also highlights general enabling conditions that support teaching and learning in the classroom.

General Enabling Conditions – Design and Visual Arts:

- **Resources**

Found material; make own art material from natural resources such as barks of trees, soil, grass, clay, wood; online (and offline) platforms such as Google Classrooms; schools write own CAPS compliant educator and learner tutorials; Schools manufacture own paper.

- **Notional time**

2 (subjects) X 4hrs

- **Support**

School Management Teams adheres to the Design and Visual Arts PPN, and accommodates the Arts Subjects in the school budgets and infrastructure (e.g. practical assessment included in timetable); province funds the circuit, district and provincial Design and Visual Arts competitions which accrues to the final practical examinations mark.

- **HOD's are trained in the Arts**

Educators are qualified in Design, Visual Arts, Maths, Science, and Technology. This greatly assists educators to infuse the STEAM concepts; Educators and learners are becoming practising artists; Community and Internationally based artists are increasingly assisting with teaching and capacity-building through the DBE-DAC Artists in School programme.

Schools correctly apply the Post Provisioning Norms, especially around the issue of correct educator-pupil ratio.

Best Practices: Lessons from Educators

Best Practice 1: Teaching Strategies – Best Practices

Challenging Topics:

Socio-political Art, Resistance Art, and Gender Issues are problematic topics in Visual Arts; Leaners find the topic of Architecture in both Design and Visual Arts problematic.

How to deal with Challenging Topics:

- The use of audio-visual material assists learners to better deal with the difficult topics. The use of own material such as cameras, cell-phone cameras, magazines, further assist learners in the better understanding of the difficult topics.
- Learners are taught to construct their own knowledge in the form of digital and/or infographics. This allows the theme to be more accessible to the appropriate social/cultural/age group.
- Contemporary exhibitions (which are appropriate to challenging topics) are posted online.
- Lessons are set up, say every 2 weeks, for learners to write articles in the computer lab. This teaches learners to improve on essay writing and their comprehension skills.

Best Practice 2: Planning

- Innovative teaching (methodology): online (and offline) platforms such as Google Classrooms. All briefs, tests, memos, textbooks, and resources are online. These are accessible at school and at home.
- Learner workload is overcome through systems such as Open Studios which is run every afternoon after school. Every one of the Arts educators take turns to supervise the programme on a weekly/monthly basis.
- Schools hold weekly Arts Subjects meetings, with minutes carefully adhered to; In these meetings, good practice methods, techniques, and observations are shared together with the GET's Creative Arts educators.
- Schools carefully track Arts learner attainment and monitor progress (including Phase learnertracking: GET to FET.)

- Schools do not teach according to textbooks but according to the Annual Teaching Plans (ATPs.)
- Good practices and keeping tabs with relevant and latest Arts Education trends are shared between the GET and FET Arts educators.

Best Practice 3: Assessment

Formal Assessment:

Assignments/Projects (Alternative Assessment)

Managing assignments/projects: Schools make their own videos, tutorials and briefs during each lesson. Educators introduce lessons for about 10 minutes, where learners then work on their own pace. Schools have their own netbooks which learners use for research that is followed through the online learning. Learners submit their work online or in print.

- **Tests**

Setting tests: There are no Cluster Common Tests. School tests and mark-sheets are shared online for all the schools in the same cluster to access.

Schools make item analyses, and set up remediation.

Ensuring quality: Tests and their results are sent to the HODs for quality-assurance, who will forward to the SMTs and Subject Advisors. The province will then send to National for tracking and analyses.

- **Examinations**

Leaners do an online Self-assessment/evaluation after the activities with educator-engagements. This accrues to marks with comprehensive comments that are then sent back to each learner in a mini report. The marks are then copied onto the SBA mark sheets for integration into the schools SMS; and There are observational marks that are given during activities for an informal component.

Practical Assessment Task (PAT)

- PATs and Theory activities are planned around SA-SAMS requirements before the beginning of the appropriate term.
- Rubrics are constructed for each PAT, Theory activity and placed online in the relevant classroom together with the due date.
- Tasks and activities are thoroughly monitored by HOD's/Subject Heads and Subject Advisors.

Best Practice 4: Struggling learners

Dealing with learners that struggle:

Schools use the 'Flipped Classroom Model' for learner abilities. Each learner works at her own rate and pace with observable milestones. Educators walk around to monitor progress.

Artists in the community assist learners, with parental authorisation, on a one on one basis.

Best Practices: Lessons from Learners

Best Practice 5: Learner Experience

Classroom experience:

Learners whose parents studied the Applied Arts tend to fare better in the subjects, and have a better understanding of future endeavours in the arts industry.

'Open-door' policy assists in learners being open-minded and tolerant of each other.

Dealing with challenging topics:

- Theory and its depth.
- Group organisation after school rehearsals.
- Learning support.
- Group support.
- Parental support.
- Value or Interest in subject.

These subjects create close bonds amongst learners, with broken boundaries learnt to be integrated; and assist in a grasp on communication skills.

Performing arts: Dance Studies, Dramatic Arts and Music

Best Practices from the classroom

Introduction

This chapter provides guidelines on innovative teaching methodologies on challenging topics or concepts as identified during educator and learner interviews. It also highlights general enabling conditions that support teaching and learning in the classroom.

General enabling conditions:

- **Online (and offline) platforms** such as Google Classrooms; schools write own CAPS compliant educator and learner tutorials.

- **Notional time**

  3 (subjects) X 4hrs.

- **Support**

School Management Teams (SMT's) adhere to the Dance Studies, Dramatic Arts, and Music PPN. The SMTs and accommodates the Arts Subjects in the school budgets and infrastructure (e.g. practical assessment included in timetable); province funds the circuit, district and provincial Design and Visual Arts competitions which accrues to the final practical examinations mark.

- **HODs/Subject Heads and Educators**

Are qualified in Dance Studies, Dramatic Arts, Music, Maths, Science, and Technology. This greatly assists educators to infuse the STEAM concepts; Educators and learners are becoming practising artists; Creative arts personalities are increasingly assisting with teaching and capacity-building through the DBE-DAC Artists in School programme.

Schools correctly apply the Post Provisioning Norms, especially around the issue of correct educatorpupil ratio.

Best Practices: Lessons from Educators

Best Practice 1: Teaching Strategies – Best Practices

Dance Studies

Challenging topics:

International Prescribed Works:

The topic carries 40% of the Question Paper, and should candidates not have access to the dance works or not understand, they flunk the paper.

Dance Elements:

- Candidates tend to misinterpret the topic.
- Muscles and Actions.
- Learners tend not to know the muscles and their specific functions to apply knowledge.

Dealing with challenging topics:

International Prescribed Works:

Schools start teaching the two selected prescribed works in Grade 11 and revise them in the first 2 terms of Grade 12. Schools ensure their learners watch the dance works live or on a good quality DVD more than once. The prescribed works are tested in the June exam and again during the trial examinations so for learners to get feedback before the final examination.

Dance Elements:

Schools properly teach and regularly use correct dance terminology. Dance elements must be practically taught through improvisation, composition and theoretically. Learners should be writing about dance elements in their PAT journals, with each Dance learner supposed to develop their own dance glossary or dictionary. In an effort to develop visual literacy, educators make available pictures and videos for learners to watch and analyse. Schools moderate the PATs (both practical and journals). Provinces need to organise workshops for Improvisation and composition for educators.

Dramatic Arts

Challenging topics:

- 20th Century Theatre Movements.
- The History of Theatre, Practical Concepts, Content and Skills.

Dealing with challenging topics:

- Provide learners with detailed and interactive notes. These are also made available online through the goggle classroom, for those schools equipped with enabling resources.
- Encourage learners and give them tasks that require research related to the challenging topics.

As soon as these tasks are controlled, they are given back to the learners as prompt feedback.

Music

Melody Writing:

- The Question Paper focusses only on Staff Notation (which mainly advantage candidates from Former Model-C centres), whilst Tonic Sol-fa notation (which accommodates the majority of candidates from Black schools in both rural and Township). Educators from Former Model-C centres struggle to read and mark scripts in Tonic Sol-fa. This question does not take into consideration the diverse group of learners.
- Four-part Harmony.

Dealing with challenging topics:

As per CAPS requirements, the Question Paper must be set on both Tonic Sol-fa and Staff Notations. Capacitate educators on Tonic Sol-fa and Staff Notations, and Four-part Harmony; and Over and above the provision of Examination Guidelines, afford an Analysis Grid.

Best Practice 2: Planning

- Schools use audio-visual material to support learners in dealing with the difficult topics. Schools use own material such as cameras, cell-phone cameras, magazines, to further assist learners in the better understanding of the difficult topics.

- Learners are taught to construct their own knowledge in the form of digital materials. This allows the theme to be more accessible to the appropriate social/cultural/age group.
- Concerts/plays (which are appropriate to challenging topics) are posted online.
- Lessons are set up, say every 2 weeks, for learners to write articles in the computer lab. This teaches learners to improve on essay writing and their comprehension skills.

Best Practice 3: Assessment

Formal Assessment:

Assignments/Projects (Alternative Assessment)

- Managing assignments/projects: Schools make their own videos, tutorials and briefs during each lesson.
- Educators introduce lessons for about 10 minutes, where learners then work on their own pace.
- Schools have their own netbooks which learners use for research that is followed through the online learning. Learners submit their work online or in print.

Tests

Setting tests: There are no Cluster Common Tests. School tests and mark-sheets are shared online for all the schools in the same cluster to access.

- Schools make item analyses, and set up remediation.
- Ensuring quality: Tests and their results are sent to the HODs for quality-assurance, who will forward to the SMTs and Subject Advisors. The province will then send to National for tracking and analyses.

Examinations

- Leaners do an online Self-assessment/evaluation after the activities with educatorengagements. This accrues to marks with comprehensive comments that are then sent back to each learner in a mini report. The marks are then copied onto the SBA mark sheets for integration into the schools SMS.
- There are observational marks that are given during activities for an informal component.
- Marking and memo discussions are done with other grade-educators to improve and to expedite reliable marking.

- Schools are consistent to subject terminology when setting questions, which assists and advantage learners.

Practical Assessment Task (PAT)

- PATs and Theory activities are planned around SA-SAMS requirements before the beginning of the appropriate term.
- Rubrics are constructed for each PAT and Theory activity and placed online in the relevant classroom together with the due date.
- Tasks and activities are thoroughly monitored by HODs/Subject Heads and Subject Advisors.
- Provided exemplars are used as a benchmark to guide the setting of other tasks but not utilised as an assessment.
- Educators ensure that learners are taught need for the presentation and appearance of the assessment task to epitomize projected standards and quality.
- Grades 10 and 11 SBA standards are raised to prepare learners for Grade 12.

Best Practice 4: Struggling learners

Dealing with learners that struggle:

Schools use the 'Flipped Classroom Model' for learner abilities. Each learner works at her own rate and pace with observable milestones. Educators walk around to monitor progress and artists in the community assist learners, with parental authorisation, on a one on one basis.

Best Practices: Lessons from Learners

Best Practice 5: Learner Experience

Classroom experience:

Learners whose parents studied the Performing Arts tend to fare better in the subjects, and have a better understanding of future endeavours in the arts industry.

'Open-door' policy assists in learners being open-minded and tolerant of each other.

Dealing with challenging topics:

- Theory and its depth.
- Group organisation after school rehearsals.
- Learning support.
- Group support.
- Parental support.
- Value of/ Interest in subject.

These subjects create close bonds amongst learners, with broken boundaries learnt to be integrated; and assist in a grasp on communication skills.

Concluding Observations

There is lack of standardisation of Practical Exams, with schools applying different approaches and marking guidelines throughout the provinces.

There is less focus on Indigenous works. Learners, especially those from the rural spaces, could attain better marks if they would be given more space to perform indigenous practical.

Lack of resources, including human.

Schools use video cameras, cell-phones and/or other forms of audio-visual materials to record/film progress of researched practical work. The various audio-visual materials are also used to record/film exhibitions and/or practical works.

Concluding Remarks

Practical Exams is standardised

Schools focus more on Indigenous works which enable learners, especially those from the rural spaces, to attain better marks when given more space to perform indigenous practical. There is more investment on resources, especially human.

Chapter 3: Successful Teaching and Learning Framework Civil Technology

Best Practices from the classroom

Introduction

This chapter provides guidelines on innovative teaching methodologies on challenging topics or concepts as identified during educator and learner interviews. It also highlights general enabling conditions that support teaching and learning in the classroom.

General enabling conditions:

Subject specific, resources, e.g. textbooks, workshops (technical subjects), etc.

- The required Infrastructure to offer the subject. Well-resourced Civil Technology Workshop and Computer Lab including a data projector.
- Good resources, textbooks, internet connectivity, audio visuals are used.
- All learners do the PATs in the workshop.
- All learners have drawing boards and drawing instruments supplied by the province.
- A variety of textbooks used. Nated 550 textbooks and CAPS textbooks.
- All the educators offering Civil Technology are qualified in the subjects.
- All the educators offering the subject have a laptop and a data projector supplied by the province.
- All the Head of the Departments are qualified in one or two of the technical subjects.

Notional time

Four (4) hours per week including Practical Assessment Task.

Support from management and district/province

- The Head of the Department is qualified in one of the Technical Subject.
- The school has management plan for class visits and support.

- The school developed to monitor lesson preparation, Curriculum Coverage, Practical Assessment Tasks and School Based Assessment.
- Assessment plan and policy developed by the school.
- Data sheet for the educators developed containing grade and number of learners responsible by the educator.
- Curriculum Management plan developed by the school.
- Weekly meetings with the educators.
- The district and province conduct regular visits.
- Common Assessment Tasks are set by the province.
- Regular feedback from the HOD, Deputy Principal and the Principal on class visits, lesson preparation and assessment activities.
- Educators are required to use the taxonomies when setting class tests.
- Learner responses is analysed by the educator and HOD and feedback is given.
- Tracking of learner performance and tracking of progressed learners by the HOD, Deputy Principal and the Principal.
- School management and educators are communicating individual learners progress in achieving school-wide academic expectations to learners and their families;
- A comprehensive budget showing detailed allocation of all funds in subjects with Practical Assessment Tasks.
- The Norms and standards with regards to practical component of Electrical Technology, Mechanical Technology and Civil Technology are applied to the nine specialisation areas with the class size of 1:15.

Professional development

- Plans for on-going professional development of staff.
- Coaching and mentoring by the HOD, Deputy Principal and the Principal.
- Training workshops are conducted by the province on different topics in the subject and on topics that are on diagnostic report.
- Workshops are conducted on the new trends or programmes.
- Science week and Technical subject week with different stake holders.

Workload

The educator and being the HOD teaching the following subjects in the school:

- Civil Technology Grade 12.
- Engineering Graphics and Design Grade 10 -11.
- Technology Grade 7-9, and Arts and Culture Grade 8-9.
- The educator teaching the following subjects in one school:
- Technical Mathematics 11 - 12; and Civil Technology Grade 10 – 12.

The above educators are overloaded with subjects that have PAT.

Best Practices: Lessons from Educators

Best Practice 1: Teaching Strategies – Best Practices

Challenging topics:

- Quantities.
- Graphics and Communication.

Dealing with challenging topics:

- Extra afternoon lessons.
- Using previous NSC papers.
- Morning, afternoons and weekend/holiday classes that focus.
- Previous higher order (Higher Grade) Civil Technology questions and tasks that are aligned with Civil Technology NSC questions.

Best Practice 2: Planning

Innovative teaching (methodology):

- Teaching and learning take place in the workshop to intergrade theory and practical.
- Monitoring plan, monitoring tools and reports for curriculum coverage are available.
- All lesson preparations are submitted to the HOD every Friday for quality assurance.
- Curriculum monitoring and support (curriculum coverage and on- site support by the HOD.)

- The school developed to monitor lesson preparation, Curriculum Coverage, Practical Assessment Tasks and School Based Assessment.
- Educators use a variety of teaching methods (Demonstration, Learner centred, educator centred and hi-tech centred and excursions.

Best Practice 3: Assessment

Formal Assessment:

Assignments/Projects (alternativesessment)

- Managing assignments/projects.
- Projects are moderated every term.
- The required tools and machinery for practical's are in place.

Tests

Setting tests:

- Educators are required to use the taxonomies when setting class tests.
- Learner responses is analysed by the educator and HOD and feedback is given.
- Learners are required to write pre-test at the beginning of every chapter or topic.

Ensuring quality

- Educators are required to use the taxonomies when setting class tests.
- Learner responses is analysed by the educator and HOD and feedback is given.

Examinations

Setting exams:

- Educators are required to use the taxonomies when setting examination.
- Learner responses is analysed by the educator and HOD and feedback is given.

Ensuring quality

- Educators are required to use the taxonomies when setting examination.
- Learner responses is analysed by the educator and HOD and feedback is given.

Practical Assessment Task (PAT) Managing PAT:

- The Phase 1 to 3 PAT moderation of the Grade 10, 11 and 12 requirements are done by the HOD, Deputy Principal and SES for the subject.
- PAT is presented according to specifications as set out in the guidelines by DBE.
- Value of PAT.
- PAT is 25% of the examination; therefore, learners are encouraged to complete the PAT.

Best Practice 4: Struggling learners

Dealing with learners that struggle:

Tracking of learner performance and tracking of progressed learners is conducted by the HOD, Deputy Principal and the Principal; and a special schedule is developed for learners that struggle.

Best Practices: Lessons from Learners

Best Practice 5: Learner Experience

Classroom experience:

There is more interaction with learners.

Learning support:

- The required Infrastructure for Civil Technology (Workshop) to offer the subject.
- LTSM is available.
- Educators have data projectors.
- Videos are used.
- Value or Interest in subject.
- The educators and the learners are enjoying the subject.

Concluding Remarks

The common factor in all the schools that were visited is a well-coordinated functioning management system. In a paper presented at a conference hosted by JET Education Services in 2008, Nick Taylor assets that: Distributed leadership assumes a division of labour within the schooling system and

allocates functions according to where and by whom they are best performed: the challenge for leadership in any complex system is communication and the coordination of the component parts.

Chapter 4: Successful Teaching and Learning Framework Consumer Studies

Best Practices from the classroom

Introduction

This chapter provides guidelines on innovative teaching methodologies on challenging topics or concepts as identified during educator and learner interviews. It also highlights general enabling conditions that supports teaching and learning in the classroom.

General enabling conditions:

Some of the general enabling conditions are as follows:

- Financial support from the province and school in providing funds to implement the subject; have access to the minimum norms prescribed for resources, consumables and equipment for effective practical skills training.
- Support from School Management and the district to ensure effective subject implementation.
- The availability of a classroom for the teaching of theory as well a functional laboratory with well-equipped work stations for practical demonstrations, lessons and examinations.
- Access to the daily service of a full-time assistant to support the educator, holds many advantages for the smooth running of the subject.
- The availability of electronic resources to bring the '*World into the Classroom'* for effective teaching and learning.
- Good teaching resources are used, that are well-scaffolded, with activities ranging from easy to challenging, supported by additional activities such as questions from previous papers as well as newly set innovative questions.
- Manageable class sizes as stipulated in the CAPS Policy for effective teaching.
- Teaching time – affording maximum teaching time, though limiting time spent on tests, examinations and other detracting activities.
- Fair workload – affording time for planning, marking, remedial work/extra support for struggling learners as well as providing additional support and stimulation to the higher achieving performers.

- Educator access to opportunities for relevant professional development.
- Grounding of knowledge in Grade 8 & 9 to strengthen skills development in the subject.
- A very important enabling condition is the willingness to afford all learners the opportunity to develop entrepreneurial thinking and advanced practical skills to improve employability in a diverse, global context. This requires of the learner to demonstrate well developed '*hard and soft skills',* as well as having mastered the required practical skills.
- It is essential to align standards for teaching and assessment to ensure that learners are well prepared for formal assessment tasks. For effective teaching, planning for lessons needs to be skilful, intentional and innovative. Lessons must keep the learner engaged and encourage commitment towards achieving the expected outcome of the lesson. Educators need to understand *'how learning takes place'* in order to plan and design effective lessons. Some learners may only understand what they are learning, once they set the concept in practice. Teaching, therefore must be explicit, skills must be practiced and understanding must be applied. It takes time to understand complex topics where concepts are more abstract.
- New knowledge and skills must be applied to solve problems within a new context to determine the strength and effectiveness of understanding. Learners that monitor their own learning, generally perform better and achieve better academic success. This should be pursued for all learners to master.
- An expert educator will strive to create a learning environment where errors are welcome, many questions may be asked, and efforts and hard work are recognised to build learner confidence.
- This learning environment will be relaxed and includes a relationship of trust between the educator and the learner. It will further encourage the learner to maximise the opportunity to develop and learn, build self-esteem.

The expert educator will respond to and adapt to the needs of every learner with respect and knowledge to provide the opportunity of success to every individual need by striving to achieve clearly set goals.

All learners deserve the opportunity to learn and be successful in school.

To participate and provide your best at all times, is not a choice, but a personal responsibility!

Balancing standards and instructional planning for lessons:

- All teaching and learning needs to align to the expected standards that are outlined in Section 4 of the CAPS policy for the subject's assessment. Higher order questions and critical problem solving must be included for daily teaching.
- Educator planning needs to ensure that new content is introduced with first, the known concepts and facts and then gradually move on to new concepts. First consider what the learner already knows as a point of departure for the purpose of planning.

Creating a positive learning environment:

Expert educators are not afraid to try new ideas and will delight in facing a new challenge or problem. This is a good example of a strong '*Growth Mind Set'.* These educators know exactly what to teach, but also know exactly how to teach it. An expert educator has a full understanding of the subject content but also understands the learner he/she is teaching. This is one of the characteristics that stands out above the novice educator.

Good educators have the following characteristics:

Teaching is precise and to the point.

Classroom discipline: Enforce classroom standards and build patterns of cooperation to minimize disruption and maximize learning.

- The classroom is always neat and well organised – a basic principle for any successful small enterprise.
- Creates a vibrant learning atmosphere for the subject with interesting, subject related posters and resources.
- Introduces a:*'What is new'* – board at the entrance of the classroom with newspaper snippets or magazine articles of new trends. Make learners responsible for the updates.
- Keeps a classroom register/class list to note evidence of absenteeism, late arrival or homework not done.
- Is well prepared for each lesson to awake a keen interest and attention.
- Becomes an expert master of the subject content to earn the respect of every learner.
- Keeps learners busy throughout the lesson for a full period.

- Uses the correct language for instruction (LOLT) and avoid code switching.
- Always a professional, being able to criticise in private and praise in public.
- Maintains a sense of humour – laughter and happiness is essential to enhance the process of learning.

Best Practices: Lessons from the classroom

Challenging skills and topics are highlighted below by educators and learners:

- Poor critical thinking and interpretation skills.
- Poor language proficiency indicated by the inability to adequately address the requirements of a question effectively or respond with relevant information pertinent to a question or using subject terminology correctly.
- Lacking skills to do accurate basic calculations.
- An inability to analyse and interpret data effectively in relation to a specific context.

Subject specific Challenges:

Grade 10: Sustainable consumption; Consumer buying behaviour; Costing and conversions; Fibres and Fabrics; Design features of Housing and Interiors.

Grade 11: Design elements and Principles; Application of Design elements and Principles for housing and fashion; Fibres and fabrics; Nutrition; Channels for Consumer complaints.

Term 4-Entrepreneurship topics.

Grade 12: Topics for: Food and Nutrition; Clothing; Housing; Entrepreneurship.

Best Practice 1: Teaching Strategies

Use and implement National policy documents: Use the Consumer Studies CAPS policy and 2017 DBE Examination Guidelines for Consumer Studies as a primary source of information and guide to prepare for teaching and assessment of subject content. Do not orientate teaching around using the text book as primary source for educator preparation. It will ensure that the correct format and layout for tests and exams are implemented. Learners will be well prepared for assessment if teaching and learning covers a fully covered curriculum.

Consumer Studies Circulars: Ensure that circulars are implemented with immediate effect after release.
Use of past NSC Consumer Studies papers: These papers are a valuable resource for teaching and learning, but should never replace formal teaching or replace setting of original question papers for examinations. Papers from November 2014 onwards are appropriate for revision purposes. This will ensure that learners are exposed to different types of questions and will master the skill and know how to respond to appropriately.

Basic Concepts and Consumer Studies Terminology: Ensure that learners are able to understand and explain basic Consumer Studies concepts and terminology by implementing a terminology chapter per topic /concept in Grades 10-12.

Revision of Relevant Grades 10 and 11 Content: Identify underpinning knowledge in Grades 10 and 11 that is required to reinforce relevant subject content for formal assessment in Grade 12. Lacking this knowledge inhibits the ability to apply this knowledge in Grade 12.

Develop learner skills to: Interpret information in questions and then link and apply relevant knowledge of content. Regular use information from pamphlets, magazines and newspapers can assist to develop skills to interpret information from tables, data, scenarios, podcasts and case studies.

Language proficiency: Responses must be written in full, clear sentences. The ability to respond in a paragraph or tabled format requires practice. Ensure that learners are able to respond effectively to the instruction of the action verb in the question.
Develop the skill to voice expression: Focus on the ability to respond with clarity, where comments or explanations are required. Use bullet points to order the thinking process. Emphasise that partial, simple or single-word responses are not sufficient when an explanation is required.
The Importance and value of (*formative)* Informal Assessment: Regular, short, bi-weekly informal tests are compulsory to build the confidence of learners in all topics. Feedback to the learner will benefit and improve performance. Use different types of exam questions for daily informal tasks such as homework and classwork activities to practice, develop and strengthen these skills. Self-marking/peer-marking

allows learners to benefit from immediate feedback by gaining an understanding of the mark allocation, and by enabling prompt identification of errors or valid alternative responses.

Development of skills that align to the instruction in a question:

Educators are encouraged to explain and practice the skill to identify the core focus of the question or link content in the question to content that is known and was studied in class. Learners must be taught to express themselves clearly where comments or explanations are required. Partial, simple or single-word responses will not be sufficient if an explanation is required. Sufficient, regular practice on how to structure responses around the core content and instructions of the question must be implemented. Implement the EAC teaching strategy.

Ensure that a Grade 11 learner who changed a subject to offer Consumer Studies, is supported:

Additional inputs are required to ensure that these learners know the terminology and content for Grades 10 and 11, as it forms the basis for Grade 12 background knowledge. Additional support will also be required to align the standard of practical skills.

Keep up to date with current events in the Consumer Studies industry as seen in the media and apply examples for higher order assessment.

Apply **entrepreneurial principles** to practical lessons and skills development to strengthen '***entrepreneurial thinking skills.'***

Best Practice 2: Planning

> ***Inclusion*** *involves an active and intentional engagement with diversity such that a range of individuals can fully participate in every lesson.*
>
> *Sentance et al.*

The Curriculum in the CAPS policy indicates the *'scope'* for teaching, together with the 'sequence', of instruction. Curriculum does not stipulate the '*how*' of how teaching should take place. It further lacks clarity of which strategies should be implemented for instruction.

Educator' planning and preparation is the prime drive and success factor for effective teaching and learning to take place. Successful expert educators plan thoroughly for every period.

Steps implemented for lesson planning and preparation.

Scope	**Scope refers to the knowledge that is to be presented to the learner.**
	The scope of content is clearly highlighted and broken down in the annual teaching plan per grade / per term in the CAPS policy.
Focus	**Focus defines how learning will be affected for the specific topic.**
	The content explains the concept /topic. Consider the standards (Cognitive levels and Levels of difficulty) within which the teaching of the concept /topic must take place. Teach learners to apply content to different contexts in case-studies/scenarios.
Sequence	**The order in which the concepts are organised for teaching.**
	Order of subject matter for the lesson: Place the content in a logical order for teaching. **Complexity:** Progress from basic to more complex concepts. Develop activities to test knowledge, understanding and measure progress. **Prior Knowledge:** Understanding that new learning is based on previous learning. A clear connection must be provided to indicate how the new learning fits into what is already known.

Clear objectives to be included for the planning of each lesson to ensure effective learning takes place.

The learner must understand …..

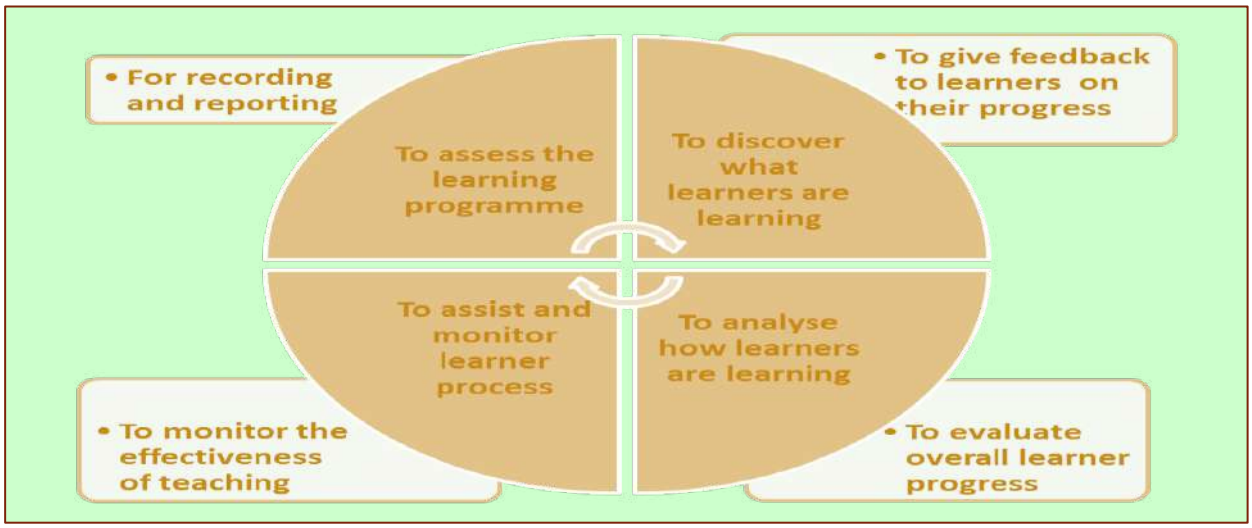
The learner must know…..

The learner will be able to …….

Guidelines for effective lesson planning:

- Lessons must have a clear goal, provide opportunity to apply and practice skills and must include feedback to the learner.
- Consider the needs of the learners to ensure that teaching informs effective learning.
- Limit the content to be covered in a lesson to ensure that enough time is allowed for revision, practice and feedback.
- Include the strategy to strengthen understanding of the language for the content and skill being taught.
- Ensure that learners understand how learning of new content links onto content that is already known.
- Integrate knowledge, skills, values, entrepreneurship and careers with the teaching of all concepts.
- Ensure that different forms of media are used to strengthen every lesson.
- Be flexible to adapt the plan for teaching if effective learning is not taking place.

Best Practice 3: Assessment



3.1 Daily Assessment

School-based assessment embeds the broader educational philosophy of '*assessment for learning*'. '*Assessment for learning*' is any form of assessment in which the main aim is to enhance students' learning and understanding of concepts. An assessment activity can help learning if it provides information that can be used (feedback) by educators and learners to improve the teaching and learning

process in which they are engaged. It differs from '*assessment of learning*', which is designed primarily to serve the purposes of accountability, ranking, or certification of competence.

'*Assessment for learning*' should always contribute to a learner's learning and progress effectively. It should provide the learner with the knowledge, understanding and skills to complete '*formal assessment tasks'* successfully and with the required competence. Daily assessment activities must include higher order thinking skills and different levels of difficulty.

Most critically, these activities inform the educator, where learners are experiencing difficulties and what early steps should be taken to assist learners to overcome these challenges. Educator creativity, resources available, energy levels and behaviour of learners will determine what will work in each unique situation.

Examples of informal assessment activities in Consumer Studies:

- Class test after teaching a topic.
- Identification tests/Tasting tests.
- Skills test.
- Class Quiz.
- Case studies/Scenarios with questions.
- Role play.
- Listening test.
- Mind maps/Concept maps.
- Puzzles.
- Games: Eliminator/Scrabble/Bingo/Charades.

*Too often we give our learners something to **remember**, rather than problems to **solve.***

Gameful pedagogy: http://www.gamefulpedagogy.com/

3.2 Formal Assessment

Assessment is an essential part of teaching and learning. The evidence of learners' performance in formal tasks provides feedback with regards to the content, concepts and skills that have been acquired by the learner. The marks of those tasks will be used for promotion and progression of learners to the next grade and to give feedback to parents and various

stakeholders in this regard. The feedback will also indicate what support is planned for those learners who are not able to master all the content, concepts and skills and need more time to reinforce teaching and learning.

Formal Assessment Tasks in Consumer Studies comprise of:

Tests and Examinations

A good quality question paper gives every learner an equal opportunity to fully demonstrate what they have learnt from the teaching that was offered. Question papers must be valid, reliable, realistic, fair and appropriate.

When setting tests, expert educators ensure that the paper complies with the standards prescribed in Section 4 of the CAPS policy and Examination Guideline for the subject.

Expert educators' critique and analyse errors made by learners in tests and examinations to inform teaching and to follow-up through improvement strategies. Analysis is done per item to highlight areas of poor/good performance. The completed error analysis will reflect the following: (a) Low performance levels, (b) High performance levels, (c) Topics where learners under-perform/perform poorly, (d) Topics where learners excel.

The standard and quality of a question paper depends on:

- Appropriateness for the grade.
- CAPS compliant for the relevant term/task.
- Cognitive demand.
- Levels of difficulty.
- Content coverage.
- Skills addressed.
- Fairness of questions.
- Language.
- Free from bias.
- Length of the paper reasonable.
- Appropriateness of text and graphics.
- Predictability.

- Technical quality.

Practical Lessons:

Management Plan for Practical Lessons

The purpose of the management plan is to inform both the learner and parents of up-coming practical lessons and assist learners to prepare well for them. The management plan lists the practical lessons to be conducted and Indicates the date and term when each practical lesson will be implemented. Include this management plan in the Learner's Practical Chapter.

Practical Lesson planning and preparation

Learners are well prepared before each lesson to ensure effective production and prevent waste. Skills developed should progress from basic skills in Grade 10 to more advanced skills in Grade 12. Practical lessons must be well prepared to ensure that the learners is prepared for the PAT. Recipes/patterns must be clearly illustrated. The learner must be exposed to visual material that clearly illustrates the expected quality and appearance of the final product. Every practical lesson must reflect creative work and include entrepreneurial principles.

Practical Assessment Task (PAT)

Expert educators value the importance of the PAT and its role of assessing skills that cannot be assessed in a written format, e.g. test or examination. It allows the demonstration of creativity and innovativeness.

Best Practice 4: Struggling learners

Differentiate tasks/activities:

- Design/select different activities based on learner needs for the different groups of learners.
- Develop activities that range from easy to being difficult, as well as include setting of a variety of tasks at different cognitive levels.
- Sub-divide a big task into 'smaller/simpler' learning activities as well as 'bigger/more complex' activities. Together, the smaller activities (sub tasks) must achieve the same goal as the one big task/activity. Then grade the activities/tasks – the bigger activity/task should have the highest

grading and the grading of each smaller activity (sub task) that makes up the bigger activity/task should, together, add up to have the same grading as the big activity/task. Learners could then choose whether they want to do the group of smaller activities/tasks or the one big activity/task. Advise struggling learners to do the smaller ones first and then challenge attempting the big one. Getting the smaller activities/subtasks right, could support a feeling of competence.

> "Ideal teachers are those who use themselves as bridges over which they invite their students to cross, then having facilitated their crossing, joyfully collapse, encouraging them to create bridges of their own."
>
> *Nikos Kazantzakis*

- Identify topics that will be easier to master and make sure that struggling learners master these topics well.
- Encourage learners to use a mind map/a table to summarise these topics to reflect all content for a topic on a single page for revision.
- Every learner will have access to a text book/resource for learning.

Best Practice 5: Learner Experience

Educator Knowledge: Learners' respect and value educators with expert knowledge who are positive and enthusiastic about the subject. Learners are encouraged by educators who are supportive and provide access to a wide range of teaching and learning resources.

Learners enjoy engaging, interactive and communicative teaching methods. Learners value choice and independent learning processes.

Learners expect a clear understanding of the expected outcome from the learning process. (i.e. *what will be learnt?)*

The importance of learning and understanding the specific content? Clear quality descriptors for the expected outcome.)

Concluding Remarks

Good educators respect their learners and put in extra effort to get to know more about their achievements, interests, cultural background and learning preferences. All learners are treated the same and are given a shared responsibility for the smooth running of the class. Learners are helped to develop self -assessment skills and are provided with positive feedback that is specific to inform

improvement. Learners are often given the opportunity to become the educator in class. They learn more when they are challenged, but also believe that they can learn.

A good educator is a good learner and recognizes the importance of life-long learning to be knowledgeable of new subject concepts. This is pursued to ensure that every lesson is engaging to give the learner the correct information, but will also provide the knowledge of how to learn the content.

Chapter 5: Successful Teaching and Learning Framework Computer Applications Technology (CAT)

Best Practices from the classroom

Introduction

This chapter provides guidelines on innovative teaching methodologies on challenging topics/concepts as identified during educator and learner interviews. It also highlights general enabling conditions that supports teaching and learning in the classroom.

General enabling conditions:

Some of the general enabling conditions are as follows:

Computer laboratory with a working environment, i.e. working computers, correct software, working network. This includes daily support through a full-time technician/network administrator or a contracted technician/network administrator who is always available on a call-out basis.

Good textbook(s) containing well-scaffolded content, with activities ranging from easy to challenging cognitive demands, supported by additional activities such as questions from previous examination papers.

- Manageable class sizes – about 25 – 30 learners per class.
- Teaching time – affording maximum teaching time trough limiting time spent on tests, examinations and other detracting activities.
- Fair workload – affording time for planning, marking, remedial work/extra support for struggling learners (and not be expected to maintain computer laboratories as well.) Support from school management and the district officials.
- Opportunities for meaningful professional development.
- Grounding in Grade 8 and 9 for the subject.
- Dedicated and committed educators.

Diversity:

Schools and educators should foster a growth mindset (the belief that intelligence is not fixed and can be developed) versus the belief that an aptitude is fixed/working with certain applications/technology is an innate ability.

Instruction should focus on supporting learners' difficulties and support them to internalise good mental models of, e.g. spreadsheets, especially in Grade 10. Literature suggests that one way of improving performance and perseverance is to improve learners' self-efficacy and that this is mostly enhanced through positive personal experience (Ramalingam, *et al*., 2004).

> ***Diversity*** *refers to the representation of different kinds of individuals in computer science, across languages, learning styles and other differences.*
>
> *Sentance et al*

Whether or not a learner chooses CAT as a subject, could be influenced by a multitude of factors, including personal beliefs, messages from other people (such as peers and educators) and the extent to which the learning environment provides the necessary tools and scaffolds that a CAT learner needs in order to succeed (Sentance, *et al*., 2018).

The following intervention types provide a useful framework for educators to be intentional in how they support equity and inclusion in their CAT classes (Liben & Coyle, 2014):

Goal Types	Definition
Remediate	**Fix personal qualities that are important for success in CAT (e.g. increase confidence, boost skills, change learner's belief about their abilities)**
	-Includes building learners' knowledge or understanding of digital concepts, problem solving and computational thinking. -Foster a growth mindset -Provide a foundation in GET
Revise	**Modify pedagogy and tools so they are more suitable for a diverse audience**
	-Includes strategies such as cooperative work and pair learning, Universal Design for Learning (UDL)

Refocus	**Highlight compatibilities between what it takes to succeed in CAT and what different groups have to offer**
	-Includes career options in computing fields, e.g. manipulating multimedia, data analysis, etc. -Build on learners' interest in, sound, photography, video, games, while introducing digital concepts and computational thinking
Recategorise	**Shift thinking about certain identities (e.g. aptitude) being compatible with CAT**
	-Includes activities that build on learners' interest and cultural references
Resist	**Work to challenge stereotypes, biases and discriminatory practices**
	-Includes critical examination of how institutional structure of school constraints impact on *who* participates and *how* they participate in CAT, e.g. 'selecting' CAT learners based on the quality of their marks. -Create applications/websites to address local community needs, e.g. girls select a social justice issue to address through CAT

Table 1: Five intervention goals for increasing equity and inclusion in CAT

A focus on equity and inclusion is an important part of the value of CAT.

> ***Inclusion** involves an active and intentional engagement with diversity such that a range of individuals can fully*
>
> *participate in computer science education.*
>
> *Sentance et al.*

Best Practices: Lessons from the classroom

Challenging topics highlighted by educators and learners:

- General – Problem solving. Includes reading comprehension and solution development.
- Spreadsheet.
- Database.
- Theory.

Best Practice 1: Teaching Basic Concepts

Forget technology, it's pedagogy that matters! The aim is to teach principles and concepts.
Understanding concepts help to build mental models and schemas.

In the problem-solving approach to end-user learning and applications, schemas construction also plays a crucial role. This is the key concept for knowledge transfer and reliability. If complete, general schemas are available, the knowledge built up earlier, regardless of the environments, can be transferred and applied in novel situations, and these schemata also lead to a reduction in the number of errors in documents, since fast, intuition-based thinking becomes reliable (Csernoch & Biró, 2017; Kahneman, 2011.)

Afford learners a proper foundation. Keep the tempo slow and ensure that learners master each foundational concept before moving on.

An important issue is also to impart practical skills combined with theoretical underpinnings (Tort, 2010.)

Spreadsheets:

Learners generally struggle with writing formulas (Tort, 2010.)

Educators should ensure that learners understand fundamental spreadsheet concepts:

Cell, cell addresses (rows and columns); values versus labels; range, cell reference (relative reference, absolute reference), worksheet (data table), data types, operators (numeric, text, logical), operations, formula (perform a calculation using values, operators and cell addresses), functions, argument (variables vs. constants) awareness of error types.

Another important issue is that learners find simple, one-argument functions and a simple Iffunction relatively easy, but have problems using-two-argument or more-than-one-argument functions.

They, therefore, prefer to use simple functions rather than the complicated manyargument functions. Educators should therefore also teach learners how to build multilevel formulas using simple functions and the simple IF () function (Csernoch & Biró, 2013.)

Data analysis, especially unplugged and/or semi-automated data analysis, should be introduced as early as possible. End-users must be trained to recognize data types, the contents, the possible input and output values, and the connection between them. Without this background knowledge and skill, reliable data management is almost impossible (Csernoch & Biró, 2013.)

Furthermore, authentic tables (data) should be used as they contain real data where content can be selected in accordance with the learners' interest, and as such can be highly motivating (Angeli, 2013; Ainley& Pratt, 2005; Cooper & Dunne, 2000 as discussed in Csernoch & Biró, 2013) and easily converted into real world situations.

Database:

A database is a collection of logically related data.

Learners generally struggle with formulating queries.

Educators should ensure that learners understand fundamental database concepts: table, record, field, query, report, operators (relational and logical), data types.

> ***Semantic waves*** *are a theory about powerful explanation and how to make certain teaching approaches work.*
>
> *Good explanation starts by introducing technical/abstract concepts but then relates them in some way to concrete situations or contexts that are already understood and then explicitly linking it back to the new concept.*
>
> *This approach is behind strategies such as analogies, role play & unplugged computing*
>
> *Sentance et al*

Best Practice 2: Teaching Strategies

Using analogies:

Many computing concepts have links to everyday objects and real-world ideas. One could make concepts more concrete through using analogies, e.g. teaching a VLookup, one could use the Starbucks menu analogy. See https://www.excelcampus.com/functions/excel-vlookup-explained/ for full explanation. Make the boundaries of the analogy clear and link the concept back to the spreadsheet concept.

Roleplay

When teaching, e.g. the IF-statement in Excel, let learner's role play the function (simple IF statement that determines the bigger of two numbers):
Example: =IF (A1 > B1," A1 Big", "A1 Small")

(entered in C1 – A1, B1 are boxes representing the cells A1, B1 and C1 in a spreadsheet.)

Use seven learners:

Learner 1 has box, marked A1, which contains value of cell A1.

Learner 2 has box, marked B1, which contains value of cell B1.

Learner 3 has a flag that shows True.

Learner 4 has a flag that shows False.

Learner 5 has a paper showing true with the words "A1 Big."

Learner 6 has a paper showing false with the words "A1 Small."

Learner 7 has a box, marked C1, where the result of the function will be placed.

Learner 1 and learner 2 take out values from their boxes (A1 and A2, respectively) and hold them up.

Learners 3 and 4 perform the logical test:

Is the value from box A1 bigger than the value from box B1?

(A1>B1):

- If the outcome of the test is true, learner 3 raises flag.
- If the outcome of the test is false, learner 4 raises flag.

Depending on which flag is raised (true or false), learner 7 collects, the paper from either learner5 (true) or learner 6 (false), and places it in box C1. (Adapted from: *London computing, The box variable activity.*)

This could build a clear mental model of how an IF-function works as well as providing a visual illustration of the outcome of the function, depending on the values in the boxes. It makes a tangible distinction between cell reference (box marked A1 or B1 that the learner holds) and the value (the thing placed in the box.)

Computing unplugged

Teaching concepts away from the computer helps to understand concepts in a constructivist way. Unplugged activities are physical rather than verbal (version of semantic waves). Like with analogies, it is vital that the links to the concept are demonstrated clearly.

Example: Human Branching Databases based on Top Trumps (on a topic of choice) or Detective Suspect cards (from Digital School House) as the stimuli. Each child is given a profile card from the game.

Learners ask questions and provide only 'yes' and 'no' answers. From http://www.digitalschoolhouse.org.uk/sites/default/files/cms/files/209_DatabasesUnplugged.pdf. It is an easy and effective way of introducing the foundations of databases because it provides a way of grouping objects.

Pen-and-Paper activities

Simulate a spreadsheet environment with a sample word processing table. Ask learners to create formulas/functions/queries to answer specific questions or to complete a task.

- correct a function or formula.
- explain a function or formula or the result/output of a function or formula.
- correct functions/formulae.

> *Some of the most crucial steps in mental growth are based not simply on acquiring new skills, but on acquiring **new administrative ways** to use what one already knows.*
>
> *Papert's Principle*

Diagrams/Visual representations

Teach learners to use diagrams such as IPO-tables to represent a program's input, processing and output as part of their planning – see the problem-solving activities framework (Table 2.)

Read functions/formulas/queries and explain/provide the output/result before writing functions/formulas/queries.

Though writing formulas/functions is an essential part of data manipulation using spreadsheets, research suggests that reading, explaining and determining output/result of a function/formula before writing formulas/functions is necessary. The same would apply for database queries.

- Design activities where learners need to explain in plain English what the function/formula/ query does, e.g. start simple – let them first explain simple functions/formulae/queries or break up complex functions/formulae/queries and explain each part.

- Design activities for learners to determine what the result or output of the function/formula/ query would be.

After reading/explaining (in plain English) functions/formulas/queries and reading/providing output/result, provide similar activities where learners could write functions/formulas/queries.

Drill and Practise – Using puzzle completion problems (Parsons Puzzles.)

> *A **completion problem** is a partial worked example where the learner must complete some key solution steps.*

Practice is essential for learning. Practice with effective feedback is the corner stone of learning. Mastery of basic syntax and logical in terms of functions is an essential part of learning to use a spreadsheet or database. **Parson's puzzles** could be used. Learners are presented with jumbled lines formulas/functions or part of formulas/functions which they are required to place into the correct order so that the function/formula performs a prescribed task.

Harms (2017) found that puzzle completion problems can motivate learners to acquire new concepts and knowledge independently and that it could be an effective and efficient way for learning 'coding' (creating functions and formulas or database queries.)
According to Ericson *et al*., (2018), making Parson's problems adaptive, so that the difficulty changes based on the learner's performance, should keep the learner in Vygotsky's zone of proximal development and maximize learning gains.

There are various implementations and tools of Parsons Puzzles. Generally they can be created in any authoring environment that provides a matching exercise format or using specially developed libraries such as JS Parson (http://js-parsons.github.io/), HTML and Hot Potatoes. Some allow the puzzle to be self-marking that could be used as individual or paired exercises without too much direct educator input.

Algorithms

Well-defined algorithm can be formulated to handle functions *(Csernoch & Biró, 2017)*.

Example 1: Algorithm for vector-based items in a spreadsheet, e.g. vlookup function:

(1) Defining the look-up value.

(2) Finding the position of the record.

(3) Displaying the selected value of the record in question.

Example 2: The algorithm for substituting problem specific logical functions– COUNT() and *IF?():*

(1) Formulating yes/no(s) question.

(2) Making decisions on the output values of the TRUE, FALSE branches.

(3) Applying the instruction to the output values of the previous step.

An algorithm can also be represented in a flow chart. Using example 2 and the excerpt of the data table (*Csernoch & Biró, 2017)* below (five columns and 2016 rows), and the question, *How many African countries?* We could represent the algorithm as follows:

	A	B	C	D	E
1	Country	Continent	Capital	Area	Population (thousand)
2	Afghanistan	Asia	Kabul	647500	27756
3	Albania	Europe	Tirana	28748	3545
4	Algeria	Africa	Algiers	2381740	32278
5	American Samoa	Oceania	Pago Pago	199	69
6	Andorra	Europe	Andorra la Vella	468	68
7	Angola	Africa	Luanda	1246700	10593
8	Anguilla	Amerika	The Valley	102	12

Algorithm:

Is the country name in Column B, “Africa”?

If yes, then count the entry in Column B

=CountIf (B2:B216,” Africa”)

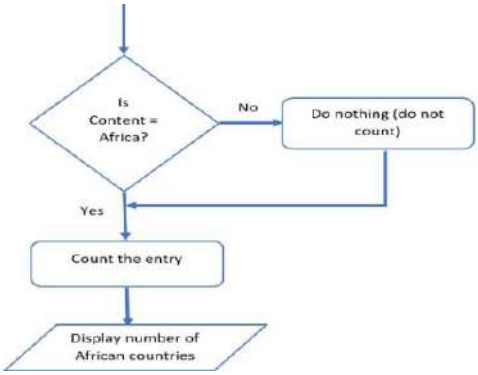


Figure 1 Flowchart for CountIF- function

Cooperative learning – pair learning

Cooperative learning is only successful if the five principles are present.

All cooperative learning is also collaborative, but all collaborative learning is not necessarily cooperative (Mentz *et al*., 2015)

Advantages of cooperative learning:

- Learners are exposed to different viewpoints, opinions, perspectives and ways to solve problems.
- Learners benefit from the knowledge, skills, resources and experiences of other members of the group.
- The fact that learners need to communicate and explain their thoughts and thought processes with others results in a clearer understanding of concepts.
- It results in higher academic achievement (especially in higher-level learning tasks) and improved social interpersonal skills.
- It enhances learning skills, improves learner motivation and produces significant positive gains in learners' attitude towards the specific subject matter.

***Five principles** of cooperate learning:*

- *Positive interdependence*
- *Individual and group accountability*
- *Promotive face-to-face interaction*
- *Development of good social skills*
- *Group processing*

The educator's role in implementing cooperative learning:

Principle	**Implementation – teacher's role**
Positive interdependence **-positive goal interdependence;** **-positive reward interdependence;** **- positive resource interdependence;** **-positive role interdependence;** **-positive task interdependence**	Establish at least two of the following: • Assign clear group goals • Give joint reward • Give different resources to different members of the group which they need to combine to achieve the goal • Assign different roles to the different members of the group • Assign different tasks to different members; members realise that they need each other to achieve the goal/complete the task
Individual and group accountability	• Require groups to keep record of decisions at meetings • Let each member do a presentation demonstrating what they did and what they learned

Promotive face-to-face interaction	• Group meetings, reflecting on individual contributions, progress and how to deal with challenges • Encourage and motivate each other
Interpersonal and small group skills	• Guidelines for teamwork, conflict management, etc.
Group processing	• Observe group meetings • Let learners submit self and peer assessment reports at regular intervals/completion of sub-tasks.

Table 2 : Implementing cooperative learning (Mentz, et al. 2015)

The use of pair learning in CAT

Pair learning is when two learners share a computer and work cooperatively to complete a computing task. The one works on the keyboard and is called the 'driver' and the other one observes what the driver is doing and comments and is called the 'navigator'. Roles are switched frequently throughout the completion of the task.

Pair learning assumes that two heads is better than one and that knowledge is transferred – learners learn from each other. It further assumes that through thinking loudly and explaining work as they get stuck, the communication helps to solve the problems and complete the task successfully as it leads to clearer articulation of the problems.

As practice (including getting some things wrong and learning from mistakes) is essential in learning computing such as completing spreadsheet and database tasks, pair learning is a good strategy to enhance the level of deep learning, improve problem solving, enhance morale and build confidence.

The following table describes the roles of the driver and the navigator in pair learning as described by Hahn (2008):

Programming steps	**Role of driver**	**Role of navigator**
Objective of the program	Write the objective of the task on a piece of paper	Communicate with the driver to clarify objectives; communicate with teacher if necessary

The IPO table	Write the input, processing and output in the particular spaces of the IPO table; modify the table as needed	Verify if data is written in the correct spaces; ensure that the processing that is written will produce the output required; use resources to find alternative methods; propose alternatives
Design	Write the algorithm/function/ formula/query on paper	Evaluate every step written in the algorithm; determine whether it is the most logical route that can be followed
Validation of design	Trace the algorithm/function/ formula/query and compare answers with expected output	Use test data and expected output for each set of data; find logical errors and correct the errors
Implementation of design	Control keyboard and mouse; responsible for the typing of function/formula/query	Check correctness of function/formula/query; reflect on function/formula/query and process; ensure that the solution development happens according to plan; propose corrections
Test of solution	Implement corrections on the programming function/formula/ query and/or algorithm, where needed	Compare the algorithm with the solution propose alternative ways to correct errors

Table 3 : Pair learning - roles of driver and navigator

As with cooperative learning, the five principles must be present.

- Both driver and navigator need to understand that (positive interdependence.)
  - One cannot be successful without the other.

- They will both be tested at some point.

- Both must be active and measurements must be in place to ensure that they contribute equally to complete the task such as switching roles regularly so that both would be able to explain the code (individual and group accountability.)
- Both learners must work together, learn to complement each other, encourage each other and be willing to ask for help when necessary (Face -2-Face interaction.)
- Both learners must learn to communicate clearly – think out loud and explain what they are doing. They also need to accept criticism and learn to criticize in an acceptable way (Development of social skills.)
- Regular reflection is necessary in terms of aims and cooperation.

The following diagram provides a schematic diagram of the responsibilities of the driver and the navigator (Mentz *et al*., 2015.)

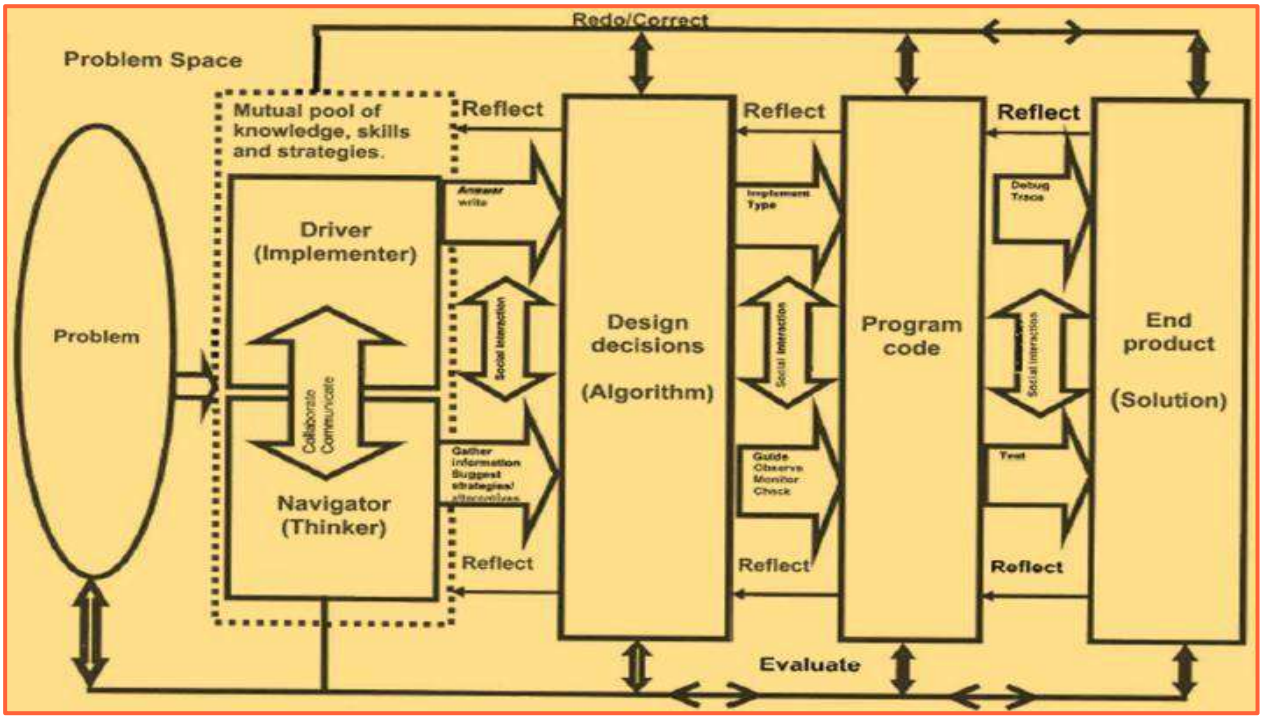


Figure 2 Schematic diagram of the responsibilities of the driver and the navigator (Mentz et al. 2015)

Computational Thinking (CT) Skills

Teaching needs to go beyond encouraging rote learning or 'clicking buttons/commands' or even teaching to the test. Teaching needs to develop computational thinking.

Learning computational thinking is more about developing a set of problem-solving strategies derived from previous experience with similar problems, approaches and 'habits of mind' than simply learning how to use a programming tool to create computational artefacts.

Sentence *et al*. (2018), describes computational thinking as the thought processes involved in formulating a problem and expressing its solution(s) in such a way that a computer – a human machine – can effectively carry out. They identify the key concepts of computational thinking as concepts and practices:

Concepts	Practices
•Logic and logical thinking. •Algorithms and algorithmic thinking. •Patterns and pattern recognition. •Abstraction and generalisation. •Evaluation. •Automation.	•Problem decomposition. •Creating computational artefacts. •Testing and debugging. •Iterative refinement (incremental development.) •Collaboration and Creativity.

Figure 3; Computational Thinking - Concepts and Practices

Computational thinking is fundamentally about problem solving using concepts and strategies most closely related to computer science and problem formulation as a key part of the problem-solving process.

The intersection of computational thinking concepts and computational thinking practices leads to multiple ways of knowing. It is not enough to be able to define a concept, such as "What is a function?" Is the learner able to meaningfully put the concept to use in e.g. spreadsheet design? Is the learner able to analyse and critique their own and others' formula/function/query? Is the learner able to debug problematic formula/function/query?

One can teach computational thinking without a machine. Consider the following problem taken from one of the Computer Olympiad's Talent Search competition https://olympiad.org.za/talent-search/pasthttps://olympiad.org.za/talent-search/past-papers/pen-and-paper/papers/pen-and-paper/ . The problem illustrates the algorithm for swapping two values:

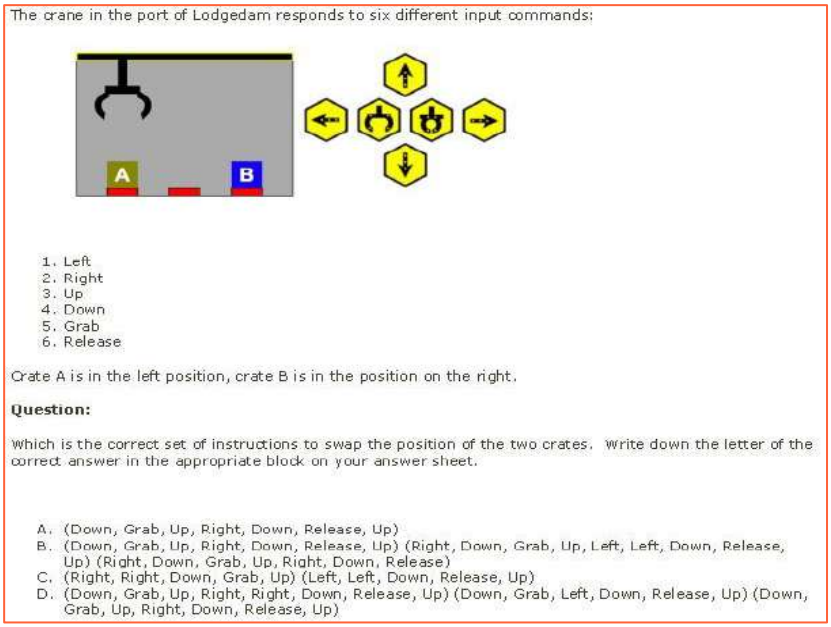


Figure 4 Computational Thinking (CT) Example

Reflection Skills

Step 5 of the problem-solving activities framework focuses on reflection. Reflection is a powerful strategy – placing value and taking time to think about solutions and how the problem was solved, what mistakes were made and what success was encountered. Learners need to reflect on their tasks and self-assess their work abilities. Educators could use questions to support reflection. Also, cooperative learning, such as pair learning (see section on cooperate learning and pair programming) enhances reflection.

Problem Solving Skills

Problem solving is a big part of the CAT curriculum. Csernoch & Biró, (2017) states that problem solving and knowledge transfer should be focused on when considering digital competences. In this sense, problem solving includes the major steps of real-world problem solving:

- analysing the problem.
- building algorithms.
- coding (writing formula/function/query.)
- discussion, debugging.

Studies affirm that teaching problem solving requires more than giving practice exercises to be solved. Rather the actual process of problem solving must be taught. Therefore, educators should focus on explicit instruction in terms of problem solving.

The following table provides a framework for solving problems – adapted from (Govender *et al.*, 2014.)

Main problem-solving activities
1. Write down the main ideas and requirements of the problem (Analyse).
-Read the problem and underline the key concepts to understand and interpret the question clearly
-Determine what you do not understand.
2. Represent the problem by using a diagram, flow chart, description or any other method to indicate how you understand the problem (Visual representation)
3. Plan the detailed steps (Algorithm)
-Determine the purpose of each function/formula/query.
-Plan the input (data, e.g. cell value/field or arguments (functions), processing and output (required result).
-Go back to Step 1 and check whether you are on the right track.
4. Use your planning to create a formula/function (spreadsheet) or query (database) (coding).
-Determine which functions/formula you will use to process or calculate the data (spreadsheet) or which table and fields you need to create the query (database).
-Implement the function/formula in the spreadsheet or the query in the database.
-Test the function/formula/query and correct the errors.
5. Reflect on how well you have solved the problem (discussion, debugging).
-Copy the formula/function to other cells (spreadsheet).
-Explain if you could correct any errors.
-Did you use resources to support your data analysis/query process?
-Are you satisfied with your solution? Explain.

Table 4 The problem-solving activities framework

According to the study done by Govender *et al*. (2014), the response from learners using the problemsolving strategy was overwhelmingly positive, and their confidence level in problem solving had increased significantly.

To solve spreadsheet problems, algorithms have to be built and these algorithms have to be coded. Problem solving and digital competencies should not be mystified. Instead, the difficulty level of problems should be defined and matched with the level of users (See Annexure B). Like real world problem solving, design, data analysis, and error handling should also be present at any level.

Best Practice 3: Planning

Curriculum (CAPS) is the "what" or the "scope" of what you will be teaching, along with the order, or "sequence," of instruction. Curriculum does not tell "how" teaching should take place. Nor does it identify the instructional strategies to be used.

Educators' planning and instructional design matter, e.g. excessively complex or unmotivating tasks will result in poorer learning and may contribute to misconceptions.

Planning is an essential part of good instructional and classroom practice. Successful educators plan each period. The following is an example of an educator's period planning, derived from the suggested annual teaching plan in the CAPS using a calendar:

Figure 5: Example of daily planning

Good planning breaks the instruction into digestible chunks so that learners can actively process information while making connections with prior knowledge and accommodating new knowledge into working memory.

Planning addresses and integrates three key components:

- Learning objectives.
- Learning activities.
- Informal assessment to check for learner understanding.

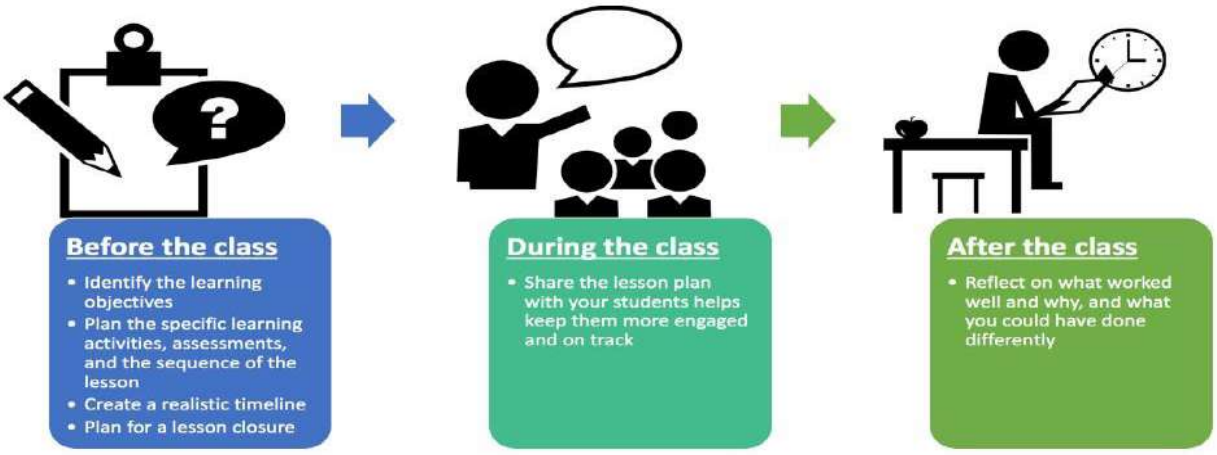


Figure 6: Planning - Singapore Management University

When planning, one needs to look at the bigger picture. The following provides guidelines for effective planning:

Start with the end in mind – what does the learner need to know and be able to do? Learning goals and objectives.

Identify curriculum resources – e.g. textbook – does the textbook provide everything needed to achieve the learning goals or does one have to develop/find additional content or activities? What other resources will be needed, e.g. previous papers?

Identify declarative knowledge – Think about the concepts and ideas learners will need to know. What are developmentally appropriate given the learners' background knowledge and prior learning?

Identify procedural knowledge – Skills, strategies and processes. Procedural knowledge incorporates the use of declarative knowledge.

Create/find/select learning activities and assignments

Activities are the instructional strategies that allow educator and learner to interact with content, skills, and materials. The goal of classroom activities is to help learners to interact with new knowledge and

skills, deepening learner understanding and raising skill levels related to the learning goal(s). Activities often require educator coaching or guidance.

When planning classroom activities, start by selecting instructional strategies that allow learners to process critical information or vocabulary associated with the learning goals first. Which subject terminology or concepts will be introduced, and when? Activities and assignments need to move learners from novices to the level required. Choose the strategy/activity with the highest probability of raising learner achievement.

Create informal assessment(s)

Informal assessment is an integral part of teaching and learning. Informally assessing learners helps to gather information to be used as feedback to modify the teaching and learning activities in which they are engaged. In terms of CAT, think in terms of a **beginner**, **intermediate** and **advanced** user. What knowledge and skills would each level of learner possess as he/she interacts with the content? Plan to scaffold instruction and activities accordingly (See **Annexure B.**)

Based on the characteristics of computational thinking and the complexity levels of function learning, Kuo-Chuan et al. (2011), separated the learning of using spreadsheet functions into three categories: recall, application, and problem solving.

- The recall category is rote memorization of function definitions and arguments. This is the lowest level of learning in a cognitive domain in Bloom's taxonomy of learning hierarchy.
- In the application category, learners are presented with a set of data for which spreadsheet functions should be used to generate the right answers.
- In the problem-solving category, learners are asked to solve a problem scenario using function(s) of their choice. The problem-solving category, is not prompted or guided where the learners are expected to search in their knowledge repository for a set of suitable functions to generate an expected answer.

Best Practice 4: Assessment

Formal Assessment:

Assessment should support further learning, incorporate artefacts, illuminate processes, check in at multiple waypoints, value multiple ways of knowing.

Tests and Examinations

When setting tests, successful educators ensure that the paper provides for all learners (beginner, intermediate and advanced) through following Bloom's taxonomy as described in the examination guidelines.

Successful educators also analyse mistakes made by learners in tests and examinations to inform teaching and to follow-up through improvement strategies.

Practical Assessment Task (PAT)

Successful educators value the PAT as it consolidates content done throughout the year and afford learners to make connections and see the relevance of what they learn. It also provides learners the opportunity to showcase their practical and information management skills.

The PAT should be presented in a way that guide learners towards self-directed learning as the dynamic nature of digital technology requires life-long learning. The PAT provides the opportunity to enhance both subject-matter knowledge and self-directed learning (SDL) skills.

Self-directed learners manage their own thinking processes, they explore opportunities for deeper learning and address problems as challenges (Havenga et al., 2013.)

> *SDL is a process in which individuals take the initiative, with or without the help of others, in diagnosing their learning needs, formulating learning goals, identifying resources for learning, choosing and implementing appropriate learning strategies, and evaluating learning outcomes*
>
> *Knowles (1975)*

Best Practice 5: Struggling learners

How do we support positive engagement and provide concrete support for personalising learning for all?

Scaffold learning tasks/activities:

Scaffolding could reduce cognitive load and therefore support struggling learners.

Design or choose different activities for different groups of learners – for example, take a big task and divide it into sub tasks (that make up the big task), i.e. design a few 'smaller or simpler' learning activities as well as 'bigger or more complex' activities. Together, the smaller activities (sub tasks) must achieve the same goal as the one big task or activity. Then grade the activities or tasks – the bigger activity or task should have the highest grading and the grading of each smaller activity (sub task) that makes up the bigger activity or task should, together, add up to have the same grading as the big activity or task. Learners could then choose whether they want to do the group of smaller activities or tasks or the one big activity or task. Advise struggling learners to do the smaller ones first and then challenge them to attempt the big one if they feel ready.

Getting the smaller activities or subtasks right, could support feelings of competence. It allows learners to always feel like they're working at a level of challenge that's hard but is right for them and that they can accomplish. This will allow learners to make much greater progress through learning environments. This is also true for games (lessons we could learn from games) – learners first attempt levels of lower difficulty, achieve that before they move on to the next level (that is why games mostly have different levels – one does not want to make it too challenging at first so that players get frustrated.)

Parsons programming puzzles (see *drill and practice* section) also helps to scaffold solution construction tasks.

Another way to scaffold learning is using task completion task rather than a whole task.

Best Practice 6: Learner Experience

Learners:

- Respect and value educators that are positive, enthusiastic about the subject, supportive and have access to a wide range of teaching aids.
- Enjoy engaging, interactive and communicative teaching methods.
- Value choice. Learners value classes that encourage independent learning and learner autonomy.
- Want to understand what they are expected to learn – what they are learning, why they are learning it and what quality work looks like.
- Enjoy things that interest them.

Lessons from Gameful Learning:

Motivation plays a key role in learning, specifically for self-regulated learning, and one may need to use external motivators until intrinsic motivation can develop. Self-determination theory (Ryan & Deci, 2000) claims that, to feel intrinsically motivated, one needs to be able to:

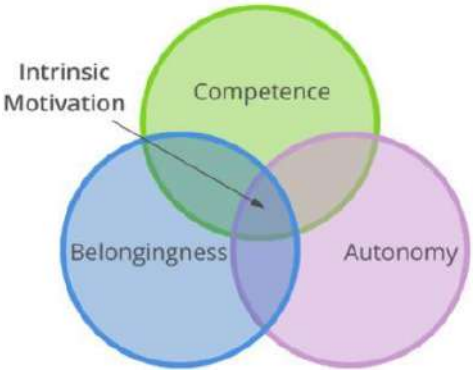


Figure 7: Gameful pedagogy: http://www.gamefulpedagogy.com/

- make meaningful choices over what one is doing (autonomy – choices and multiple pathways (curated not totally open.)
- be challenged by a task, but feel like one can succeed (competency – need to feel a challenge (achievable) with frequent, timely, realistic and authentic feedback.)
- feel connected to those surrounding us (belongingness – e.g. educator uses data to see who needs help.)
- Supporting these feelings could eventually lead to self-determination and learners becoming self-directed.

Other research-based strategies for motivating learners include:

- becoming a role model for learner interest.
- getting to know learners.
- using examples freely.
- using a variety of learner-active teaching activities.
- setting realistic performance goals.
- placing appropriate positive emphasis on testing and grading.
- being free with praise and constructive criticism.
- giving learners as much control over their own learning as possible (Bain, 2004; Nilson, 2003; DeLong & Winter, 2002). This element is also important when thinking about authenticity. If

learners can learn ideas that are connected to their lives and produce representations of their knowledge in ways that matter, they are more motivated.

Gameful learning also relates to personalized learning that supports the notion that children learn best when their individual differences are taken into consideration. Personalised learning is based on the following three principles (Microsoft, 2014):

- Provide multiple means of representation.
- Provide multiple means of action and expression.
- Provide multiple means of engagement.

Another core principle of gameful learning is the freedom to fail (as seen with videogames): you can experiment, take risks and try things you have never done before, fail miserably and do it again and again until, after much practice, you get it right.(https://www.gradecraft.com/)

Infinite practice won't work in all classroom contexts – it requires a significant amount of grading to manage, and it can hinder the ability to keep a cohort on a specific content progression. But when you can structure learning opportunities in this way, learners' motivation to engage increase, and their learning outcomes improve.

Successful Educators:

One cross-cutting factor is that successful educators are enthusiastic and passionate about teaching and their subject and have good relationships with their learners.

According to the 'teachthought' website (2018), what learners take away from a successful education usually centres on a personal connection with an educator who instilled passion and inspiration for their subject.

It's difficult to measure success, and in the world of academia, educators are continually re-evaluating how to quantify learning—but the first and most important question to ask is: Are educators reaching their learners?

25 Things Successful Educators do differently

The website describes 25 Things Successful Educators Do Differently

https://www.teachthought.com/pedagogy/25-things-successful-educators-do-differently/

1. **Successful *educators have clear objectives***

   How do you know if you are driving the right way when you are traveling somewhere new? You use the road signs and a map (although nowadays it might be SIRI or a GPS). In the world of education, your objectives for your learner's act as road signs to your destination. Your plan is the map. Making a plan does not suggest a lack of creativity in your curriculum but rather, gives creativity a framework in which to flourish.

2. Successful educators have a sense of purpose

We can't all be blessed with "epic" workdays all the time. Sometimes, life is just mundane and tedious. Educators with a sense of purpose that can see the big picture can ride above the hard and boring days because their eye is on something further down the road.

3. Successful educators can live without immediate feedback

There is nothing worse than sweating over a lesson plan only to have your learners walk out of class without so much as a smile or a, "Great job teach!" It's hard to give 100% and not see immediate results. Educators who rely on that instant gratification will get burned out and disillusioned. Learning, relationships, and education are a messy endeavour, much like nurturing a garden. It takes time, and some dirt, to grow.

4. Successful educators know when to listen to learners and when to ignore them

Right on the heels of the above tip is the concept of discernment with learner feedback. An educator who never listens to his/her learners will ultimately fail. An educator who always listens to his/her learners will ultimately fail. It is no simple endeavour to know when to listen and adapt, and when to say, "No- we're going this way because I am the educator and I see the long-term picture."

5. Successful educators have a positive attitude

Negative energy zaps creativity and it makes a nice breeding ground for fear of failure. Good educators have an upbeat mood, a sense of vitality and energy, and see past momentary setbacks to the end goal.

Positivity breeds creativity.

6. Successful educators expect their learners to succeed

This concept is similar for parents as well. Learners need someone to believe in them. They need a wiser and older person to put stock in their abilities. Set the bar high and then create an environment where it's okay to fail. This will motivate your learners to keep trying until they reach the expectation you've set for them.

7. Successful educators have a sense of humour

Humour and wit make a lasting impression. It reduces stress and frustration and gives people a chance to look at their circumstances from another point of view. If you interviewed 1000 learners about their favourite educator, I'll bet 95% of them were hysterical.

8. Successful educators use praise authentically

Learners need encouragement yes, but real encouragement. It does no good to praise their work when you know it is only 50% of what they are capable of. You don't want to create an environment where there is no praise or recognition; you want to create one where the praise that you offer is valuable BECAUSE you use it judiciously.

9. Successful educators know how to take risks

There is a wise saying that reads, "Those who go just a little bit too far are the ones who know just how far one can go." Risk-taking is a part of the successful formula. Your learners need to see you try new things in the classroom and they will watch closely how you handle failure in your risk-taking. This is as important as what you are teaching.

10. Successful educators are consistent

Consistency is not to be confused with "stuck." Consistency means that you do what you say you will do, you don't change your rules based on your mood, and your learners can rely on you when they are in need. Educators who are stuck in their outdated methods may boast consistency, when in fact it is cleverly-masked stubbornness.

11. Successful educators are reflective

In order to avoid becoming the stuck and stubborn educator, successful educators take time to reflect on their methods, their delivery, and the way they connect with their learners. Reflection is necessary to uncover those weaknesses that can be strengthened with a bit of resolve and understanding.

12. Successful educators seek out mentors of their own

Reflective educators can easily get disheartened if they don't have someone a bit older and wiser offering support. You are never too old or wise for a mentor. Mentors can be that voice that says, "Yes your reflections are correct," or "No, you are off because…." and provide you with a different perspective.

13. Successful educators communicate with parents

Collaboration between parents and educators is crucial to a learner's success. Create an open path of communication so parents can come to you with concerns and you can do the same. When an educator and parents present a united front, there is a lower chance that your learner will fall through the cracks.

14. Successful educators enjoy their work

It is easy to spot an educator who loves their work. They seem to emanate contagious energy. Even if it on a subject like advanced calculus, the subject comes alive. If you don't love your work or your subject, it will come through in your teaching. Try to figure out why you feel so unmotivated and uninspired. It might have nothing to do with the subject, but your expectations. Adjust them a bit and you might find your love of teaching come flooding back.

15. Successful educators adapt to learner needs

Classrooms are like an ever-evolving dynamic organism. Depending on the day, the attendance roster, and the phase of the moon, you might have to change up your plans or your schedule to accommodate your learners. As they grow and change, your methods might have to as well. If your goal is to promote a curriculum or method, it will feel like a personal insult when you have to modify it. Make connecting with your learner your goal and you'll have no trouble changing it up as time moves on.

16. Successful educators welcome change in the classroom

This relates to the above tip, but in a slightly different way. Have you ever been so bored with your house or your bedroom, only to rearrange it and have it feel like a new room? Change ignites the brain with excitement and adventure. Change your classroom to keep your learners on their toes. Simple changes like rearranging desks and routines can breathe new life in the middle of a long year.

17. Successful educators take time to explore new tools

With the advance of technology, there are fresh new resources and tools that can add great functionality to your classroom and curriculum. There is no doubt that the learners you are teaching (far younger than you) probably already use technologies you haven't tapped into yet. Don't be afraid to push for technology in the classroom. It is often an underfunded area but in this current world and climate, your learners will be growing up in a world where technology is everywhere. Give them a head start and use technology in your classroom.

18. Successful educators give their learners emotional support

There are days when your learners will need your emotional support more than a piece of information. Connecting to your learners on an emotional level makes it more likely that they will listen to your counsel and take your advice to heart. Learners need mentors as much as they need educators.

19. Successful educators are comfortable with the unknown

It's difficult to teach in an environment where you don't know the future of your classroom budget, the involvement of your learner's parents, or the outcome of all your hard work. On a more philosophical level, educators who teach the higher grades are tasked with teaching learners'

principles that have a lot of unknowns (i.e. physics). How comfortable are you with not having all the answers? Good educators are able to function without everything tied up neatly in a bow.

20. Successful educators are not threatened by parent advocacy

Unfortunately, parents and educators are sometimes threatened by one another. An educator who is insecure will see parent advocacy as a threat. While there are plenty of over-involved helicopter parents waiting to point out an educator's mistakes, most parents just want what's best for their child. Successful educators are confident in their abilities and not threatened when parents want to get into the classroom and make their opinions known. Good educators also know they don't have to follow what the parent recommends!

21. Successful educators bring fun into the classroom

Don't be too serious. Some days, "fun" should be the goal. When learners feel and see your humanness, it builds a foundation of trust and respect. Fun and educational aren't mutually exclusive either. Using humour can make even the most mundane topic more interesting.

22. Successful educators teach holistically

Learning does not happen in a vacuum. Depression, anxiety, and mental stress have a severe impact on the educational process. It's crucial that educators (and the educational model) take the whole person into account. You can have the funniest and most innovative lesson on algebra, but if your learner has just been told his parents are getting a divorce, you will not reach him.

23. Successful educators never stop learning

Good educators find time in their schedule to learn themselves. Not only does it help bolster your knowledge in a certain subject matter, it also puts you in the position of learner. This gives you a perspective about the learning process that you can easily forget when you're always in teaching mode.

24. Successful educators break out of the box

It may be a self-made box. "Oh, I could never do that," you say to yourself. Perhaps you promised you'd never become the educator who would let learners grade each other (maybe you had a bad experience

as a kid). Sometimes the biggest obstacle to growth is us. Have you built a box around your teaching methods? Good educators know when it's time to break out of it.

25. Successful educators are masters of their subject

Good educators need to know their craft. In addition to the methodology of "teaching", you need to master your subject area. Learn, learn, and never stop learning. Successful educators stay curious.

How a good educator becomes great:

Good educators use data to drive instruction, know the ins and outs of their curriculum and have refined assessments over and over until they measure depth of content knowledge.

They support learners in self-directed learning, know how technology improves learning, and exude a charisma that makes learners eager to learn from them.

Concluding Remarks

There are four elements for good pedagogy: Clear information, thoughtful practice, informal feedback, intrinsic & extrinsic motivation.

Embrace 21st century pedagogy!

Figure 8 21st Century Pedagogy (Microsoft, 2014)

Annexure A – Notes on reflection

Planning should be informed by reflection. The following table provides examples of questions that one could ask to reflect (Alrubail, 2015).

Reflection

Level	Description	Questions
Level 1 **Backwards looking** **Learner before learning**	The learner comes with his/her prior knowledge, preference, assumptions, bias, feelings about a topic/subject. At this level, we should work closely with learners to understand these feelings. As teachers, this knowledge for us would help us understand the pathway the student uses throughout their learning process. For learners, it will allow them to speak/write openly about their feelings, thoughts and ideas. This provides a basis for their reflection of their learning.	1. How much did you know about the topic before we started? 2. What process did you go through to produce this piece? 3. Have you done a similar kind of work in the past (earlier in the year or in a previous grade; in school or out of school)? 4. In what ways have you gotten better at this kind of work? 5. In what ways do you think you need to improve? 6. What problems did you encounter while you were working on this piece? How did you solve them? 7. What resources did you use while working on this piece? Which ones were especially helpful? Which ones would you use again? 8. Does this work tell a story?
Level 2	The questions here provide an opportunity to scaffold	9. How do you feel about this piece of work? What parts of it do you particularly

Inward looking **Learner while learning**	reflections about the teacher's pedagogical style to teach that particular lesson. Learners will provide their thoughts and ideas on "how" they're learning, which informs "how" we're teaching. Here is where the teacher becomes once again the learner and tries to navigate, change, iterate teaching techniques and strategies to best help the learners. For the student, this level of reflection allows them to become familiar with how they learn, what they're comfortable with, and what they would change in the process of their learning.	like? Dislike? Why? What did/do you enjoy about this piece or work? 10. What was especially satisfying to you about either the process or the finished product? 11. What did/do you find frustrating about it? 12. What were your standards for this piece of work? 13. Did you meet your standards? 14. What were your goals for meeting this piece of work? Did your goals change as you worked on it? Did you meet your goals? 15. What does this piece reveal about you as a learner? 16. What did you learn about yourself as you worked on this piece? 17. Have you changed any ideas you used to have on this subject? 18. Find another piece of work that you did at the beginning of the year to compare and contrast with this – what changes can you see? 19. How did those changes come about? 20. What does that tell you about yourself and how you learn?

Level 3 **Outward looking** **Learner after learning**	Here is where this level of reflection is able to guide the student to "analyze" what they learned and "why" it was important to learn. Reflecting on the significance of what they learned is vital in helping learners see the relevance in our lessons. Relevance=motivation	21. Did you do your work the way other people did theirs? 22. In what ways did you do it differently? 23. In what ways was your work or process similar? 24. If you were the teacher, what comments would you make about this piece? 25. What grade would you give it? Why? 26. What is the one thing you particularly want people to notice when they look at your work? 27. What do your classmates particularly notice about your piece when they look at it? 28. In what ways did your work meet the standards for this assignment? 29. In what ways did it not meet those standards? 30. If someone else were looking at the piece, what might they learn about who you are?
Level 4 **Forward looking**	For this level of reflection, learners will synthesize their learning. They will be able to take what they learned and apply it elsewhere. Here is	31. One thing I would like to improve upon is ... 32. What would you change if you had a chance to do this piece over again?

Learner going forward	where they take the prior reflection on the relevance of the lesson and try to make sense of it to be applied in different scenarios. While most of these levels help learners to think critically, level four learners will be applying strong critical thinking skills to their reflections as they will be reflecting on their learning process as a whole.	33. What will you change in the next revision of this piece? 34. What's the one thing that you have seen in your classmates' work or process that you would like to try in your next piece? 35. As you look at this piece, what's one thing that you would like to try to improve upon? 36. What's one goal you would like to set for yourself for next time? 37. What would you like to spend more time on in school? 38. What might you want next year's teacher to know about you (what things you're good at)? 39. What things you might want more help with? 40. What work would you show her to help her understand those things?

Table 1: Example questions for reflection

Annexure B – Learner Levels

Beginner	***Intermediate***	***Advanced***
Operates at level of individual	***Operates at level of writing basic functions/formulae/queries that***	***Operates at a level of writing solutions to new/unfamiliar or open-ended problems***

concepts/structures (in isolation)	***combine concepts/structures/criteria***	
The learner can	*The learner is*	*The learner can*
• ***recall* specific *isolatable* bits of information learned** • ***use simple function/formula/ query elements in isolation in an unrelated way*** • ***focus on one relevant aspect at a time (uni-structural)*** • ***Knows syntax and semantics - can write a single, simple function/formula/simple query (single criterion)/ structure that does something specific, e.g. adding two values, finding maximum value using Max function finding records using single field with one criterion, etc.*** • ***answer questions, seen before, used in exactly same context as classroom-based exercise learned and that is straight forward, to-the-point, that requires mostly one, direct answer/function/ formula/query structure*** ***Cannot*** • ***See relationships*** • ***Combine concepts/various functions/criteria/structures to achieve a goal***	• *Able to read functions/formulas/ queries/tell what each means/does* • *Able to tell the goal of a function/ formula/query* • *Able to write formulas/functions/ queries seen before in a similar context/to perform specific tasks* • *Able to relate, combine and integrate some concepts/into valid solutions - use and combine specific building blocks to create a solution for a specific task* • *Can answer closed/scaffolded questions in a **similar context** than experienced before* ***Cannot*** • *Optimise a function/formula/query* • *Do lots of planning* • *Perform error catching* • *Answer unfamiliar or open-ended questions without scaffolding and guidance*	• *tell what the different parts of a solution (formula/query) do and how different parts of a solution (formula/query) work together* • *optimise a formula/queries* • *analyse, design, plan, implement and test a solution to a new problem* • *perform error catching, understanding when, where and how* • *relate, combine and integrate several formula/query structures/ constructs to devise 'new' algorithms/adapt existing ones* • *link several aspects to a broader context* • *independently identify patterns and relate these to solutions/ constructs/structures* • *generalise, abstract and decompose problems into sub-problems and modules* • *answer free response/open-ended questions, 'new' (**unseen**) questions, by framing the question and finding a plausible cause of action*
Examples of isolatable bits of information/content learned that the learner can recall and use in isolation: • ***syntax rule (e.g. of function)*** • ***function, e.g. average*** • ***structure, e.g. function***	*Understanding*: Convert from one format to another, e.g. interpret flow chart/algorithm and convert to function/formula/query,	*Synthesis* Combine concepts in **new/unfamiliar** context to form a (new) coherent or functional whole, e.g. create a solution to a problem (not seen before)

• ***algorithm, e.g. calculating VAT*** • ***process, e.g. inserting simple, straight-forward chart***	Read functions/formula/query and tells what it does or provide the result *Applying*: Carrying out or using a procedure/algorithm/structure/in a situation with **similar context** as was experienced before to perform a task, e.g. combine concepts/isolatable bits	Includes *analyzing* e.g. different parts such as functions/ criteria/algorithms required Includes *evaluating,* e.g. deciding which structures/functions to use Includes free response question/open-ended)

Table 2 Learning Levels

Chapter 6: Successful Teaching and Learning Framework Chemistry

Best Practices from the classroom

Introduction

This chapter provides guidelines on innovative teaching methodologies on challenging topics/concepts as identified during educator and learner interviews. It also highlights general enabling conditions that support teaching and learning in the classroom.

Chemistry is usually referred to as Physical Sciences Paper 2

General enabling conditions: Chemistry

Understanding the framework of Chemistry:

Chemistry is a subject that was developed from the adoption of a particular way of seeing the material world. Different cultures from time immemorial have described the natural world using ideas consistent with their own cosmologies. While chemistry deals with reactions and experiences that many people experience, Chemistry as a subject has chosen a particular way of describing the material world, developing concepts, standards, theories and laws to describe the everyday realities. These have been widely accepted by cultures across the world.

The ideas of chemistry come from many debates, discussions and experimentations on the material world itself. All these have given us an almost solid framework from which to see the material world: **The atomic theory**. The descriptions of the atom and its constituents as rendered by this theory is therefore a PARTICULAR framework that need to be understood by both learners and educators, it however does not necessarily agree with individual cultural beliefs due to their unique epistemic stances and this is important for chemistry scholars to understand.

Resources, e.g. textbooks, workshops (technical subjects), etc.

- Educators as resources in the schools visited were generally well educated. Almost all were graduates of Chemistry from reputable universities. They have content beyond the narrow confines of the curriculum.
- Innovation with regard to laboratories was evident. Where there were no laboratories, educators used dedicated where they scheduled experimentation as part of the lesson at hand.
- All learners in Grade 12 each had a textbook, educators had a variety of textbooks including university textbooks. Educators in all these schools had their own laptops with connectivity, in some cases they used their own connectivity. YouTube would in most cases be used to demonstrate concepts least understood by leaners.
- Educators were generally highly motivated and they worked outside of dedicated working hours.
- Learners in these schools were highly motivated and high achievers were tasked with helping struggling learners in their classes. This act of tutoring by learners actually helped them relies their own short comings.
- Discipline all in these schools was supported by parental involvement on all levels of school administration. The principals opened doors for policies and the schools are always teeing with parents. Parents play active roles in developing regulations on discipline, they lay down the rules and actually participate in the execution of such rules. One principal in KZN dared me to take a walk around the massive rural school with almost 2000 learners and see if I will come across a broken window in any of the classrooms the massive school!
- Conducive environment according to these schools is key to learner achievement!

Notional time

Four (4) hours per week

Educators in ALL the schools go beyond the norm time. They have morning classes, afternoon classes and holiday classes, without extra pay in most cases!

Support from management and district/province

- The Heads of the Department are ALL well qualified in at least two majors under their care. In few cases, only one major but with some subjects as ancillaries.

- The school has management plan for class visits and support.
- The school develop lesson preparation, Curriculum Coverage, Practical Assessment Tasks and School Based Assessment.
- Assessment plan and policy developed by the school.
- Data sheet for the educators developed containing grade and number of learners responsible by the educator.
- Curriculum Management plan developed by the school.
- Weekly meetings with the educators.
- Support for new educators highly emphasised.
- Health competition amongst educators as to who gets distinctions in their subjects and these recognitions are part of encouraging and acknowledging educators.
- The district and province conduct regular visits.
- Common Assessment Tasks are set by the province.
- Regular feedback from the HOD, Deputy Principal and the Principal on class visits, lesson preparation and assessment activities.
- HOD's approve tests, monitor classwork to check the quality of tasks.
- Learner responses is analysed by the educator and HOD and feedback is given.
- Tracking of learner performance and tracking of progressed learners by the HOD, Deputy Principal and the Principal.
- Best learners are in matric commonly displayed in the school principal's office.
- A comprehensive budget showing detailed allocation of all funds in subjects shared with the parents. Parents in some cases undertake to raise funds.

Professional development

- Plans for on-going professional development of staff.
- Coaching and mentoring by the HOD on the subjects and team work with neighbouring schools evident at cluster level.
- To differing extents, training workshops are conducted by the province on different topics in the subject and on topics that are on diagnostic report.
- Workshops are conducted on the new trends or programmes.

Workload

The workload differed from school to school. Generally, educators had full days, sometimes with different preparations because in poor communities, SGB posts were not possible.

Best Practices: Lessons from Educators

Best Practice 1: Teaching Strategies – Best Practices

Challenging topics:

Stoichiometry:

Integrated questions that require knowledge from other sections of the curriculum.

Dealing with challenging topics:

- Extra classes: Morning, afternoons and weekend/holiday classes that focus.
- Using previous NSC papers.
- Sourcing questions from other schools and even provinces.

Best Practice 2: Planning

Innovative teaching (methodology):

- Educators make sure that they attend all their lessons. In case of absentism of an educator, a plan is worked out not to leave learners unattended.
- Monitoring plan, monitoring tools and reports for curriculum coverage are available;
- All lesson preparations are submitted to the HOD every Friday for quality assurance; lesson plans are individual and developed by educators.
- Curriculum monitoring and support (curriculum coverage and on- site support by the HOD.)
- The school developed to monitor lesson preparation, Curriculum Coverage, Practical Assessment Tasks and School Based Assessment.
- Educators use a variety of teaching methods (Demonstration, Learner centred, educator centred and excursions.

Best Practice 3: Assessment

Formal Assessment:

Assignments/Projects (Alternative Assessment):

Managing projects:

Projects are allocated time in the school timetable.

Tests

Setting tests.

- Educators are required to use the taxonomies when setting class tests.
- Learner responses is analysed by the educator and HOD and feedback is given.
- Learners are required to write pre-test at the beginning of every chapter or topic.

Ensuring quality

- Educators are required to use the taxonomies when setting class tests.
- Learner responses is analysed by the educator and HOD and feedback is given.

Examinations

Setting exams

- Educators are required to use the taxonomies when setting examination.
- Learner responses is analysed by the educator and HOD and feedback is given.

Best Practice 4: Struggling learners

Dealing with learners that struggle:

- Tracking of learner performance and tracking of progressed learners is conducted by the

HOD, Deputy Principal and the Principal.

- A special schedule is developed for learners that struggle and special classes are arranged.
- Peer tutoring is encouraged.

Best Practices: Lessons from Learners

Best Practice 5: Learner Experience

Classroom experience:

- Daily assessment is part of every teaching and learning experience.
- Learners practically spend their time at school.
- Learning support.
- All learners have textbooks.
- In some schools' educators have data projectors.
- Videos are used.
- Value or Interest in subject.
- The educators and the learners are enjoying the subject.

Concluding Remarks

The common factor in all the schools that were visited is a well-coordinated functioning management system. Educators in these schools are proud of their work and are dedicated.

Most educators in these schools are local residents and have actually been students at the same school.

Some schools requested that PPN and the quintile classification be revised.

Chapter 7: Successful Teaching and Learning Framework Engineering Graphics and Design

Best Practices from the classroom

Introduction

This chapter provides guidelines on innovative teaching methodologies on challenging topics/concepts as identified during educator and learner interviews. It also highlights general enabling conditions that support teaching and learning in the classroom.

General enabling conditions – Subject specific:

Resources, e.g. textbooks, workshops (technical subjects), etc.

- The required Infrastructure to offer the subject. Drawing room and Computer Lab including a data projector.
- All learners have drawing boards and drawing instruments supplied by the province.
- A variety of textbooks used.
- Textbooks, study guides (HSE), internet connectivity, audio visuals are used for teaching and learning supplied by the province.
- Mind the Action Series Engineering Graphics and Design textbook by J. van Leeuwen & du Plooy.
- Engineering Graphics and Design textbook by Johan Engelbrecht.
- Johan and Pieter Engineering Graphics and Design DVD. The DVD has all the grade 11 and 12 syllabus, workbook and answer sheets and tests.
- All the educators offering Engineering Graphics and Design are qualified in the subjects.
- All the educators offering the subject have a laptop and a data projector supplied by the province.
- All the Head of the Departments are qualified in one or two of the technical subjects.

Notional time

Four (4) hours per week including Practical Assessment Task.

Support from management and district/province

- The Head of the Department is qualified in one of the Technical Subject.
- The school has management plan for class visits and support.
- The school developed to monitor lesson preparation, Curriculum Coverage, Practical Assessment Tasks and School Based Assessment.
- Assessment plan and policy developed by the school.
- Data sheet for the educators developed containing grade and number of learners responsible by the educator.
- Curriculum Management plan developed by the school.
- Weekly meetings with the educators.
- The district and province conduct regular visits.
- Common Assessment Tasks are set by the province.
- Regular feedback from the HOD, Deputy Principal and the Principal on class visits, lesson preparation and assessment activities.
- Educators are required to use the taxonomies when setting class tests.
- Learner responses is analysed by the educator and HOD and feedback is given.
- Tracking of learner performance and tracking of progressed learners by the HOD, Deputy Principal and the Principal.
- A comprehensive budget showing detailed allocation of all funds in subjects with Practical Assessment Tasks.
- The Norms and standards with regards to practical component of Electrical Technology, Mechanical Technology and civil technology are applied to the nine specialisation areas with the class size of 1:15.

Professional development

- Plans for on-going professional development of staff.
- Coaching and mentoring by the HOD, Deputy Principal and the Principal.
- Training workshops are conducted by the province on different topics in the subject and on topics that are on diagnostic report.

- Workshops are conducted on the new trends or programmes.
- Science week and technical subject week with different stake holders.

Workload

The educator and being the HOD teaching the following subjects in the school:

- Civil Technology Grade 12.
- Engineering Graphics and Design Grade 10 -11.
- Technology Grade 7-9, and Arts and Culture Grade 8-9.

The educator teaching the following subjects in one school:

- Engineering Graphics and Design Grade 10 – 12.
- Mechanical Technology Grade 10 – 12.
- The above educators are overloaded with subjects that have PAT.

Best Practices: Lessons from Educators

Best Practice 1: Teaching Strategies – Best Practices

Challenging topics:

- Interpenetration.
- Machine drawings.
- Perspective drawings.
- Helixes.
- Isometric Drawings.

Dealing with challenging topics:

- Extra afternoon lessons.
- Using previous NSC papers.
- Morning, afternoons and weekend/holiday classes that focus.
- Previous higher order (Higher Grade) Technical Drawing questions and tasks that are aligned with EGD NSC questions.

Best Practice 2: Planning

Innovative teaching (methodology):

- Monitoring plan, monitoring tools and reports for curriculum coverage are available.
- All lesson preparations are submitted to the HOD every Friday for quality assurance.
- Curriculum monitoring and support (curriculum coverage and on-site support by the HOD.)
- Educators are mandated to use the Provincial 2018 EGD ATP, which was developed to compensate for the reduced contact time.
- Educators were mediated on the importance of planning and the correct implementation of the 2018 EGD Planning Calendar by the Subject Advisors.
- The school developed to monitor lesson preparation, Curriculum Coverage, Practical Assessment Tasks and School Based Assessment.
- Educators use a variety of teaching methods (Demonstration, Learner centred, educator centred and hi-tech centred and excursions.

Best Practice 3: Assessment

Formal Assessment:

Assignments/Projects (Alternative Assessment):

Managing assignments/projects.

Projects are moderated every term.

Tests

Setting tests

- Educators are required to use the taxonomies when setting class tests.
- Learner responses is analysed by the educator and HOD and feedback is given.
- Learners are required to write pre-test at the beginning of every chapter or topic.

Ensuring quality

- Educators are required to use the taxonomies when setting class tests.
- Learner responses is analysed by the educator and HOD and feedback is given.

Examinations

Setting exams

- Educators are required to use the taxonomies when setting examination.
- Learner responses is analysed by the educator and HOD and feedback is given.

Ensuring quality

- Educators are required to use the taxonomies when setting examination.
- Learner responses is analysed by the educator and HOD and feedback is given.

Practical Assessment Task (PAT) Managing PAT:

- The Phase 1 to 3 PAT moderation of the Grade 10, 11 and 12 requirements is done by the HOD, Deputy Principal and SES for the subject.
- PAT is presented according to specifications as set out in the guidelines by DBE.
- Value of PAT.
- PAT is 25% of the examination; therefore, learners are encouraged to complete the PAT.

Best Practice 4: Struggling learners

Dealing with learners that struggle:

- Tracking of learner performance and tracking of progressed learners is conducted by the HOD, Deputy Principal and the Principal.
- A special schedule is developed for learners that struggle.

Best Practices: Lessons from Learners

Best Practice 5: Learner Experience

- Classroom experience.
- There is more interaction with learners.
- Learning support.
- LTSM is available.
- Educators have data projectors.
- Videos are used.

- Value of/ Interest in subject.
- The educators and the learners are enjoying the subject.

Concluding Remarks

The common factor in all the schools that were visited is a well-coordinated functioning management system.

In a paper presented at a conference hosted by JET Education Services in 2008, Nick Taylor assets that: Distributed leadership assumes a division of labour within the schooling system and allocates functions according to where and by whom they are best performed: the challenge for leadership in any complex system is communication and the coordination of the component parts.

Chapter 8: Successful Teaching and Learning Framework- Electrical Technology

Best practices: Lessons learned from the Educators

Introduction

The chapter provides guidelines on innovative teaching methodologies on challenging topics/concepts as identified during educator and learner interviews. It also highlights general enabling conditions that support teaching and learning in the classroom.

General enabling conditions – Subject specific:

Resources, e.g. textbooks, workshops (technical subjects), etc.

- The schools have the required Infrastructure (Workshops and Computer Lab with a minimum of five (5) computers and 1 printers) to offer the subject.
- The school has learners with disabilities; Ramps have been built by educators to enable the learners for easy access.
- The workshop layout provides easy access for all leaners.
- Educator learner ratio complies with subject policy requirement of 1:15 for practical's in the workshop.
- There is internet connectivity at the school and learners are allowed to use cell phones for research purposes during both theory and practical periods.
- The educators offering the subjects are professionally qualified and have years of teaching experience.
- Educators are provided with personal protective apparel for usage during practical's
- All educators have a level 1 first aid certificates.
- Monitoring plan, monitoring tools and reports for curriculum coverage are available.
- Assessment policies are in place.
- The schools have Qualified and experienced artisans as part of their staff establishment.
- All the Heads of the Departments are qualified in one or two of the technical subjects.
- All learners have the prescribed Electrical Technology textbook.

- A variety of old nated 550 textbooks are used as extra resources.
- There are computers which have been loaded with Electrical subjects' software programmes, and downloaded YouTube videos on topics covered in the subject as well as exemplars and previous question papers (national and other 8 provinces.)
- A comprehensive budget showing detailed allocation of all funds in subjects with Practical Assessment Tasks.
- Science week and technical subject week is held and with different stake holders.
- The school has management plan for class visits and support.
- Integration of Theory and practical are during the lessons.

Notional time

Departmental meetings held weekly. Four (4) hours allocated per week for theory and Practical Assessment Task.

Support from management and district/province

- The schools have a functional School Management Team that ensure that there is proper monitoring.
- Accountability of educators.
- Educators and learners are motivated by the school management.
- The school has management plan for class visits and support.
- Mentoring of new educators and educator collaboration is encouraged.
- District subject advisors and provincial subject coordinators and other officials visit the schools for monitoring and support.
- There is collaboration with the private sector for skills development of educators.
- The Head of the Department is qualified in one of the Technical Subjects.
- The school developed tools used to monitor lesson preparation, Curriculum Coverage, Practical Assessment Tasks and School Based Assessment.

Professional development

- Plans for on-going professional development of staff are in place.

- Coaching and mentoring by the experienced peer educators, HOD, Deputy Principal and the Principal.
- Training workshops are conducted by the province on different topics in the subject and on topics that are on diagnostic report.
- Workshops are conducted for the staff on the new trends or programmes.
- Science week and technical subject week with different stake holders.
- Departmental heads manage the department with up nine different specialisation subjects, Engineering Graphics and Design and Technology GET at same time.
- The departmental head are also teaching one or two of the technical subjects.
- Educators are classroom educators and manage the workshops as well.
- All technical educators also teach technology in grade 8 and grade 9.
- Educator offers extra morning classes in the morning, afternoon and on weekends.
- Civil Technology educators are roped in to teach moments as it is part of their content and they have expertise and content background in the topic.
- A variety of teaching methods are used learners with different learning abilities and styles are provided for.
- Electrical software (Edison and Crocodile clip) are used to enhance teaching and learning
- Practical's incorporated in during the theory classes.
- Visualisation is incorporated in teaching in the form of educational trips organised.
- Downloaded you tube videos lessons are made available to learners on topics.
- Troubleshooting techniques and s are taught to learners.
- Ddifferentiation teaching is practiced by allocating tasks based on learner's abilities, to ensure no one gets left behind.
- Regular written work to reinforce concepts and content.

BEST PRACTICE 1: TEACHING STRATEGIES

- A variety of teaching methods are used learners with different learning abilities and styles are provided.
- Educators are classroom educators and manage the workshops as well.
- All technical educators also teach technology in grade 8 and grade 9.

- Educators offer extra morning classes in the morning, afternoon and on weekends. Electrical software (Edison and Crocodile clip) are used to enhance teaching and learning.
- Practical's incorporated in during the theory classes.
- Visualisation is incorporated in teaching in the form of educational trips organised.
- Downloaded you tube videos lessons are made available to learners on topics.
- Troubleshooting techniques are taught to learners.
- Differentiation teaching is practiced by allocating tasks based on learner's abilities, to ensure no one gets left behind.
- Regular written work to reinforce concepts and content.

BEST PRACTICE 2: PLANNING

- The schools have both single use and standing plans.
- Annual Plans which dates and programmes are available.
- The school have developed a number of policies which are aligned to departmental policies.
- The school timetable complies with the subject policy requirements.
- The school has management plan for class visits and support.
- There is a budget allocated for Technical subjects.
- The school improvement plan as well as subject improvement plans have been drawn.
- Plans for monitoring and supporting are available and reports have been generated.

Best practice 3: Planning

- The schools have both single use and standing plans.
- Annual Plans which dates and programmes are available.
- The school have developed a number of policies which are aligned to departmental policies.
- The school timetable complies with the subject policy requirements.
- The school has management plan for class visits and support.
- There is a budget allocated for Technical subjects.
- The school improvement plan as well as subject improvement plans have been drawn.
- Plans for monitoring and supporting are available and reports have been generated.

Best practice 4: Assessment

- There is an assessment plan and more monthly informal test.
- Schools have assessment plans and policies in place that emphasise informal assessment in the form of written work.
- Educators use different taxonomies when setting informal class tests.
- Learner responses is analysed by the educator and HOD and feedback is given.
- The school uses previous question papers to train learners in exam action verbs and exposing learners to a variety of cognitive level questions.
- Learners are provided regular classwork that are monitored and marked in class by the educator Learners are encouraged to write corrections after each work is marked.

Formal assessment

- The schools write the provincial tests and examinations set by the provincial curriculum specialists.
- The school writes formal teats as per subject policy requirement under strict examination setting
- Practical tasks/simulations and Projects are assessed by the educator and moderated internally by the senior educator and the departmental head every term.
- Learners are provided with clearly articulated assessment tools such as rubrics to guide them in executing their project to the best of their ability (clear criteria and mark allocation.)

Tests and examinations and quality assurance

- CAPS is used for content framework.
- Educators are required to use the taxonomies when setting class tests and examinations.
- Use of exam verbs to ensure that all cognitive levels are covered.
- Exam guidelines are used for content compliance.
- Tests are set with clear marking guidelines which have been moderated and quality assured by the subject head for approval.
- School write common formal tests and examinations papers set and provided by the province.
- Tests and examinations are moderated for quality assurance by the subject head, cluster leader or provincial subject coordinator.

- CAPS and Exam guidelines are used for adherence to content framework and cognitive levels for a specific grade.

Practical Assessment Task (PAT)

- There subject annual assessment plan is available.
- There is evidence of educator assessment and assessment tools and consolidated mark sheets.
- Head of department moderates the PAT internally.
- Sampled learners' projects are moderated at a cluster meeting.

Best practice 5: Dealing with learners that struggle

- Each subject educator conducts the analysis of results per quarter.
- The results are used to track leaners that are struggling and provide them with the necessary support.
- The analysis of results is also used to do target setting to improve the overall performance.

Dealing with challenging topics:

Challenging topics in Electrical	Ways of dealing with these topics
Logic	Integrating theory and practicals. Building the circuits. More time spent on practicals. Using software to simulate circuits without damaging sensitive IC's.
RLC circuits	Revision of grade 10 Electronic components topic. Kirchhoff's current and voltage laws application be reinforced. Using the same values for theory calculations and circuit building. Use previous question papers to do calculations Practicals: Building of RLC series and parallel circuits.
Amplifiers	Integrating theory and practicals.

	Learners given a variety of circuits to build. Using previous question papers. YouTube video lessons and practical demonstration used. Electronics software used to build simulations.
Three phase motors and three phase transformers	Revision of single and three phase systems introductions (Theory.) Characteristics of delta and star must be dealt with thoroughly. Simple and complex calculations must be done with learners. All practical simulations for motors and transformers must be connected by the learners. Previous question papers used to reinforce acquired knowledge. Electronics software used to build simulations YouTube video lessons and practical demonstration used. Electrical software (Edison and Crocodile clip) are used to enhance teaching and learning.

Best practices: Lessons from Learners

- Learners are highly motivated and love the subject.
- The learners speak highly of their technical educators.
- Learners participate in science expos and use their Practical projects.
- Learners are encouraged to use a variety of resources such as textbooks, study-guides and previous question papers to be able to master the subject.
- Learners are part of hobby clubs and budding entrepreneurs they manufacture products and sell them to generate money for themselves.
- Learners have formed study groups and use previous question papers from other provinces as well previous question papers.
- Learners wear their personal protective equipment during practical lessons.

Concluding Remarks

The school management team that leads the schools are highly motivated and competitive. Educators plan their lessons and use a variety of teaching resources and methods. Learners are exposed to the outside world through the internet and going out on educational excursions. Educators go an extra mile by offering extra tuition to learners without being compensated. They are passionate about the subject and motivate learners to achieve the best. Curriculum is covered as per subject policy requirements.

Chapter 9: Successful Teaching and Learning Framework Geography

Best Practices from the classroom

Introduction

This chapter provides guidelines on innovative teaching methodologies on challenging topics/concepts as identified during educator and learner interviews. It also highlights general enabling conditions that support teaching and learning in the classroom.

General enabling conditions – Subject specific:

Resources, e.g. textbooks, workshops (technical subjects), etc.

- Some schools have internet connectivity.
- Some use white-boards and interactive smart boards for teaching while others still use the old black-boards.
- All learners have textbooks in Geography.

The most common Geography textbooks used in these schools are:

- Solution for All.
- Platinum.
- Study and Master.
- Via Africa.
- In Search of Geography.

Notional time

Four (4) hours per week.

Support from management and district/province

- The schools have functional School Management Teams that ensure that there is proper monitoring and accountability of educators.

- The profile of educators and managers is that they are well qualified to be the authority in their subjects and departments.
- Monitoring of educator files and preparations is done on regular basis to ensure that teaching and learning is taking place and to ensure that contact time is protected.
- Mentoring of new educators and educator collaboration is encouraged.
- Separated Social Sciences into Geography and History to be taught by two educators who specialised in either one.

Professional development

- Educators attend regular workshops from the district and province on different topics in the subject and on topics that are on diagnostic report.
- The school has plans for on-going professional development of staff.
- Coaching and mentoring of new educators in the subject by the Lead Educator and Departmental Head.
- Science week and GIS week with different stake holders such as municipalities and Rural Development.

Educator Workload

Most educators interviewed were departmental heads who taught the subject and managed the department at the same time.

They teach Geography from Grades 8-12.

Best Practices: Lessons from Educators

Best Practice 1: Teaching Strategies – Best Practices

Challenging topics:

- Climatology.
- Geomorphology.
- Mapwork.

Dealing with challenging topics:

- Use of morning, afternoons and weekend/holiday classes to focus on challenging topics.
- Use of you tube videos for showing climatological and geomorphological processes.
- Using previous NSC papers to set classworks and tests.
- Regular written work to reinforce concepts and content.

Challenging topics in Geography	Ways of dealing with these topics
Climatology	• Use of synoptic weather maps • Watching live weather presentations and follow recent tropical storms and mid-latitude cyclones. • Search newspapers for recent case studies on berg winds, cold fronts, droughts, floods, etc. • Use of telematics video lesson presentation. • You tube videos and visual diagrams on synoptic maps, mid-latitude cyclones, tropical cyclones and their impact on human life and the environment.
Geomorphology	• Excursions for geomorphological features and landscapes • You tube videos and visual diagrams.
Mapwork and GIS	• Integration of theory into Mapwork • Use of mnemonics for the metric scale and formulas for learners to remember • Foregrounding basic GIS concepts • Use of mnemonics to assist learners in memorising calculation formulas and the metric system.

Best Practice 2: Planning

Innovative teaching (methodology):

- Use of interactive white boards to beam lessons.
- Internet connectivity to browse the internet for recent case studies and relevant material related to the topic taught.
- Use of electronic textbooks to beam during lesson presentation.
- Use of synoptic weather maps.

- Watching live TV weather channels to follow recent tropical storms and mid-latitude cyclones.
- Search newspapers for recent case studies on berg winds, cold fronts, droughts, floods, etc

Best Practice 3: Assessment

Informal Assessment:

- Most performing schools have assessment plans and policies in place that emphasise informal assessment in the form of written work.
- Learners are provided regular classworks that are monitored and marked in class by the educator.
- After every section is treated, reinforcement takes place through daily informal assessment.
- Use of previous question papers to train learners in exam action verbs and exposing learners to a variety of cognitive level questions.
- Learners are encouraged to write corrections after each work is marked.

Formal Assessment:

Assignments/Projects (Alternative Assessment)

Managing assignments/projects

- Projects are moderated every term.
- Learners are provided with clearly articulated assessment tools such as rubrics to guide them in executing their project to the best of their ability (clear criteria and mark allocation).

Tests and Examinations

Setting tests and examinations

- CAPS is used for content framework.
- Educators are required to use the taxonomies when setting class tests and examinations.
- Use of exam verbs to ensure that all cognitive levels are covered.

- Exam guidelines are used for content compliance.
- Tests are set with clear marking guidelines which have been moderated and quality assured by the subject head for approval.

Ensuring quality:

- Tests and examinations are moderated for quality assurance by the subject head, cluster leader or provincial subject coordinator.
- CAPS and Exam guidelines are used for adherence to content framework and cognitive levels for a specific grade.

Best Practice 4: Struggling learners

Dealing with learners that struggle:

- Each subject educator conducts the analysis of results per quarter.
- The results are used to track leaners that are struggling and provide them with the necessary support.
- The analysis of results is also used to do target setting to improve the overall performance.

Best Practices: Lessons from Learners

Best Practice 5: Learner Experience

- Learners are highly motivated to participate in the geography classroom.
- Learners are encouraged to participate in excursions, Geo-Fest, Eco-Clubs and climate change symposiums for interest and enjoyment in the subject.
- Learners are encouraged to use a variety of resources such as textbooks, study-guides and previous question papers to be able to master the subject.
- Learners develop mnemonics to master calculation formulas and the metric system.

Concluding Remarks

Subjects that achieve excellent performance are those that are led by managers and educators that plan their lessons; use a variety of textbooks and resource materials; use internet to search for extra resources; emphasise written work in the form of notes, classworks and tests; and attend professional development at school, district or provincial level. These educators go an extra mile by conducting extra lessons to help struggling learners and to complete the syllabus on time. They are passionate about the subject and motivate learners to achieve the best.

Chapter 10: Successful Teaching and Learning Framework History

Best Practices from the classroom

Introduction

This chapter provides guidelines on innovative teaching methodologies on challenging topics/concepts as identified during educator and learner interviews. It also highlights general enabling conditions that support teaching and learning in the classroom.

General enabling conditions:

Resources, e.g. textbooks, workshops (technical subjects), etc.

- Some schools have internet connectivity.
- Some use white-boards and interactive smart boards for teaching while others still use the old black-boards.
- All learners have textbooks in History.
- The most common History textbooks used in these schools are:
- New Generation.
- In Search of History.

Notional time

Four (4) hours per week.

Support from management and district/province

- The schools have functional School Management Teams that ensure that there is proper monitoring and accountability of educators.
- The profile of educators and managers is that they are well qualified to be the authority in their subjects and departments.

- Monitoring of educator files and preparations is done on regular basis to ensure that teaching and learning is taking place and to ensure that contact time is protected.
- Mentoring of new educators and educator collaboration is encouraged. Separated Social Sciences into Geography and History to be taught by two educators who specialised in either one.

Professional development

- Educators attend regular workshops from the district and province on different topics in the subject and on topics that are on diagnostic report.
- The school has plans for on-going professional development of staff.
- Coaching and mentoring of new educators in the subject by the Lead Educator and Departmental Head.

Educator Workload

Most educators interviewed were departmental heads who taught the subject and managed the department at the same time.

They teach History from Grades 8-12.

Best Practices: Lessons from Educators

Best Practice 1: Teaching Strategies – Best Practices

Challenging topics:

Comparative case study on Congo and Tanzania; and Globalisation.

Dealing with challenging topics:

- Use of morning, afternoons and weekend/holiday classes to focus on challenging topics.
- Use of you tube videos for showing climatological and geomorphological processes.
- Using previous NSC papers to set classworks and tests.
- Regular written work to reinforce concepts and content.

Challenging topics in History	Ways of dealing with these topics
Comparative case study on Congo and Tanzania (Essay question)	Treat each country separately and then dealing with a comparative analysis thereafter.
	Learners are taught various strategies to master essay writing skills through the PEEL method for essay writing. The essay should be written in a chronological order. Learners should always be reminded to take a stance when answering an essay question. Sustaining a line of argument in an essay. Use of telematics video lesson presentation.
Globalisation (Source-based question)	Explanation of concepts in context e.g. globalisation, capitalism, multinational corporations. Use of internet to search for recent case studies on the impact of globalisation on the trade and economy of South Africa and the third world countries. e.g. The African Growth and Opportunity Act (AGOA), Newspaper articles on BRICS, IMF and structural adjustments. Use of telematics video lesson presentation.

Best Practice 2: Planning

Innovative teaching (methodology):

- Use of interactive white boards to beam lessons.
- Internet connectivity to browse the internet for recent case studies and relevant material related to the topic taught.

- Use of electronic textbooks to beam during lesson presentation.
- Use of telematics lessons and DVDs on certain topics.
- Learners are taught various strategies to master historical skills:

E.g. the **PEEL** method for **Essay Writing**. A history essay should consist of:

-An **introduction**

-A series of **paragraphs** (use PEEL method)

-A **conclusion**

P = Point: The opening sentence of your paragraph must make a clear statement or point.

E = Explain: The next few sentences in your paragraph should explain the point you have just made.

E = Evidence: The next few sentences should give evidence to substantiate or support the point made above. This will be the dates, details, facts, figures, from reading your textbook and source material.

L = Link: At the end of your paragraph you must link back to the essay question and or forward to the next paragraph.

For the mastery of essay, some educators concentrate on the introductory paragraph and the conclusion

For the **analysis of political cartoons,** the **BASIC** method is one possible strategy you can use with your learners.

B = Background: What time period is the cartoon from? What was going on at the time? Think specifically about what historical background we would need to know about in order to understand what was going on in the political cartoon.

A = Argument What claim, or argument is the author trying to make? What is the overall message or the thesis of the cartoon?

S = Symbolism What symbols appear on the cartoon? What does each symbol represent? Remember it is also important to identify key figures or people and what they represent in the cartoon.

I = Irony What is ironic about the cartoon? How does the cartoonist use irony to state his argument?

C = Caricature What parts of the cartoon or people are exaggerated? Why are these parts emphasised or exaggerated? How does the artist use exaggeration to make his overall argument?

For the mastery of **comparing sources a** strategy called **SOAPS** can be used with your learners:

SOAPS	Source A	Source B
Subject Briefly summarise the content of the source.		
Occasion When was this source written?		
Author Who is the author?		
Perspective What is the author's perspective or point of view?		
Significance Why is this source important?		

-If the question requires learners to explain the ***difference in sources***: learners should use the word "*while*" in their answer.

- If the question requires learners to explain the ***similarities in sources***: learners should use the word "*both*"

For mastery of **paragraph writing** learners should note that they use information from the *relevant sources* and *their own information.* They should also acknowledge the sources where they got the information.

Best Practice 3: Assessment

Informal Assessment:

Managing classworks/homeworks:

- Most performing schools have assessment plans and policies in place that emphasise informal assessment in the form of written work.
- Learners are provided regular classworks that are monitored and marked in class by the educator.

- After every section is treated, reinforcement takes place through daily informal assessment.
- Use of previous question papers to train learners in exam action verbs and exposing learners to a variety of cognitive level questions.
- Learners are encouraged to write corrections after each work is marked.

Formal Assessment

Assignments/Projects (Alternative Assessment)

Managing assignments/projects

Projects are moderated every term.

Learners are provided with clearly articulated assessment tools such as rubrics to guide them in executing their project to the best of their ability (clear criteria and mark allocation.)

Tests and Examinations

Setting tests and examinations

- CAPS is used for content framework.
- Educators are required to use the taxonomies when setting class tests and examinations.
- Use of exam verbs to ensure that all cognitive levels are covered.
- Exam guidelines are used for content compliance.
- Tests are set with clear marking guidelines which have been moderated and quality assured by the subject head for approval.

Ensuring quality:

- Tests and examinations are moderated for quality assurance by the subject head, cluster leader or provincial subject coordinator.
- CAPS and Exam guidelines are used for adherence to content framework and cognitive levels for a specific grade.

Best Practice 4: Struggling learners

Dealing with learners that struggle:

- Each subject educator conducts the analysis of results per quarter.
- The results are used to track leaners that are struggling and provide them with the necessary support.
- The analysis of results is also used to do target setting to improve the overall performance.

Best Practices: Lessons from Learners

Best Practice 5: Learner Experience

- Learners are highly motivated to participate in the History classroom.
- Learners are encouraged to participate in competitions such as the Oral History project.
- Learners are encouraged to use a variety of resources such as textbooks, study-guides and previous question papers to be able to master the subject.
- Learners are encouraged to watch DVDs on Sarafina (BCM topic.)
- Peer teaching by learners that excel in certain topics.
- Learners choosing 2 essays and 1 source-based questions perform better than those that take 1 essay and 2 source-based questions.

Concluding Remarks

Subjects that achieve excellent performance are those that are led by managers and educators that plan their lessons; use a variety of textbooks and resource materials; use internet to search for extra resources; emphasise written work in the form of notes, classworks and tests; and attend professional development at school, district or provincial level. These educators go an extra mile by conducting extra lessons to help struggling learners and to complete the syllabus on time. They are passionate about the subject and motivate learners to achieve the best.

Chapter 11: Successful Teaching and Learning Framework Hospitality Studies

Best Practices from the classroom

Introduction

The chapter provides guidelines on innovative teaching methodologies on challenging topics/concepts as identified during educator and learner interviews. It also highlights general enabling conditions that supports teaching and learning in the classroom.

General enabling conditions:

Some of the general enabling conditions are as follows:

- Financial support from the province and school in providing funds to implement the subject; have access to the minimum norms prescribed for resources, consumables and equipment for effective practical skills training.
- Support from School Management and the district to ensure effective subject implementation.
- The availability of a classroom for the teaching of theory as well a functional training kitchen, with well- equipped work stations for practical demonstrations, lessons and examinations. Furthermore, a dining facility with public access, is required for food service training.
- Access to the daily service of a full-time assistant to support the educator, holds many advantages for the smooth running of the subject.
- The availability of electronic resources to bring the '*World into the Classroom*' for effective teaching and learning.
- Good teaching resources are used, that are well-scaffolded, with activities ranging from easy to challenging, supported by additional activities such as questions from previous papers as well as newly set innovative questions.
- Manageable class sizes as stipulated in the CAPS Policy for effective teaching.
- Teaching time – affording maximum teaching time, though limiting time spent on tests, examinations and other detracting activities.

Fair workload – affording time for planning, marking, remedial work/extra support for struggling learners as well as providing additional support and stimulation to the higher achieving performers.

- Educator access to opportunities for relevant professional development.
- Grounding of knowledge in Grade 8 & 9 to strengthen skills development in the subject.
- A very important enabling condition is the willingness to afford all learners the opportunity to develop entrepreneurial thinking and advanced practical preparation and service skills to improve employability in a diverse, global context. This requires of the learner to demonstrate well developed '*hard and soft skills',* as well as having mastered the required practical skills for food preparation and service.
- It is essential to align standards for teaching and assessment to ensure that learners are well prepared for formal assessment tasks. For effective teaching, planning for lessons needs to be skilful, intentional and innovative. Lessons must keep the learner engaged and encourage commitment towards achieving the expected outcome of the lesson. Educators need to understand *'how learning takes place'* in order to plan and design effective lessons. Some learners may only understand what they are learning, once they set the concept in practice. Teaching, therefore must be explicit, skills must be practiced and understanding must be applied. It takes time to understand complex topics where concepts are more abstract.
- New knowledge and skills must be applied to solve problems within a new context to determine the strength and effectiveness of understanding. Learners that monitor their own learning, generally perform better and achieve better academic success. This should be pursued for all learners to master.
- An expert educator will strive to create a learning environment where errors are welcome, many questions may be asked and efforts and hard work are recognised to build learner confidence. This learning environment will be relaxed and includes a relationship of trust between the educator and the learner. It will further encourage the learner to maximise the opportunity to develop and learn, build self-esteem.

  The expert educator will respond to and adapt to the needs of every learner with respect and knowledge to provide the opportunity of success to every individual need by striving to achieve clearly set goals.

Balancing standards and instructional planning for lessons

- All teaching and learning needs to align to the expected standards that are outlined in Section 4 of the CAPS policy for the subject's assessment. Higher order questions and critical problem solving must be included for daily teaching.
- Educator planning needs to ensure that new content is introduced with first, the known concepts and facts and then gradually move on to new concepts. First consider what the learner already knows as a point of departure for the purpose of planning.

Creating a positive learning environment

Expert educators are not afraid to try new ideas and will delight in facing a new challenge or problem. This is a good example of a strong '*Growth Mind Set'.* These educators know exactly what to teach, but also know exactly how to teach it. An expert educator has a full understanding of the subject content but also understands the learner he/she is teaching. This is one of the characteristics that stands out above the novice educator.

Good educators have the following characteristics:

Teaching is precise and to the point.

Classroom discipline: Enforces classroom standards and build patterns of cooperation to minimize disruption and maximize learning.

- The classroom is always neat and well organised –a basic principle for any successful small enterprise.
- Creates a vibrant learning atmosphere for the subject with interesting, subject related posters and resources.
- Introduces a:*'What is new?'* – board at the entrance of the classroom with newspaper snippets or magazine articles of new trends. Makes learners responsible for the updates.
- Keeps a classroom register/class list to note evidence of absenteeism, late arrival or homework not done.
- Is well prepared for each lesson to awake a keen interest and attention.
- Becomes an expert master of the subject content to earn the respect of every learner.

All learners deserve the opportunity to learn and be successful in school.

To participate and provide your best at all times, is not a choice, but a personal responsibility!

Keeps learners busy throughout the lesson for a full period.

- Uses the correct language for instruction (LOLT) and avoids code switching.
- Always a professional, being able to criticise in private and praise in public.
- Maintains a sense of humour – laughter and happiness is essential to enhance the process of learning.

Best Practices: Lessons from the classroom

Challenging skills and topics are highlighted below by educators and learners:

- Poor critical thinking and interpretation skills.
- Poor language proficiency indicated by the inability to adequately address the requirements of a question effectively or respond with relevant information pertinent to a question or using subject terminology correctly.
- Lacking skills to do accurate basic calculations.
- An inability to analyse and interpret data effectively in relation to a specific context.

Subject specific Challenges:

Grade 10: Grounding knowledge for: Food commodities; Kitchen and Restaurant operations; Food and Beverage Service; Nutrition and Menu planning; Sectors and Careers.

Grade 11: Grounding knowledge for: Food commodities; Kitchen and Restaurant operations; Food and Beverage Service; Nutrition and Menu planning; Sectors and Careers.

Grade 12: Nutrition, Menu Planning and Food Commodities; Sectors and Careers, Food and Beverage Service.

Best Practice 1: Teaching Strategies

Use and implement National policy documents: Use the Hospitality Studies CAPS policy and 2017 DBE Examination Guidelines for Hospitality Studies as a primary source of information and guide to prepare for teaching and assessment of subject content. Do not orientate teaching around using the text book as primary source for educator preparation. It will ensure that the correct format and layout for tests and exams are implemented. Learners will be well prepared for assessment if teaching and learning covers a fully covered curriculum.

Hospitality Studies Circulars: Ensure that circulars are implemented with immediate effect after release.

Use of past NSC Hospitality Studies papers: These papers are a valuable resource for teaching and learning, but should never replace formal teaching or replace setting of original question papers for examinations. Papers from November 2014 onwards are appropriate for revision purposes. This will ensure that learners are exposed to different types of questions and will master the skill and know how to respond to appropriately.

Basic Concepts and Hospitality Studies Terminology: Ensure that learners are able to understand and explain basic Hospitality Studies concepts and terminology by implementing a terminology chapter per topic /concept in Grades 10-12.

Revision of Relevant Grades 10 and 11 Content: Identify underpinning knowledge in Grades 10 and 11 that is required to reinforce relevant subject content for formal assessment in Grade 12. Lacking this knowledge inhibits the ability to apply this knowledge in Grade 12.

Develop learner skills to: Interpret information in questions and then link and apply relevant knowledge of content. Regular use information from pamphlets, magazines and newspapers can assist to develop skills to interpret information from tables, data, scenarios, podcasts and case studies.

Language proficiency: Responses must be written in full, clear sentences. The ability to respond in a paragraph or tabled format requires practice. Ensure that learners are able to respond effectively to the instruction of the action verb in the question.

Develop the skill to voice expression: Focus on the ability to respond with clarity, where comments or explanations are required. Use bullet points to order the thinking process. Emphasise that partial, simple or single-word responses are not sufficient when an explanation is required.

The Importance and value of (*formative)* Informal Assessment: Regular, short, bi-weekly informal tests are compulsory to build the confidence of learners in all topics. Feedback to the learner will benefit and improve performance. Use different types of exam questions for daily informal tasks such as homework and classwork activities to practice, develop and strengthen these skills. Self-marking/peer-marking allows learners to benefit from immediate feedback by gaining an understanding of the mark allocation, and by enabling prompt identification of errors or valid alternative responses.

Development of skills that align to the instruction in a question: Educators are encouraged to explain and practice the skill to identify the core focus of the question or link content in the question to content that is known and was studied in class. Learners must be taught to express themselves clearly where comments or explanations are required. Partial, simple or single-word responses will not be sufficient if an explanation is required. Sufficient, regular practice on how to structure responses around the core content and instructions of the question must be implemented. Implement the EAC teaching strategy.

Ensure that a Grade 11 learner who changed a subject to offer Hospitality Studies, is supported:
Additional inputs are required to ensure that these learners know the terminology and content for Grades 10 and 11, as it forms the basis for Grade 12 background knowledge. Additional support will also be required to align the standard of practical skills.

Keep up to date with current events in the Hospitality Studies industry as seen in the media and apply examples for higher order assessment.

Apply **entrepreneurial principles** to practical lessons and skills development to strengthen '***entrepreneurial thinking skills.'***

Best Practice 2: Planning

> ***Inclusion*** *involves an active and intentional*
>
> *engagement with diversity such that a range of individuals can fully participate in every lesson.*
>
> *Sentance et al.*

The Curriculum in the CAPS policy

indicates the *'scope'* for teaching, together with the 'sequence', of instruction. Curriculum does not stipulate the '*how*' of how teaching should take place. It further lacks clarity of which strategies should be implemented for instruction.

Educator planning and preparation is the prime drive and success factor for effective teaching and learning to take place. Successful expert educators plan thoroughly for every period.

Steps implemented for lesson planning and preparation.

Scope	**Scope refers to the knowledge that is to be presented to the learner.**
	The scope of content is clearly highlighted and broken down in the annual teaching plan per grade / per term in the CAPS policy.
Focus	**Focus defines how learning will be affected for the specific topic.**
	The content explains the concept /topic. Consider the standards (Cognitive levels and Levels of difficulty) within which the teaching of the concept /topic must take place. Teach learners to apply content to different contexts in case-studies/scenarios.
Sequence	**The order in which the concepts are organised for teaching.**
	Order of subject matter for the lesson: Place the content in a logical order for teaching. **Complexity:** Progress from basic to more complex concepts. Develop activities to test knowledge, understanding and measure progress.

	Prior Knowledge: Understanding that new learning is based on previous learning. A clear connection must be provided to indicate how the new learning fits into what is already known.

Clear objectives to be included for the planning of each lesson to ensure effective learning takes place.

The learner must understand …..

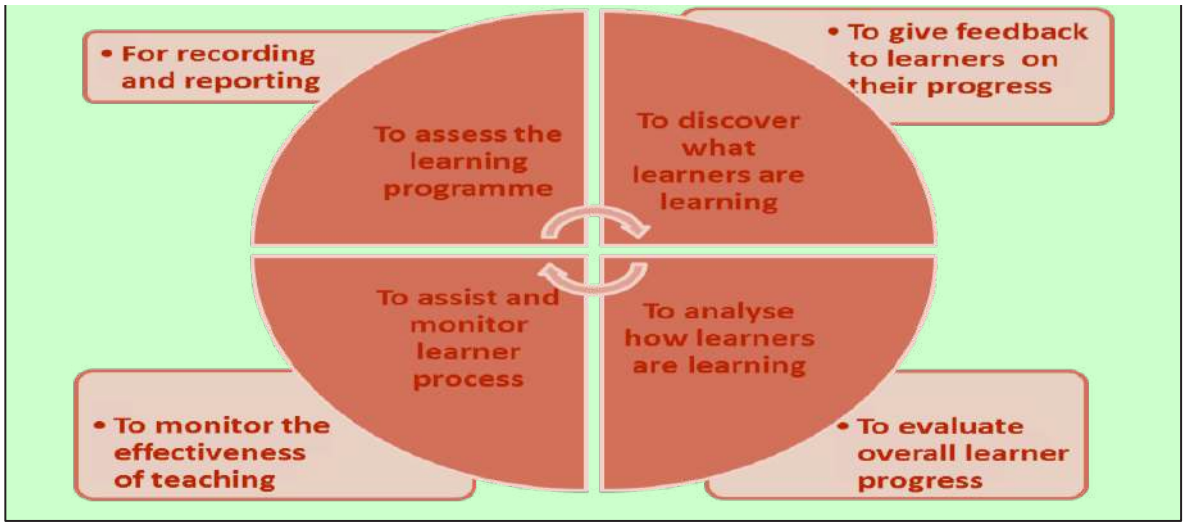
The learner must know…..

The learner will be able to …….

Guidelines for effective lesson planning:

- Lessons must have a clear goal, provide opportunity to apply and practice skills and must include feedback to the learner.
- Consider the needs of the learners to ensure that teaching informs effective learning.
- Limit the content to be covered in a lesson to ensure that enough time is allowed for revision, practice and feedback.
- Include the strategy to strengthen understanding of the language for the content and skill being taught.
- Ensure that learners understand how learning of new content links onto content that is already known.
- Integrate knowledge, skills, values, entrepreneurship and careers with the teaching of all concepts.
- Ensure that different forms of media are used to strengthen every lesson.
- Be flexible to adapt the plan for teaching if effective learning is not taking place.

Best Practice 3: Assessment



3.1 Daily Assessment

School-based assessment embeds the broader educational philosophy of '*assessment for learning'*. '*Assessment for learning'* is any form of assessment in which the main aim is to enhance students' learning and understanding of concepts. An assessment activity can help learning if it provides information that can be used (feedback) by educators and learners to improve the teaching and learning process in which they are engaged. It differs from '*assessment of learning*', which is designed primarily to serve the purposes of accountability, ranking, or certification of competence.

'*Assessment for learning*' should always contribute to a learner's learning and progress effectively. It should provide the learner with the knowledge, understanding and skills to complete '*formal assessment tasks'* successfully and with the required competence. Daily assessment activities must include higher order thinking skills and different levels of difficulty.

Most critically, these activities inform the educator, where learners are experiencing difficulties and what early steps should be taken to assist learners to overcome these challenges. Educator creativity, resources available, energy levels and behaviour of learners will determine what will work in each unique situation.

Examples of informal assessment activities in Hospitality Studies:

- Class test after teaching a topic.

- Identification tests / Tasting tests.
- Skills test.
- Class Quiz.
- Case studies/ Scenarios with questions.
- Role play.
- Listening test.
- Mind maps / Concept maps.
- Puzzles.
- Games: Eliminator / Scrabble / Bingo / Charades.

3.2 Formal Assessment

Assessment is an essential part of teaching and learning. The evidence of learners' performance in formal tasks provides feedback with regards to the content, concepts and skills that have been acquired by the learner. The marks of those tasks will be used for promotion and progression of learners to the next grade and to give feedback to parents and various stakeholders in this regard. The feedback will also indicate what support is planned for those learners who are not able to master all the content, concepts and skills and need more time to reinforce teaching and learning.

Formal Assessment Tasks in Hospitality Studies comprise of:

Tests and Examinations

- A good quality question paper gives every learner an equal opportunity to fully demonstrate what they have learnt from the teaching that was offered. Question papers must be valid, reliable, realistic, fair and appropriate.
- When setting tests, expert educators ensure that the paper complies with the standards prescribed in Section 4 of the CAPS policy and Examination Guideline for the subject.
- Expert educators' critique and analyse errors made by learners in tests and examinations to inform teaching and to follow-up through improvement strategies. Analysis is done per item to highlight areas of poor/good performance. The completed error analysis will reflect the

following: (a) Low performance levels, (b) High performance levels, (c) Topics where learners under-perform / perform poorly, (d)Topics where learners excel.

- The standard and quality of a question paper depends on:
- Appropriateness for the grade.
- CAPS compliant for the relevant term/task.
- Cognitive demand.
- Levels of difficulty.
- Content coverage.
- Skills addressed.
- Fairness of questions.
- Language.
- Free from bias.
- Length of the paper reasonable.
- Appropriateness of text and graphics.
- Predictability.
- Technical quality.

Practical Lessons:

Management Plan for Practical Lessons:

The purpose of the management plan is to inform both the learner and parents of up-coming practical lessons and assist learners to prepare well for them. The management plan lists the practical lessons to be conducted and Indicates the date and term when each practical lesson will be implemented. Include this management plan in the Learner's Practical Chapter.

Practical Lesson planning and preparation

Learners are well prepared before each lesson to ensure effective production and prevent waste.
Skills developed should progress from basic skills in Grade 10 to more advanced skills in Grade 12.
Practical lessons must be well prepared to ensure that the learners are prepared for the PAT.

Recipes must be clearly illustrated. The learner must be exposed to visual material that clearly illustrates the expected quality and appearance of the final product. Every practical lesson must reflect creative work and include entrepreneurial principles.

Practical Assessment Task (PAT)

Expert educators value the importance of the PAT and its role of assessing skills that cannot be assessed in a written format, e.g. test or examination. It allows the demonstration of creativity and innovativeness.

Best Practice 4: Struggling learners

Differentiate tasks/activities:

- Design/select different activities based on learner needs for the different groups of learners.
- Develop activities that range from easy to being difficult, as well as include setting of a variety of tasks at different cognitive levels.
- Sub-divide a big task into 'smaller/simpler' learning activities as well as 'bigger/more complex' activities. Together, the smaller activities (sub tasks) must achieve the same goal as the one big task/activity. Then grade the activities/tasks – the bigger activity/task should have the highest grading and the grading of each smaller activity (sub task) that makes up the bigger activity/task should, together, add up to have the same grading as the big activity/task. Learners could then choose whether they want to do the group of smaller activities/tasks or the one big activity/task. Advise struggling learners to do the smaller ones first and then challenge attempting the big one. Getting the smaller activities/subtasks right, could support a feeling of competence.
- Identify topics that will be easier to master and make sure that struggling learners master these topics well.
- Encourage learners to use a mind map / a table to summarise these topics to reflect all content for a topic on a single page for revision.
- Every learner will have access to a text book/ resource for learning.

Best Practice 5: Learner Experience

Educator Knowledge: Learners' respect and value educators with expert knowledge who are positive and enthusiastic about the subject. Learners are encouraged by educators who are supportive and provide access to a wide range of teaching and learning resources.

Learners enjoy engaging, interactive and communicative teaching methods.

Learners value choice and independent learning processes.

Learners expect a clear understanding of the expected outcome from the learning process. (ie. *What will be learnt? The importance of learning and understanding the specific content? Clear quality descriptors for the expected outcome.)*

Concluding Remarks

Good educators respect their learners and put in extra effort to get to know more about their achievements, interests, cultural background and learning preferences. All learners are treated the same and are given a shared responsibility for the smooth running of the class. Learners are helped to develop self - assessment

skills and are provided with positive feedback that is specific to inform improvement. Learners are often given the opportunity to become the educator in class. They learn more when they are challenged, but also believe that they can learn.

> "Ideal teachers are those who use themselves as bridges over which they invite their students to cross, then having facilitated their crossing, joyfully collapse, encouraging them to create bridges of their own."
>
> *Nikos Kazantzakis*

A good educator is a good learner and recognizes the importance of life-long learning to be knowledgeable of new subject concepts. This is pursued to ensure that every lesson is engaging to give the learner the correct information, but will also provide the knowledge of how to learn the content.

Chapter 12: Successful Teaching and Learning Framework Life Orientation

Best Practices from the classroom

Introduction

This chapter provides guidelines on innovative teaching methodologies on challenging topics/concepts as identified during educator and learner interviews. It also highlights general enabling conditions that supports teaching and learning in the classroom.

"Genius is 99 % perspiration one percent inspiration." Thomas Edison

Best Practices from the Classroom

Lessons from Educators: Teaching Strategies:

- Classrooms can be difficult and learners could test an educator's patience. We hope that the teaching strategies below could help you.
- Important Learning Principles and Practices.
- Know and use learners' names.
- Create a safe learning environment.
- Be friendly and encourage the learners to speak.
- Encourage all the learners to speak, ask questions and share ideas.
- Comment positively on what the learners say and listen carefully.
- Praise learners for their efforts.
- Do not stop a learner from speaking if they say something incorrect. Allow them to continue and thank them for sharing.
- Encourage all learners to give answers and take part in the discussion.
- Remember that young learners may not have experience with a topic. Role plays or stories can substitute for real-life experience.
- Encourage humour and use games so that sessions are participatory and fun.

- Use the one-minute paper at the end of class to get feedback on what the student is learning and how well they are learning it.
- The classroom must be fun, interesting, stimulating, motivating, and exciting, inspiring, thought provoking and enjoyable.
- Educator recaps previous lesson and introduces the new topic by explain the main concepts.
- Learners are divided into groups and each group is given a different topic. Learners engage in a robust discussion. Research as shown that learners learn better from each other because they less inhibited to share their experiences. During discussion the educator moves around – monitoring the discussion. The success of the lesson was partially due.
- The educator had good discipline and classroom management which contributed to the success of the lesson.
- The discussion is open ended and it provided a space to discuss difficult issues from their personal experiences. Learners were relaxed and enjoyed the discussion.
- After the group discussion the team leader presented the issues discussed. Questions were fielded to the presenter and this called for creative thinking. The educator allowed the discussion to proceed and clarified pertinent issues that required unpacking. Learners were allowed to make mistakes.

Tips for Group work:

- Learners learn better when they learn from each other.
- Learners are lot more open to discuss their personal experience.
- Report backs provide a lot more space for learner participation.
- Peer discussion allows for critical and creative thinking.
- Learners are not afraid of making mistakes.
- Team work is an essential skill for the 21ST skill.
- It works when learners understand the topic, is relevant to their home and community experience experiences.
- Divide groups in 10, 15 depending on class size.
- Give different topics to each group.
- Monitor groups – by going around to each group.

- Set clear guidelines.

Aid where necessary:

- Ensure careful time management.
- Note learners who dominate the discussion, skilfully redirect discussion to the learner who failed to contribute.
- In group work the educator must summarise and provide a conclusion.

What can educators do avoid learners getting bored in the classroom?

- Give praise.
- Provide support and encourage learners who participate in discussion.
- Use real life example relevant to the learner's contextual factors.
- Use popular teenage TV programmes.
- Vary methodology.
- Whole class work – desist from allowing a few learners to dominate, encourage learners by asking questions randomly to any learner.
- Spider grams: brain storming ideas.
- Vary environment – take learners outside the classroom.
- Individual work: Informal tasks. Individual presentation on findings from their projects.
- Team Work: Utilise various stakeholders.
- Team teaching: Identify specialist in PE, Careers, Projects etc. to maximise human capital. This will reduce work load and will make teaching interesting.
- Partnerships Drugs, careers, governance – local councillors
- Use current news that is relevant to teenagers.

Reflective teaching

- Provide learners opportunities to evaluate and compare information.
- Get learners to reflect on their experiences.

- Each term, allow, learners to give you feedback on the LO classroom. Their responses must be anonymous.

Role play

- In role play learners act out stories using their own words. This helps them understand the topic better. It also helps them make the link between this topic and their own lives. Most learners enjoy role plays.
- Unrehearsed dramatization can create and interesting and a fulfilled classroom e.g. – provide a scenario.
- Bullying.
- female abuse at work.
- sexual harassment.
- conflict resolution.

Debate, forum discussion

Present a controversial topic or open-ended questions to encourage critical and creative thinking. This will encourage learners to provide as many viewpoints.

Tips for debates:

- argue sensibly.
- provide evidence to substantiate claims.
- be persuasive.
- change tone to highlight an important point.

Forum discussion:

Topic: Should bullies be expelled from school? See example below of a real-life scenario of bullying.

Teen commits suicide 2012 – 2- 21

JOHANNESBURG – GRADE 10 LEARNER AT Lethabong Secondary School in Soshanguve, killed himself, in an apparent attempt to avoid school bullies. David Hlongwane was repeatedly beaten, called names and had to run to the school's staff room to avoid onslaught by his peers.

http:www.news24.com/SouthAfrica/News/Bullies-teen-commits-sucide-2012

Effective Pedagogical strategies:

- Class discussion.
- Games or problem trees.
- Case studies.
- Brain storming.
- Demonstration.
- Story telling.
- Audio visual aids, visual arts.
- Gallery presentation.
- Invite guest speakers.
- Role models from the community.

Past students from the school who have successfully completed their studies or have become successful entrepreneurs.

- Community members.
- Councillors.
- Nurses.

Physical Education

- Beginning of the year ask students about their favourite sport.
- Learners who have played the sport – could assist to lead the session.
- Make Physical Education FUN Learners love outdoor activities – it is a mental break.
- Use YouTube to present different types of dances e.g. Indian, Gum Boot, Folk dancing, Ball room dancing.

Dealing with challenging topics:

Challenging topics:

- Labour laws; Civics Academy.
- SARS.

- Use memo from past year papers – internet.
- Dealing with sensitive topics: LGBTQ.

Use one examples of prominent people who made disclosures e.g. Somizi Mhlongo, Brenda Fassie, Ellen DeGeneres, Bruce Jenner.

- Writing essays – write about things they find interesting.
- Model good writing practices.
- Begin with short pieces before they get into longer pieces.

Planning

- Educator preparation.
- Develop a set of questions to focus in the classroom: questions should help clarify, justify conclusions, controversial questions, pose dilemma, give specific examples from TV, News etc.

Assessment

- Formal Assessment, class tests, Informal, Assignments, projects.
- Managing assignments/projects.

Tests and Examinations

- Setting tests: the wording of the questions and instructions.
- Underline difficult word to try and connect with the whole question.
- Write points on issue stop be discussed before writing the essay so that you answer the question fully.
- Read and re-read question until you fully understand the question and know exactly is required by the question.
- Make use of Professional learning communities to share best practice.

Struggling learners:

- Effective pacing to accommodate learning struggling to understand concepts.
- Physical activity – simple activities in class – brain gym – modem lifts energy

- Personal stories – educator sees his/her personal stories as – this will open spaces to talk about their own personal stories.
- Extra lessons – Grade 12 – unable to complete 3 and 4Th content

Lessons from learners:

- Strengths.
- Use of ICT.
- Some educators work very hard and go the extra mile, they not rigid and dogmatic.
- The ethos of school makes it conducive for teaching learning.
- They have resources and amenities.

Challenges:

- School is not fun.
- LO is not taken seriously.
- Learners have a poor attitude and apathy because LO is going to be phased out.
- Textbook have poor and boring activities.
- Speech bubbles are not inclusive. They do not accommodate different Nationalities, cultures, economic strata etc.
- Textbooks provide mainly level 1 and 2 compared to level 4 and 5.
- Textbooks have mainly activity driven with little content.
- Some textbooks are problematic because of poor translation from English to Afrikaans
- The common projects set by district/ province, e.g. project is on littering, are often not relevant to some of the learners' contextual factors e.g. those who live in good suburb do not experience such problems.
- Learners are faced with too much pressure to perform.
- Learners enjoy self-learning because it is more meaningful especially *you tube* because it provides knowledge in an interactive manner. Learners also felt peer teaching a lot better.
- In majority of the schools teaching is talk and chalk with an over reliance of textbooks.
- LO content is repetitive e.g. HIV and AIDS has been taught from grade R to Grade 12 with little depth progressing from each grade. Learners are bored and switch off.

Concluding Remarks

The above best practices have been shared by learners, educators and management from various schools. There are many lessons that one could extract from this document to improve one's teaching in classrooms

The MOST significant aspect of classroom teaching is that it should be fun, interesting, stimulating, motivating, exciting, inspiring, thought provoking and enjoyable.

Chapter 13: Successful Teaching and Learning Framework Life Sciences

Best Practices from the classroom

Introduction

This chapter provides guidelines on innovative teaching methodologies on challenging topics/concepts as identified during educator and learner interviews. It also highlights general enabling conditions that supports teaching and learning in the classroom.

General enabling conditions – Subject specific:

Resources (e.g. textbooks, workshops (technical subjects), etc.

All schools visited as part of schools exhibiting best practice in their teaching and learning activities. All learners attending schools visited, have a textbook for each of the subjects that they are currently studying. The schools do possess the basic resources for offering the subject Life Sciences. Hence schools are strategic in keeping with norms and standards as stipulated in the Life Sciences CAPS policy.

The basic resources are aligned to the CAPS which includes the following:

Models of different human organs like the Eye and the Ear, etc.

- The human skeleton.
- Slides of Plant and Animal Tissue.
- Animal and Plant Specimens.
- Appropriate chemicals.
- Applicable and colourful Life Sciences posters.
- Functional laboratory.

Notional time

The school timetable is according done according to CAPS policy. The time allocated for Life Sciences teaching and learning is 4 hours per week. However, the formal time allocated to the teaching and learning of Life Sciences is not entirely adequate. All schools have contingency plans in place to ensure that curriculum coverage in Grade 12 Life Science is successfully achieved within the

timelines. The timetables of these schools extend beyond the formal time allocation, especially for content laden subjects like Life Sciences. The schools try to accommodate practical work within the timetables. There is also a concerted effort by Management at the schools to try to schedule Life Sciences lessons in the mornings. This assists Grade 12 learners in that they are alert and very responsive in interrogating the content and new information.

What should be noted is that a considerable amount of time for planning is set aside by the educator. These planning sessions lay outside the formal notional time.

Support from management and district/province

- I could gather that there was strong leadership that is meted out to the educators. There are high levels of accountability and also plenty of support and cross pollination of ideas especially when tackling challenging topics in the Life Sciences curriculum.
- The HODs also monitor curriculum coverage and are able to constantly intervene where the educator is in need of support. In instances where the educator in the Life Sciences department is absent, the HOD then educators, the absent educators' classes for that particular day.
- The HODs are also actively involved in class room visits to enable them to mentor and coach the educators in an effective manner.
- The HOD/Subject Head also moderates tests and examinations to check whether they aligned to the recommended cognitive levels as stated in the Life Sciences CAPS.
- SBA tasks are also compiled and moderated in teams. The HOD/Subject Head coordinates the process. The HOD holds regular subject meetings to discuss challenges that educators may face in terms of syllabus completion.
- The HOD also constantly monitors learner books and checks learner performance on a monthly basis.
- HODs in all the schools are effective managers of the curriculum. They provide comprehensive monthly reports to the Principal concerning curriculum coverage and Learner performance. The HOD ensures that deadlines are continually met by members in his/her department.
- The subject advisor plays a less prominent role within the school management systems. Instead, the subject advisor meets on a monthly basis to share information and also provides a report on good practices which educators can implement in their classrooms.

- Subject advisors also regularly monitor curriculum coverage and intervention where the necessity arises.
- The Principal and Deputy Principal play an oversight role. Further, the Principal does conduct class visits on ad hoc basis. Feedback thereof is provided to the educator as part of a development process.

Professional development

- The one underlying feature in all the schools, is that all the educators take responsibility for their own development. They are supported by the SMT as well as the District office. Educators either follow a formal route in terms of improving their content knowledge in Life Sciences or they follow the informal route by attending short courses offered by Universities, NGOs and the Education department. What is both exciting and interesting to note is that the educators at these schools use their cluster meeting with educators from neighbouring schools as a vehicle for development. These clusters involve sharing of information amongst fellow colleagues which includes inter alia challenging content areas, course material on training attended, new teaching methodologies involving ICT integration where educators have downloaded video clips off the internet which have relevance to almost all topics in the Life Sciences curriculum. Further some educators are engaging in online support programmes and in provinces like Western Cape and Free State there are dedicated websites with resources in the form of video clips, worksheets, exemplar examination papers and past examination papers, study guides and study tips which serve as an invaluable resource to both educators and learners.
- Educators are also on the same WhatsApp group where they are in constant contact with fellow colleagues and this serves as a strategic platform where information and ideas are shared with each other.
- Educators are also affiliated to educator organisations like SAASTE where they gain insight into different teaching and learning practices.

Workload

These schools ensure an equitable workload is shared amongst educators. They encourage strong teamwork and comradeship amongst fellow educators. They are allocated classes wherein most instances they share the teaching per Grade. In most schools the Grade 12 Life Sciences learners are

taught by more than one educator. This allows for cross pollination of ideas and methodology. There is also the concept of sharing teaching of certain difficult and challenging topics amongst fellow educators.

In all the schools visited educators are also allocated extra mural duties and they form a vital and integral part of the staff. Some of them assist the SMT through providing additional tuition to learner s struggling with the curriculum.

Best Practices: Lessons from Educators

Best Practice 1: Teaching Strategies – Best Practices

Challenging topics:

- Educators in all these schools plan extensively and are actively involved in teamwork on a spontaneous basis. The educators use the NSC diagnostic report for Life Sciences to assist in their daily lesson planning for Life Sciences. They are also able to use a variety of resources when planning their daily activities which is part of their lesson planning. In all the schools, educators are making use of the teach and assess strategy where learners are continuously tested on topics that are covered in classroom.
- However, the focus and emphasis is on content. During the lesson observation, one could ascertain that there is a strong leaning towards content teaching. In 3 of the 4 schools, the main modality of teaching involved chalk and talk.
- All of the educators remarked that there is no extraordinary thing that is taking place. The only thing that is taking place is that we are doing what we are paid to do. Educators in all these schools offer additional lessons to learners who need the extra support. Our duty remains to our learners where we provide them with the best possible teaching and learning environment to thrive in the study of Life Sciences. In Herschel Girls school there was a strong ICT integration in the lessons. In the other schools this ICT integration was not evident.

Dealing with challenging topics:

Educators in all the schools have prepared additional notes covering the challenging topics. This is supplemented with some video clips, worksheets and questions of different cognitive levels on the various subject areas. Educators also revise all concepts in these topics. They highlight common mistakes in these topics. Educators have generic explanations on difficult topics like natural selection and speciation and ask learners to apply this to specific examples that they provide to learners.

Best Practice 2: Planning

Innovative teaching (methodology):

Educators use the Examination guideline, CAPS document and the textbook as a reference to plan their lessons and assessment activities they prepare by ensuring that Learners will be provided with all explanations/answers to guideline document.

During teaching, educators incorporate frequent errors that learners make. They also consider different ways in which learners can be tested on that aspect of the content. They use certain questions from past Life Sciences NSC examination papers to reinforce critical concepts on a daily basis.

Best Practice 3: Assessment

Formal Assessment:

Assignments/Projects (Alternative Assessment)

Subject Advisors together with cluster leaders provide exemplar assessment tasks for educators to use the formal programme of assessment. These tasks are moderated by different lead educators and cluster leaders in conjunction with the subject advisor

Tests

Setting tests

The setting of tests is done in a team. Educators take turns to set test while colleagues are involved in moderating the tests. The HOD finally moderates the test to ensure that it complies with the prescripts of the Life Sciences CAPS policy. This also ensures that papers are balanced.

Examinations

Almost all the schools participate in common cluster examinations where educators of other schools are involved in the setting of a common examination. This ensures that schools standards are aligned to the

final NSC examinations in Life Sciences.it also provides an opportunity to learners to be exposed to different exam questions, styles and techniques.

This promotes quality.

Best Practice 4: Struggling learners

- Additional tuition is provided to learners that struggling with Life Sciences in the morning (before school commences), after school and during lunch breaks. This is in the form of one to one tuition. There are also support material provided to theses learners. All these learners are provided with Mind the Gap in Life Sciences.
- These learners are also in vacation classes as well as learner camps that managed by the Provincial Education department.

Best Practices: Lessons from Learners

Best Practice 5: Learner Experience

Classroom experience:

- All learners interviewed expressed their extreme satisfaction with their choice of school. None of them expressed any regret in their chosen school of attendance. Learners were passionate about the dedication of their educators and how their educators go the extra mile to make lessons interesting and informative so that their understanding of the subject is greatly enhanced.
- All of them mentioned that they did not see the need for them to attend extra classes in Life Sciences. Learners who attend external classes do so in mainly mathematics and Physical Sciences

Learning support:

All learners interviewed are really passionate about the Life Sciences. Most of them see themselves embarking on a career in the Science field. Value of/ Interest in subject.

Concluding Remarks

It was a pleasure to see that all these schools that I visited really go the extra mile to ensure that they provide all their learners with quality education.

There is a tight fit in terms of time. Educators always are fighting for time to ensure curriculum coverage and appropriate levels of revision are undertaken with their students. Hence SMTs at these schools ensure that there are minimum levels of disruption in the school day. The schools run like productive factories churning out high levels of skilled and knowledgeable learners.

There is time on task, very low of levels of absenteeism amongst both learners and educators. They all share a common thread in that there are all highly motivated and dedicated educators who give their all in providing a wholesome and well-balanced education to their learners. Most of these schools have the bare minimum in terms of resources. Notwithstanding, they serve as a benchmark for excellence in the basic education sector.

Chapter 14: Successful Teaching and Learning Framework Mathematics

Best Practices from the classroom

Introduction

This chapter provides guidelines on innovative teaching methodologies on challenging topics/concepts as identified during educator and learner interviews. It also highlights general enabling conditions that supports teaching and learning in the classroom.

General enabling conditions – Subject specific:

Resources, e.g. textbooks, calculators, smart-boards, etc.

- All schools visited as part of schools exhibiting best practice in their teaching and learning activities. All learners attending schools visited, have a textbook for each of the subjects that they are currently studying. The schools do possess the basic resources for offering the subject Mathematics. Hence schools are strategic in keeping with norms and standards as stipulated in the CAPS policy for Mathematics. All educators in the Mathematics department can teach all grades from grade 8 – 12. In some schools, grade 8 Mathematics educators are also teaching grade 12.
- All mathematics educators at these schools are highly computer skilled. They also use computers to prove many mathematical concepts using smart-board.

Notional time

- The school timetable is according done according to CAPS policy. The time allocated for Mathematics teaching and learning is 4, 5 hours per week.
- The plan for the week is done by the lead educator for that particular grade which is shared among all Mathematics educators during Mathematics meetings. Two hours per week on a particular day of the week is assigned for Mathematics meeting. All educators in each grade complete their curriculum on time. What should be noted be noted as main reason to finish curriculum is looping which starts from grade 8.

- The first 27 best learners are placed in one class. This makes things easier for the educators to present a concept quicker. Weak learners are less in number in a classroom as compared to best learners.
- Extra support is provided to all weak learners. Classes for struggling learners are called ICU. Average number learners in class is 20. The best 27 learners are in set 1, best class A.

Support from management and district/province

- I could gather that there was strong leadership that is meted out to the educators. There are high levels of accountability and also plenty of support especially when tackling challenging topics in the Mathematics curriculum.
- The HODs and lead educator for a grade monitor curriculum coverage and are able to constantly intervene where the educator is in need of support. In instances where the educator in department is absent, the HOD then educators the absent educators' classes for that particular day.
- The HODs are also actively involved in class room visits to enable them to mentor and coach new educators in an effective manner.
- Grade lead educator moderates' tests and examinations to check whether they aligned to the recommended cognitive levels as stated in the Mathematics CAPS.
- SBA tasks are also compiled and moderated in teams. The HOD/Subject Head coordinates the process.
- The HOD and lead grade educator also constantly monitors learner books and checks learner performance every week.
- All schools which produce good results in Mathematics have good educators who can teach all the grades perfectly from grade 8 -12.
- All educators are qualified to teach Mathematics.
- The best educators including the HODs teach grades 8 and 9.
- The HOD is also qualified for the subject.
- Educators are very organised when they go to class. Lessons are always prepared.
- Learners write a lot of work at home and at school.
- Extra lessons are the order of the day for struggling learners.

- The HOD conducts departmental meetings every week. There is a specific day in a week set for the weekly meetings. Educators always talk about challenges they face every week. Scheme of work for the week is done by the grade HOD and is also shared in the meeting.
- If the school is big, there are department heads for each grade.
- Educators work as a team.
- The school has always a novice educator who is being groomed as most of the educators always get promotions very often.
- Learners are very disciplined in their classrooms.
- They finish curriculum in July and do revision throughout until they write final examinations.
- The school arrange learners according to their ability in a subject, grading of learners.
- Weak learners are few in class as compared to a brighter class.
- All learners pointed Euclidean Geometry as the most challenging topic.
- Subject advisors also regularly monitor curriculum coverage and intervention where the necessity arises.
- The Principal and Deputy Principal play an oversight role. Further, the Principal does conduct class visits on ad hoc basis. Feedback thereof is provided to the educator as part of a development process.

Professional development

- The one underlying feature in all the schools, is that all the educators take responsibility for their own development. They are supported by the SMT as well as the District office. Educators either follow a formal route in terms of improving their content knowledge in Mathematics or they follow the informal route by attending short courses offered by Universities, NGOs and the Education department. What is both exciting and interesting to note is that the educators at these schools use their cluster meeting with educators from neighbouring schools as a vehicle for development. These clusters involve sharing of information amongst fellow colleagues which includes inter alia challenging content areas, course material on training attended, new teaching methodologies involving ICT integration where educators have downloaded video clips off the internet which have relevance to almost all topics in the Mathematics curriculum. Further some educators are engaging in online support programmes.

- All educators attended ICT courses / lessons and all classrooms have smart boards. Because of the schools' performance, companies support these schools on academic activities including capacitating educators on content. For an example, there are always student educators who registered with UNISA paid by IPOC Trust who assist struggling learners during breaks.

Workload

These schools ensure an equitable workload is shared amongst educators. They encourage strong teamwork and comradeship amongst fellow educators. They are allocated classes wherein most instances they share the teaching per Grade. In most schools the Grade 12 Mathematics learners are taught by more than three educators. This allows for cross sharing of ideas and methodology. There is also the concept of sharing teaching of certain difficult and challenging topics amongst fellow educators. In all the schools visited educators are also allocated extra mural duties and they form a vital and integral part of the staff. Some of them assist the SMT through providing additional tuition to learner s struggling with the curriculum.

Best Practices: Lessons from Educators

Best Practice 1: Teaching Strategies – Best Practices

Challenging topics:

Educators in all these schools plan extensively and are actively involved in teamwork on a spontaneous basis. The educators use the NSC diagnostic report for Mathematics to assist in their daily lesson planning for the subject. They are also able to use a variety of resources when planning their daily activities which is part of their lesson planning. In all the schools, educators are making use of the teaching aids and assess strategy where learners are continuously tested on topics that are covered in classroom.

Dealing with challenging topics:

Educators in all the schools have prepared additional notes covering the challenging topics. This is supplemented with some video clips, worksheets and questions of different cognitive levels on the various subject areas. Educators also revise all concepts in these topics. They highlight common mistakes

in these topics. Educators have generic explanations on difficult topics like Euclidean Geometry and probability.

Best Practice 2: Planning

Innovative teaching (methodology):

Educators use the Examination guideline, CAPS document and the textbook as a reference to plan their lessons and assessment activities they prepare by ensuring that Learners will be provided with all explanations/answers to guideline document.

During teaching, educators incorporate frequent errors that learners make. They also consider different ways in which learners can be tested on that aspect of the content. They use certain questions from past Mathematics NSC examination papers to reinforce critical concepts on a daily basis.

Best Practice 3: Assessment

Formal Assessment:

Assignments/Projects (Alternative Assessment):

Subject Advisors together with cluster leaders provide exemplar assessment tasks for educators to use the formal programme of assessment. These tasks are moderated by different lead educators and cluster leaders in conjunction with the subject advisor.

Tests

Setting tests

The setting of tests is done in a team. Educators take turns to set test while colleagues are involved in moderating the tests. The HOD finally moderates the test to ensure that it complies with the prescripts of the Mathematics CAPS policy. This also ensures that papers are balanced. **Examinations**

- Almost all the schools participate in common cluster examinations where educators of other schools are involved in the setting of a common examination. This ensures that schools standards are aligned to the final NSC examinations in the subject. It also provides an opportunity to learners to be exposed to different exam questions, styles and techniques.
- This promotes quality. Learners write a lot of work on daily basis.

Best Practice 4: Struggling learners

- Additional tuition is provided to learners that struggling with Mathematics in the morning (before school commences), after school and during lunch breaks. This is in the form of one to one tuition. There are also support material provided to these learners. All these learners have extra materials for themselves like study guides.
- These learners are also in vacation classes as well as learner camps that managed by the Provincial Education department.

Best Practices: Lessons from Learners

Best Practice 5: Learner Experience

Classroom experience:

- Learners are highly motivated and have goals to achieve in life.
- All learners interviewed expressed their extreme satisfaction with their choice of school. None of them expressed any regret in their chosen school of attendance. Learners were passionate about the dedication of their educators and how their educators go the extra mile to make lessons interesting and informative so that their understanding of the subject is greatly enhanced.
- All of them mentioned that they did not see the need for them to attend extra classes in Mathematics in other schools.

Learning support:

All learners interviewed are really passionate about Mathematics. Most of them see themselves embarking on a career in the Science field.

Concluding Remarks

All educators talk to each other freely and in a friendly manner. If educators are in discussion, one cannot see who the HOD is amongst them. Educators enjoy their work and the environment at their work place. All educators attend all their classes. Learners also talk freely and highly motivated. They all know what they want in life.

Chapter 15: Successful Teaching and Learning Framework- Mechanical Technology

Best practices: lessons learned from the educators

Introduction

The chapter provides guidelines on innovative teaching methodologies on challenging topics/concepts as identified during educator and learner interviews. It also highlights general enabling conditions that support teaching and learning in the classroom.

Resources:

- ✓ The schools have the required Infrastructure Workshops and Computer Lab with a minimum of five (5) computers and 1 printers) to offer the subject.
- ✓ He school has learners with disabilities; ramps have been built by educators to enable the learners for easy access.
- ✓ The workshop layout provides easy access for all leaners.
- ✓ Educator learner ratio complies with subject policy requirement of 1:15 for practical's in the workshop.
- ✓ There is internet connectivity at the school and learners are allowed to use cell phones for research purposes during both theory and practical periods the educators offering the subjects are professionally qualified and have years of teaching experience.
- ✓ Educators are provided with personal protective apparel for usage during practicals
- ✓ All educators have a level 1 first aid certificates.
- ✓ Monitoring plan, monitoring tools and reports for curriculum coverage are available.
- ✓ Assessment policies are in place.
- ✓ The schools have Qualified and experienced artisans as part of their staff establishment
- ✓ All the Heads of the Departments are qualified in one or two of the technical subjects
- ✓ All learners have the prescribed Mechanical Technology textbook.
- ✓ A variety of old nated 550 textbooks are used as extra resources.
- ✓ There are computers which have been loaded with Mechanical subject's software programmes, and downloaded U tube videos on topics covered in the subject as well as exemplars and previous question papers (national and other 8 provinces.)

- ✓ A comprehensive budget showing detailed allocation of all funds in subjects with Practical Assessment Tasks.
- ✓ Science week and technical subject week is held and with different stake holders.
- ✓ The school has management plan for class visits and support.
- ✓ Integration of Theory and practicals are during the lessons.

Notional time

Departmental meetings held weekly.

Four (4) hours allocated per week for theory and Practical Assessment Task.

Support from management and district/province

- ✓ The schools have a functional School Management Team that ensures that there is proper monitoring and accountability of educators.
- ✓ Educators and learners are motivated by the school management.
- ✓ The school has management plan for class visits and support.
- ✓ Coaching and mentoring by the experienced peer educators, HOD, Deputy Principal and the Principal.
- ✓ District subject advisors and provincial subject coordinators and other officials visit the schools for monitoring and support.
- ✓ The is collaboration with the private sector for skills development of educators
- ✓ The Head of the Department is qualified in one of the Technical Subject.
- ✓ The school has management plan for class visits and support.
- ✓ The school developed to monitor lesson preparation, Curriculum Coverage, Practical Assessment Tasks and School Based Assessment.

Professional Development

- ✓ Plans for on-going professional development of staff are in place.
- ✓ Coaching and mentoring by the HOD, Deputy Principal and the Principal.
- ✓ Training workshops are conducted by the province on different topics in the subject and on topics that are on diagnostic report.
- ✓ Workshops are conducted for the staff on the new trends or programmes.
- ✓ Science week and technical subject week with different stake holders.

- ✓ Departmental heads manage the department with up nine different specialisation subjects, Engineering Graphics and Design and Technology GET at same time.
- ✓ The departmental head are also teaching one or two of the technical subjects.
- ✓ Educators are classroom educators and manage the workshops as well
- ✓ All technical educators also teach technology in grade 8 and grade 9.
- ✓ Educator offers extra morning classes in the morning, afternoon and on weekends.
- ✓ Civil Technology educators are roped in to teach moments as it's part of their content and they have expertise and content background in the topic.
- ✓ A variety of teaching methods are used learners with different learning abilities and styles are provided for.
- ✓ Electrical software (Edison and Crocodile clip) are used to enhance teaching and learning
- ✓ Practical's incorporated in during the theory classes.
- ✓ Visualisation is incorporated in teaching in the form of educational trips organised.
- ✓ Downloaded YouTube videos lessons are made available to learners on topics.
- ✓ Troubleshooting techniques and s are taught to learners.
- ✓ Differentiation teaching is practiced by allocating tasks based on learner's abilities, to ensure no one gets left behind.
- ✓ Regular written work to reinforce concepts and content.

BEST PRACTICE 1: TEACHING STRATEGIES

- A variety of teaching methods are used learners with different learning abilities and styles are provided.
- Educators are classroom educators and manage the workshops as well.
- All technical teachers also teach technology in grade 8 and grade 9.
- Educator offers extra morning classes in the morning, afternoon and on weekends. Mechanical software.
- Practical's incorporated in during the theory classes.
- Visualisation is incorporated in teaching in the form of educational trips organised.
- Downloaded youTube videos lessons are made available to learners on topics.
- Troubleshooting techniques are taught to learners.

- Differentiation teaching is practiced by allocating tasks based on learner's abilities, to ensure no one gets left behind.
- Regular written work to reinforce concepts and content.

BEST PRACTICE 2: PLANNING

- The schools have both single use and standing plans.
- Annual Plans which dates and programmes are available.
- The school have developed a number of policies which are aligned to departmental policies.
- The school timetable complies with the subject policy requirements.
- The school has management plan for class visits and support.
- There is a budget allocated for Technical subjects.
- The school improvement plan as well as subject improvement plans has been drawn.
- Plans for monitoring and supporting are available and reports have been generated.

Best practice 3: Planning

- The schools have both single use and standing plans.
- Annual Plans which dates and programmes are available.
- The school have developed a number of policies which are aligned to departmental policies.
- The school timetable complies with the subject policy requirements.
- The school has management plan for class visits and support.
- There is a budget allocated for Technical subjects.
- The school improvement plan as well as subject improvement plans has been drawn.
- Plans for monitoring and supporting are available and reports have been generated.

Best practice 4: Assessment

- Schools have assessment plans and policies in place that emphasise informal assessment in the form of written work.
- Educators use the different taxonomies when setting informal class tests.
- Learner responses is analysed by the educator and HOD and feedback is given.

- The school uses previous question papers to train learners in exam action verbs and exposing learners to a variety of cognitive level questions.
- Learners are provided regular classwork that are monitored and marked in class by the educator Learners are encouraged to write corrections after each work is marked.

Formal assessment:

- ✓ The schools write the provincial tests and examinations set by the provincial curriculum specialists.
- ✓ The school writes formal teats as per subject policy requirement under strict examination setting.
- ✓ Practical tasks/simulations and Projects are assessed by the educator and moderated internally by the senior educator and the departmental head every term.
- ✓ Learners are provided with clearly articulated assessment tools such as rubrics to guide them in executing their project to the best of their ability (clear criteria and mark allocation.)

Tests and examinations and quality assurance:

- ✓ CAPS is used for content framework.
- ✓ Educators are required to use the taxonomies when setting class tests and examinations.
- ✓ Use of exam verbs to ensure that all cognitive levels are covered.
- ✓ Exam guidelines are used for content compliance.
- ✓ Tests are set with clear marking guidelines which have been moderated and quality assured by the subject head for approval.
- ✓ School write common formal tests and examinations papers set and provided by the province.
- ✓ Tests and examinations are moderated for quality assurance by the subject head, cluster leader or provincial subject coordinator.
- ✓ CAPS and Exam guidelines are used for adherence to content framework and cognitive levels for a specific grade.

Practical Assessment Task (PAT)

- ✓ There subject annual assessment plan is available.
- ✓ There is evidence of educator assessment and assessment tools and consolidated mark sheets.
- ✓ Head of department moderates the PAT internally.

- ✓ Sampled learners' projects are moderated at a cluster meeting.

Best practice 5: Dealing with learners that struggle

- Each subject educator conducts the analysis of results per quarter.
- The results are used to track leaners that are struggling and provide them with the necessary support.
- The analysis of results is also used to do target setting to improve the overall performance.

Dealing with challenging topics:

Challenging topics in Mechanical	Ways of dealing with these topics
Forces Terminology Systems and Control	Allocate grade 10 to Experienced and competent educators. Revision of introduction to Forces (grade 8-10 content Civil technology educators are roped in teaching forces A firm foundation of basic in all topics must taught in grade 10. Integrating theory and practicals. Using models for demonstrations. More time spent on practicals. Using software to simulate circuits. Educational excursions for learners must be organised Smart Welding manage and Dr Smash software is used to support teaching and learning.

Best practices: lessons from learners

- Learners are highly motivated and love the subject.

- The learners speak highly of their technical educators.
- Learners participate in science expos and use their Practical projects.
- Learners are encouraged to use a variety of resources such as textbooks, study-guides and previous question papers to be able to master the subject.
- Learners are part of hobby clubs and budding entrepreneurs they manufacture products and sell them to generate money for themselves.
- Automotive learners are servicing cars after hours and others are helping local mechanics to generate extra income for themselves.
- Learners have formed study groups and use previous question papers from other provinces as well previous question papers.
- Learners wear their personal protective equipment during practical lessons.
- The learners have built a miniature race car using the skills they acquired from grade 10-12.

Concluding Remarks

The school management team that leads the schools are highly motivated and competitive. Educators plan their lessons and use a variety of teaching resources and methods. Learners are exposed to the outside world through the internet and going out on educational excursions. Educators go an extra mile by offering extra tuition to learners without being compensated. They are passionate about the subject and motivate learners to achieve the best. Curriculum is covered as per subject policy requirements. There is evidence of parental involvement and support through the SGB.

Chapter 16: Successful Teaching and Learning Framework Religion studies

Best Practices from the classroom

Introduction

This chapter provides guidelines on innovative teaching methodologies on challenging topics/concepts as identified during educator and learner interviews. It also highlights general enabling conditions that supports teaching and learning in the classroom.

Lessons from Educators:

- Teaching is exam driven. Focus is to attain targets set at the school. Content is derived from CAPS however, the key to producing good results is to constant revision of exam papers. Areas of difficulty isolated and dealt with in detail. Working with possible scenarios – that may appear in the paper.
- Educators are creative and innovative. They do not stick rigidly to CAPS. Educators have the knowledge, skills and ability to integrate topics to accommodate current news and contextual factors. Lesson are completed in advance, the lesson plans collected over the years adapt, to accommodate current situations.
- Lesson plans are in files merely for compliance. They do not lend any support to teaching nor do they make use of them. It does not serve any purpose. However, officials are dogmatic about such requirements. They are mere window dressing. Files are large and cumbersome. Need to move towards paperless files.
- Instead educators spend more time on research and keep aufait with current issues. Time is spent additional material is produced to supplement the inadequate textbook.
- Main focus was past exam papers. There was a constant revision of past year papers.
- Only the best performing learners take RS because they wish to boost their Admission Point Scores. Learners have an excellent work ethic.

- The NSC diagnostic reports are used extensively as informal activities. Educators are able to have one-on one contact with learners. The school management provide material and pedagogical support.

Teaching Strategies

Classrooms can be difficult and learners could test a educator's patience. We hope that the teaching strategies below could help you.

Important Learning Principles and Practices

- Know and use learners' names.
- Create a safe learning environment.
- Be friendly and encourage the learners to speak.
- Encourage all the learners to speak, ask questions and share ideas.
- Comment positively on what the learners say and listen carefully.
- Praise learners for their efforts.
- Do not stop a learner from speaking if they say something incorrect. Allow them to continue and thank them for sharing.
- Encourage all learners to give answers and take part in the discussion.
- Remember that young learners may not have experience with a topic. Role plays or stories can substitute for real-life experience.
- Encourage humour and use games so that sessions are participatory and fun.
- Use the one-minute paper at the end of class to get feedback on what the student is learning and how well they are learning it.
- The classroom must be fun, interesting, stimulating, motivating, and exciting, inspiring, thought provoking and enjoyable.

Tips for Group work

- Learners learn better when they learn from each other.
- Learners are lot more open to discuss their personal experience.
- Report backs provide a lot more space for learner participation.

- Peer discussion allows for critical and creative thinking.
- Learners are not afraid of making mistakes.
- Team work is an essential skill for the 21ST skill.
- It works when learners understand the topic, is relevant to their home and community experience experiences.
- Divide groups in 10, 15 depending on class size.
- Give different topics to each group.
- Monitor groups – by going around to each group.
- Set clear guidelines.
- Aid where necessary.
- Ensure careful time management.
- Note learners who dominate the discussion, skilfully redirect discussion to the learner who failed to contribute.
- In group work the educator must summarise and provide a conclusion.

What can educators do avoid learners getting bored in the classroom?

- Give praise.
- Provide support and encourage learners who participate in discussion.
- Use real life example relevant to the learner's contextual factors.
- Use popular teenage TV programmes.
- Vary **methodology.**
- Whole class work – desist from allowing a few learners to dominate, encourage learners by asking questions randomly to any learner.
- **Spider grams**: brain storming ideas.
- **Vary environment** – take learners outside the classroom.
- **Individual work:** Informal tasks. Individual presentation on findings from their projects.

Reflective teaching

- Provide learners opportunities to evaluate and compare information.
- Get learners to reflect on their experiences.
- Each term, allow, learners to give you feedback on the Religion studies classroom. Their responses must be anonymous.

Role play

In role play learners act out stories using their own words. This helps them understand the topic better. It also helps them make the link between this topic and their own lives. Most learners enjoy role plays. Unrehearsed dramatization can create and interesting and a fulfilled classroom. e.g. Indoctrination, parents' choice, lack of personal choice on Religion: how does it impact student's views on religion?

Role players:

- Priest.
- Parents.
- Fundamentalists.
- rebel teenagers.

Debate, forum discussion

Present a controversial topic or open-ended questions to encourage critical and creative thinking. This will encourage learners to provide as many viewpoints.

- Tips for debates.
- argue sensibly.
- provide evidence to substantiate claims.
- be persuasive.
- change tone to highlight an important point.

The classroom must be fun, interesting, stimulating, motivating, and exciting, inspiring, thought provoking and enjoyable.

- What can educators do avoid learners getting bored in the classroom?
- Give praise, provide support and encourage learners who participate in discussion.

- Use real life example relevant to the learner's contextual factors popular teenage TV programmes.

Use of Artefacts in the Religion Studies classroom

- Artefacts used from various religious rituals e.g. lamps.
- Charts/ Symbols.
- Pictures: dress code in various religions.

Invite guest speakers

- Role models from the community.
- Imams.
- Gurus.
- Priest from various denomination.
- University lectures- theology department.
- Challenging topics: Discussed from a Religious.
- Dealing with sensitive topics: LGBTQ.
- Use examples of prominent people who made disclosures.
- e.g. Anglican Priests – acceptance of LGBTQ.
- Catholic Church and paedophilia.

Planning

Educator preparation:

Develop a set of questions to focus in the classroom: questions should help clarify, justify conclusions, controversial questions, pose dilemma, give specific examples from TV, News,

- Writing essays – write about things they find interesting.
- Model good writing practices.
- Begin with short pieces before they get into longer pieces.

Assessment

Formal Assessment, class tests, Informal, Assignments, projects

Tests and Examinations

- Setting tests: the wording of the questions and instructions.
- Underline difficult word to try and connect with the whole question.
- Write points on issue stop be discussed before writing the essay so that you answer the question fully.
- Read and re-read question until you fully understand the question and know exactly is required by the question.
- Make use of Professional learning communities to share best practice.

Lessons from learners:

- Strengths.
- Use of ICT.
- Some educators work very hard and go the extra mile, they not rigid and dogmatic.
- The ethos of school makes it conducive for teaching learning. They have resources and amenities.

Challenges:

- School is not fun.
- Textbook have some poor and boring activities.
- Speech bubbles are not inclusive. They do not accommodate different Nationalities, cultures, economic strata etc.
- Textbooks provide mainly level 1 and 2 compared to level 4 and 5.
- Textbooks have mainly activity driven with little content.
- Some textbooks are problematic because of poor translation from English to Afrikaans
- Learners are faced with too much pressure to perform.
- Learners enjoy self-learning because it is more meaningful especially *you tube* because it provides knowledge in an interactive manner. Learners also felt peer teaching a lot better.
- In majority of the schools teaching is talk and chalk with an over reliance of textbooks.

Concluding Remarks

The above best practices have been shared by learners, educators and management from various schools. There are many lessons that one could extract from this document to improve one's teaching in classrooms.

The MOST significant aspect of classroom teaching is that it should be fun, interesting, stimulating, motivating, exciting, inspiring, thought provoking and enjoyable.

Chapter 17: Successful Teaching and Learning Framework Tourism

Best Practices from the classroom

Introduction

This chapter provides guidelines on innovative teaching methodologies on challenging topics/concepts as identified during educator and learner interviews. It also highlights general enabling conditions that supports teaching and learning in the classroom.

General enabling conditions:

Some of the general enabling conditions are as follows:

- Financial support from the province and school in providing funds to implement the subject; have access to the minimum norms prescribed for resources and equipment for effective practical skills training.
- Support from School Management and the district to ensure effective subject implementation.
- The availability of a classroom for the teaching of theory as well as being functional to teach and develop practical skills in preparation of the Practical Assessment Task.
- The availability of electronic resources, AS prescribed in the CAPS Policy, to bring the '*World into the Classroom'* for effective teaching and learning.
- The availability of mobile resource trolley filled with pamphlets, brochures, travel magazines, travel articles, newspapers and journals with travel related reports to enhance teaching.
- Good teaching resources are used, that are well-scaffolded, with activities ranging from easy to challenging, supported by additional activities such as questions from previous papers as well as newly set innovative questions.
- Manageable class sizes as stipulated in the CAPS Policy for effective teaching.
- Teaching time – affording maximum teaching time, though limiting time spent on tests, examinations and other detracting activities.

- Fair workload – affording time for planning, marking, remedial work/extra support for struggling learners as well as providing additional support and stimulation to the higher achieving performers.
- Educator access to opportunities for relevant professional development.
- Grounding of knowledge in Grade 8 & 9 to strengthen skills development in the subject.
- A very important enabling condition is the willingness to afford all learners the opportunity to develop entrepreneurial thinking and advanced preparation and service skills to improve employability in a diverse, global context. This requires of the learner to demonstrate well developed '*hard and soft skills',* as well as having mastered the required practical skills for service excellence.
- It is essential to align standards for teaching and assessment to ensure that learners are well prepared for formal assessment tasks. For effective teaching, planning for lessons needs to be skilful, intentional and innovative. Lessons must keep the learner engaged and encourage commitment towards achieving the expected outcome of the lesson. Educators need to understand *'how learning takes place'* in order to plan and design effective lessons. Some learners may only understand what they are learning, once they set the concept in practice. Teaching, therefore must be explicit, skills must be practiced and understanding must be applied. It takes time to understand complex topics where concepts are more abstract.
- New knowledge and skills must be applied to solve problems within a new context to determine the strength and effectiveness of understanding. Learners that monitor their own learning, generally perform better and achieve better academic success. This should be pursued for all learners to master.
- An expert educator will strive to create a learning environment where errors are welcome, many questions may be asked and efforts and hard work are recognised to build learner

confidence. This learning environment will be relaxed and includes a relationship of trust between the educator and the learner. It will further encourage the learner to maximise the opportunity to develop and learn, build selfesteem.

- The expert educator will respond to and adapt to the needs of every learner with respect and knowledge to provide the opportunity of success to every individual need by striving to achieve clearly set goals.

All learners deserve the opportunity to learn and be successful in school.

To participate and provide your best at all times, is not a choice, but a personal responsibility!

Balancing standards and instructional planning for lessons:

- All teaching and learning needs to align to the expected standards that are outlined in Section 4 of the CAPS policy for the subject's assessment. Higher order questions and critical problem solving must be included for daily teaching.
- Educator planning needs to ensure that new content is introduced with first, the known concepts and facts and then gradually move on to new concepts. First consider what the learner already knows as a point of departure for the purpose of planning.

Creating a positive learning environment:

Expert educators are not afraid to try new ideas and will delight in facing a new challenge or problem. This is a good example of a strong '*Growth Mind Set'*. These educators know exactly what to teach, but also know exactly how to teach it. An expert educator has a full understanding of the subject content but also understands the learner he/she is teaching. This is one of the characteristics that stands out above the novice educator.

Good educators have the following characteristics:

Teaching is precise and to the point.

- **Classroom discipline:** Enforces classroom standards and build patterns of cooperation to minimize disruption and maximize learning.
- The classroom is always neat and well organised –a basic principle for any successful small enterprise.

- Creates a vibrant learning atmosphere for the subject with interesting, subject related posters and resources.
- Introduces a:*'What is new?'* – board at the entrance of the classroom with newspaper snippets or magazine articles of new trends. Makes learners responsible for the updates.
- Keeps a classroom register/class list to note evidence of absenteeism, late arrival or homework not done.
- Is well prepared for each lesson to awake a keen interest and attention.
- Becomes an expert master of the subject content to earn the respect of every learner.
- Keeps learners busy throughout the lesson for a full period.
- Uses the correct language for instruction (LOLT) and avoids code switching.
- Always a professional, being able to criticise in private and praise in public.
- Maintains a sense of humour – laughter and happiness are essential to enhance the process of learning.

Best Practices: Lessons from the classroom

Challenging skills and topics are highlighted below by educators and learners:

- Poor critical thinking and interpretation skills.
- Poor language proficiency indicated by the inability to adequately address the requirements of a question effectively or respond with relevant information pertinent to a question or using subject terminology correctly.
- Lacking skills to do accurate basic calculations.
- An inability to analyse and interpret data effectively in relation to a specific context.

Subject specific Challenges:

Grade 10: Grounding knowledge for: Map work and tour planning; Tourist attractions; Sustainable and Responsible Tourism; Communication and Customer Care.

Grade 11: Grounding knowledge for: Tourism Sectors; Domestic, regional and international tourism; Foreign exchange; Marketing; Communication and Customer Care.

Grade 12: Map work and tour planning; Tourist attractions; Marketing; Sustainable and Responsible Tourism; Communication and Customer Care.

Best Practice 1: Teaching Strategies

Use and implement National policy documents: Use the Tourism CAPS policy and 2017 DBE Examination Guidelines for Tourism as a primary source of information and guide to prepare for teaching and assessment of subject content. Do not orientate teaching around using the text book as primary source for educator preparation. It will ensure that the correct format and layout for tests and exams are implemented. Learners will be well prepared for assessment if teaching and learning covers a fully covered curriculum.

Tourism Circulars: Ensure that circulars are implemented with immediate effect after release. **Use of past NSC Tourism papers**: These papers are a valuable resource for teaching and learning, but should never replace formal teaching or replace setting of original question papers for examinations. Papers from November 2014 onwards are appropriate for revision purposes. This will ensure that learners are exposed to different types of questions and will master the skill and know how to respond to appropriately.

Basic Concepts and Tourism Terminology: Ensure that learners are able to understand and explain basic Tourism concepts and terminology by implementing a terminology chapter per topic /concept in Grades 10-12.

Revision of Relevant Grades 10 and 11 Content: Identify underpinning knowledge in Grades 10 and 11 that is required to reinforce relevant subject content for formal assessment in Grade 12. Lacking this knowledge inhibits the ability to apply this knowledge in Grade 12.

Develop learner skills to: Interpret information in questions and then link and apply relevant knowledge of content. Regular use information from pamphlets, magazines and newspapers can assist to develop skills to interpret information from tables, data, scenarios, podcasts and case studies.

Language proficiency: Responses must be written in full, clear sentences. The ability to respond in a paragraph or tabled format requires practice. Ensure that learners are able to respond effectively to the instruction of the action verb in the question.

Develop the skill to voice expression: Focus on the ability to respond with clarity, where comments or explanations are required. Use bullet points to order the thinking process. Emphasise that partial, simple or single-word responses are not sufficient when an explanation is required.

The Importance and value of (*formative)* Informal Assessment: Regular, short, bi-weekly informal tests are compulsory to build the confidence of learners in all topics. Feedback to the learner will benefit and improve performance. Use different types of exam questions for daily informal tasks such as homework and classwork activities to practice, develop and strengthen these skills. Self-marking/peer-marking allows learners to benefit from immediate feedback by gaining an understanding of the mark allocation, and by enabling prompt identification of errors or valid alternative responses.

Development of skills that align to the instruction in a question: Educators are encouraged to explain and practice the skill to identify the core focus of the question or link content in the question to content that is known and was studied in class. Learners must be taught to express themselves clearly where comments or explanations are required. Partial, simple or single-word responses will not be sufficient if an explanation is required. Sufficient, regular practice on how to structure responses around the core content and instructions of the question must be implemented. Implement the EAC teaching strategy.

Ensure that a Grade 11 learner who changed a subject to offer Tourism, is supported: Additional inputs are required to ensure that these learners know the terminology and content for Grades 10 and 11, as it forms the basis for Grade 12 background knowledge. Additional support will also be required to align the standard of the practical skills that are required.

Keep up to date with current events in the Tourism industry as seen in the media and apply examples for higher order assessment.

Apply **entrepreneurial principles** to practical lessons and skills development to strengthen '***entrepreneurial thinking skills.'***

Best Practice 2: Planning

> ***Inclusion*** *involves an active and intentional engagement with diversity such that a range of individuals can fully participate in every lesson.*
>
> *Sentance et al.*

The Curriculum in the CAPS policy indicates: the *'scope'* for teaching, together with the 'sequence', of instruction. Curriculum does not stipulate the '*how*' of how teaching should take place. It further lacks clarity of which strategies should be implemented for instruction.

Educator planning and preparation is the prime drive and success factor for effective teaching and learning to take place. Successful expert educators plan thoroughly for every period.

Steps implemented for lesson planning and preparation.

Scope	**Scope refers to the knowledge that is to be presented to the learner.**
	The scope of content is clearly highlighted and broken down in the annual teaching plan per grade / per term in the CAPS policy.
Focus	**Focus defines how learning will be affected for the specific topic.**
	The content explains the concept /topic. Consider the standards (Cognitive levels and Levels of difficulty) within which the teaching of the concept /topic must take place. Teach learners to apply content to different contexts in case-studies/scenarios.
Sequence	**The order in which the concepts are organised for teaching.**
	Order of subject matter for the lesson: Place the content in a logical order for teaching. **Complexity:** Progress from basic to more complex concepts. Develop activities to test knowledge, understanding and measure progress.

	Prior Knowledge: Understanding that new learning is based on previous learning. A clear connection must be provided to indicate how the new learning fits into what is already known.

Clear objectives to be included for the planning of each lesson to ensure effective learning takes place.

The learner must understand ….

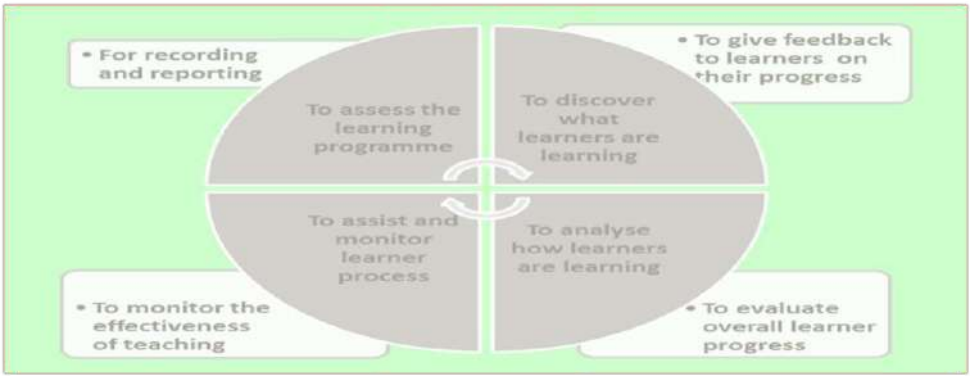
The learner must know…..

The learner will be able to …….

Guidelines for effective lesson planning:

- Lessons must have a clear goal, provide opportunity to apply and practice skills and must include feedback to the learner.
- Consider the needs of the learners to ensure that teaching informs effective learning.
- Limit the content to be covered in a lesson to ensure that enough time is allowed for revision, practice and feedback.
- Include the strategy to strengthen understanding of the language for the content and skill being taught.
- Ensure that learners understand how learning of new content links onto content that is already known.
- **Integrate knowledge, skills, values, entrepreneurship and careers with the teaching of all concepts.**
- Ensure that different forms of media are used to strengthen every lesson.
- Be flexible to adapt the plan for teaching if effective learning is not taking place.

Best Practice 3: Assessment



3.1 Daily Assessment

School-based assessment embeds the broader educational philosophy of '*assessment for learning'*. '*Assessment for learning'* is any form of assessment in which the main aim is to enhance students' learning and understanding of concepts. An assessment activity can help learning if it provides information that can be used (feedback) by educators and learners to improve the teaching and learning process in which they are engaged. It differs from '*assessment of learning*', which is designed primarily to serve the purposes of accountability, ranking, or certification of competence.

'*Assessment for learning*' should always contribute to a learner's learning and progress effectively. It should provide the learner with the knowledge, understanding and skills to complete '*formal assessment tasks'* successfully and with the required competence. Daily assessment activities must include higher order thinking skills and different levels of difficulty.

Most critically, these activities inform the educator, where learners are experiencing difficulties and what early steps should be taken to assist learners to overcome these challenges. Educator creativity, resources available, energy levels and behaviour of learners will determine what will work in each unique situation.

Examples of informal assessment activities in Tourism:

- Class test after teaching a topic.
- Identification tests / Tasting tests.
- Skills test.
- Class Quiz.
- Case studies/ Scenarios with questions.
- Role play.
- Listening test.
- Mind maps / Concept maps.
- Puzzles.
- Games: Eliminator / Scrabble / Bingo / Charades.

*Too often we give our learners something to **remember**, rather than problems to **solve.***

Gameful pedagogy: http://www.gamefulpedagogy.com/

3.2 Formal Assessment

Assessment is an essential part of teaching and learning. The evidence of learners' performance in formal tasks provides feedback with regards to the content, concepts and skills that have been acquired by the learner. The marks of those tasks will be used for promotion and progression of learners to the next grade and to give feedback to parents and various stakeholders in this regard. The feedback will also indicate what support is planned for those learners who are not able to master all the content, concepts and skills and need more time to reinforce teaching and learning.

Formal Assessment Tasks in Tourism comprise of:

Tests and Examinations

A good quality question paper gives every learner an equal opportunity to fully demonstrate what they have learnt from the teaching that was offered. Question papers must be valid, reliable, realistic, fair and appropriate.

When setting tests, expert educators ensure that the paper complies with the standards prescribed in Section 4 of the CAPS policy and Examination Guideline for the subject.

Expert educators' critique and analyse errors made by learners in tests and examinations to inform teaching and to follow-up through improvement strategies. Analysis is done per item to highlight areas of

poor/good performance. The completed error analysis will reflect the following: (a) Low performance levels, (b) High performance levels, (c) Topics where learners under-perform / perform poorly, (d)Topics where learners excel

The standard and quality of a question paper depends on:

- Appropriateness for the grade.
- CAPS compliant for the relevant term/task.
- Cognitive demand.
- Levels of difficulty.
- Content coverage.
- Skills addressed.
- Fairness of questions.
- Language.
- Free from bias.
- Length of the paper reasonable.
- Appropriateness of text and graphics.
- Predictability.
- Technical quality.

Practical Assessment

Task Management

Plan:

- The purpose of the management plan is to inform both the learner and parents of up-coming practical lessons and assist learners to prepare well for them. The management plan lists the skill and topic to be taught. The learner must be exposed to visual material that clearly illustrates the expected quality and appearance of the final completed response for the PAT.
- Expert educators value the importance of the PAT and its role of assessing skills that cannot be assessed in a written format, e.g. test or examination. It allows the demonstration of creativity and innovativeness.

Best Practice 4: Struggling learners

Differentiate tasks/activities:

- Design/select different activities based on learner needs for the different groups of learners.
- Develop activities that range from easy to being difficult, as well as include setting of a variety of tasks at different cognitive levels.
- Sub-divide a big task into 'smaller/simpler' learning activities as well as 'bigger/more complex' activities. Together, the smaller activities (sub tasks) must achieve the same goal as the one big task/activity. Then grade the activities/tasks – the bigger activity/task should have the highest grading and the grading of each smaller activity (sub task) that makes up the bigger activity/task should, together, add up to have the same grading as the big activity/task. Learners could then choose whether they want to do the group of smaller activities/tasks or the one big activity/task. Advise struggling learners to do the smaller ones first and then challenge attempting the big one. Getting the smaller activities/subtasks right, could support a feeling of competence.

> "Ideal teachers are those who use themselves as bridges over which they invite their students to cross, then having facilitated their crossing, joyfully collapse, encouraging them to create bridges of their own."
>
> *Nikos Kazantzakis*

- Identify topics that will be easier to master and make sure that struggling learners master these topics well.
- Encourage learners to use a mind map / a table to summarise this topic to reflect all content for a topic on a single page for revision.
- Every learner will have access to a text book/ resource for learning.

Best Practice 5: Learner Experience

Educator Knowledge: Learners' respect and value educators with expert knowledge who are positive and enthusiastic about the subject. Learners are encouraged by educators who are supportive and provide access to a wide range of teaching and learning resources.

- Learners enjoy engaging, interactive and communicative teaching methods.
- Learners value choice and independent learning processes.

- Learners expect a clear understanding of the expected outcome from the learning process. (ie. *What will be learnt? The importance of learning and understanding the specific content? Clear quality descriptors for the expected outcome.)*

Concluding Remarks

Good educators respect their learners and put in extra effort to get to know more about their achievements, interests, cultural background and learning preferences. All learners are treated the same and are given a shared responsibility for the smooth running of the class. Learners are helped to develop self -assessment skills and are provided with positive feedback that is specific to inform improvement. Learners are often given the opportunity to become the educator in class. They learn more when they are challenged, but also believe that they can learn.

A good educator is a good learner and recognizes the importance of life-long learning to be knowledgeable of new subject concepts. This is pursued to ensure that every lesson is engaging to

give the learner the correct information, but will also
provide the knowledge of how to learn the content.

Section B: Languages

Chapter 18: Successful Teaching and Learning Framework Afrikaans HL, FAL and SAL

Best Practices from the classroom

Introduction

This chapter provides guidelines on innovative teaching methodologies on challenging topics or concepts as identified during educator and learner interviews. It also highlights general enabling conditions that support teaching and learning in the classroom.

General enabling conditions:

Resources, e.g. textbooks, setworks, etc.

Every learner has an approved textbook and literary genres as required by CAPS. Educators are strengthening their lessons during preparations by using content from other textbooks than only the one used by learners. Every class has different dictionaries (thesaurus, bilingual, idioms, proverbs, etc.), other literature books, and media resources such as magazines and newspapers which are frequently used by the learners. Learners and educators are also using different study guides for the different literary genres. Educators display colourful posters on the classroom walls to strengthen challenging content. Learners' work is also displayed in the classroom. Past examination papers and memoranda are utilised by learners to practise different questions. Educators are effectively utilising PowerPoint presentations and interactive white boards during teaching. Most educators are connected to Wi-Fi. Language games are practised. Learners utilise dictionary Apps on their phones. School magazines (also on-line format) form a platform for learners to practise their writing skills and to publish it.

Notional time

All educators adhered strictly to the prescribed notional time of the subject within a cycle as per CAPS requirements. All educators guard teaching time jealously. Most educators strive to make classroom time as efficacious as possible by managing classrooms tightly to make every minute count in order to maximise time-on-task. Learners in these schools are exposed to more learning opportunities owing to minimal time losses by the end of the year. Educators are not counting on providing extra time. The schools try to maximise teaching time without overloading educators after hours.

SMT members in high-performing schools, including those which serve large proportions of disadvantaged learners, make sure that time loss is kept to the minimum. Thus, extra time in these schools is not used to compensate for time loss. They mitigate and minimise factors that lead to the loss of teaching time.

Practices that performing schools employ to maximise the use of teaching time include the following:

Exercise strong internal controls and accountability, including tight control of period registers.

They allocate sufficient time to each subject as stipulated in the curriculum statement so that:

- correct time allocations are reflected in the timetables
- language skills and content are covered in sufficient depth

They develop systems and tools to:

- analyse information collected through different registers or systems so that habitual late coming, early departure and poor attendance are identified quickly (at least on a weekly basis.)
- hold educators accountable within the confines of the Employment of Educators Act.

They develop procedures and systems to ensure that no time is lost when:

- periods change.
- educators and learners return to class after break
- NSNP meals are served at Quintiles 1 – 3.
- Non-curricular activities are practised.

Follow the National Policy on Learner Attendance by ensuring that:

- teaching is not suspended early to commence early for mid-year and end-of-year examinations.
- they adhere to paragraph 16 of the Policy which states that “Except for Grade 12, a learner may not take leave from school to study for examinations or when examinations have ended.”

The extension of the planned or allocated time in high-performing schools can be categorised into six purposes to:

- Complete the curriculum.
- Give more support to struggling or lagging learners - Educators use additional time to focus on individual learners who are struggling or who need extra help and provide a vehicle for teamwork to strengthen their performance early, before educational problems increase in intensity.
- Re-inforce what was taught in class.
- Do remedial work.
- Revise or catch-up. When time is lost, educators use extra classes as catch-up sessions.
- Build in opportunities for educator development and collaboration - Because educators have little time outside their classroom activities to prepare for their lessons, they use increased school time for educator collaboration.

Schools use extra time for a variety of reasons, including the following:

- Tracking learners: Through this approach, educators vary their approaches when teaching learners in separate groupings.
- Differentiated instruction: Extra time gives educators block time to differentiate their classes in ways that enable struggling learners to receive extra support, while gifted learners are kept challenged.
- Study time and homework: Some schools provide the space and supervision for learners to study and do homework at school because they know that their home circumstances would not allow for this.

The most common characteristic of the high-performing schools is the effective use of teaching time. Schools should consider these above-mentioned approaches regarding the effective use of teaching time if they are to generate real and lasting improvements in the specific aims of learning a language.

Support from management and district/province

A professional culture exists where educators are willing to share ideas, support one another, collaborate with each other and the departmental heads and subject advisors and explore together.

Professional development

The Integrated Quality Management System (IQMS) Management plans of the schools are in place and it provides for the evaluation of educators (also self-assessment) including the School Management Teams (SMTs). The competences of educators are determined and strengths and areas of development are assessed. A Personal Growth Plan (PGP) which includes targets and timeframes for improvement is developed for each educator. Support and opportunities for the development to assure continued support are provided to educators. Accountability is continuously promoted.

The Senior Management Team (SMT) ensures that the school is operating efficiently and effectively. The Staff Development Team (STD) plans, oversees, evaluates and coordinates all quality management processes. The Development Support Group (DSG) for each educator is in place and mentoring and support are taking place.

Workload

The learner educator ratio of 35:1 in a classroom is mostly adhered to. There is mostly an equitable distribution of workload between the various post levels and within a post level to ensure that educators on a particular level or an individual educator is not overburdened. Principals determined the allocation of subjects, timetable, scheduled teaching time and other duties after consultation with the educator staff. Most educators attended programmes for ongoing professional development.

The allocation of *scheduled teaching time* was mostly done in such a manner that it:

- Maximises the individual abilities of all educators.
- Optimises teaching and learning at the institutional level.
- Protects educators' time.
- Reduces class sizes.
- Improves administrative support to schools.

Best Practices: Lessons from Educators

Best Practice 1: Teaching Strategies – Best Practices

Challenging content and strategies to implement:

- Learners are not able to express themselves sufficiently verbally and in writing because of a lack of vocabulary and they are also not able to read with comprehension.
- Schools followed the following strategies to address this challenge:
- Vocabulary development is enhanced and extended independent reading is key:
- The volume of reading performed by learners is increased.
- Regular independent reading is implemented (Feedback and monitoring are required).
- Reading a rich variety of texts (different genres, newspaper and magazine articles, etc.) is encouraged.
- Instill the habit of reading at a young age is maintained.
- Learners are urged to read aloud.
- Learners are urged to try to determine meaning of words by evaluating the context of the sentence and surrounding words.
- Learners searching for clues in the surrounding text to decipher word meanings. It also engraves the meaning of words in their memories.
- The ability to determine what the word means also helps to improve learners' ability to recall the meaning of words and use.
- Associating new vocabulary with something already stored in one's brain makes it much easier for the brain to recall the new word in future.
- Utilizing word games is an effective strategy for increasing vocabulary. Make it fun!
- One of the best ways to increase vocabulary is through repetition. Repetition of a word, within a context that communicates its meaning, is a powerful strategy for enhancing vocabulary.
- Pre-teaching vocabulary words or keyword strategy: Learners learn new vocabulary after being taught unfamiliar words used in a text prior to the reading experience.
- Word Maps: Scaffolding a learner's vocabulary learning. Determine which words are unfamiliar. For each of these new vocabulary words the learner creates a graphic organiser for the word.

- Root analysis: When a reader is able to break down unfamiliar words into their prefixes, suffixes and roots, then they can begin to determine their meanings.

  Restructuring reading materials: It is effective for helping struggling readers improve their vocabulary. Sometimes grade level materials are inaccessible to readers because there are too many unfamiliar words in them. Restructure the materials in several different ways to help readers comprehend them more easily.
- Incidental learning: Learners are able to determine the meaning of the word on the basis of how the word is used in a text.

https://www.k12reader.com/effective-strategies-for-teaching-vocabulary/

Visual literacy: Inability to interpret visual texts correctly:

All the schools visited have focused intervention strategies to address the cited topics. Hereunder follow the few shared:

- Scheduled language tests every week.
- Focused visual literacy tests every week.
- Focused language and editing test every week.
- The following strategies enhanced the abilities of learners to interpret visual texts:
- A shared visual meta-language (a shared, specialised terminology) that describes meaning of all visual elements are explicitly taught and repeated. Access to a visual metalanguage enables learners to accurately and consistently talk about how meaning is made in visual texts. Learners understand what the drawings in a cartoon, or the drawings or photographs in an advertisement, are communicating to the reader.
- The steps to answer visual literacy questions are continuously practised. (Look at the picture, look at the detail, identify and become aware of the critical language aspects, read the words in the visual text and link them to the picture, read the words in the heading of the picture and the words below the picture, answer the questions.)
- Taught learners explicitly how to answer questions on advertisements, cartoons and comic strips.
- Use a variety of visual text types such as non-fiction, textbooks, picture books, art, advertisements, posters, graphic novels, comic strips, animations, film clips, web pages, and more.

Reading of an image closely by using three levels of comprehension is implemented:

- **Level 1:** Literal: Locate, recall, and connect. What does one see? The answer is in the image. Justify answers with evidence from the text.

  Level 2: Inferential: Infer and interpret. What does one think this means? Why? What evidence in the text supports one's answer?
- **Level 3:** Evaluative/applied: Evaluate, generalise, hypothesise, synthesise, think critically, think creatively, and apply to other contexts. What does one think about this?

Inability of writing quality essays and transactional texts

The following strategies are followed to enhance learners' writing skills:

- In writing and presenting texts process writing is strictly applied as an approach. Process writing is continuously practised by learners. (know ways to plan writing texts, i.e. mind maps, idea lists, know how to write a first draft, know how to choose a variety of words, and how to use grammar effectively and register, style and mood, know how to construct a variety of sentence types, know how to write a suitable paragraph, know how to apply punctuation and spelling correctly, know how to edit and proof read the produced text.)
- Learners are familiar with all features of all the texts to be produced, i.e. Purpose, text structure, and language features and it is continuously discussed and practised.
- Learners are explicitly taught how to effectively write the structure of an essay, i.e. introduction, body and conclusion.
- Learners are familiar with the assessment criteria of the assessment rubrics for writing.
- Most schools used one journal from Grade 10 – 12 where learners practise their writing and presenting their texts.
- Feedback from educators and revising and strengthening as steps in process writing is a priority exercise for producing quality texts.

Learners lack knowledge of grammar – language structures and conventions

Educators taught the terminology of language structures and conventions explicitly. Furthermore, grammar is continuously practised in an integrated manner and in numerous informal activities. Learners

are given a chance to read intensively and extensively to improve their knowledge of grammar, punctuation, vocabulary and spelling.

Best Practice 2: Planning

Innovative teaching (methodology):

The following are adhered to by the educators in their planning of lessons:

- Start with the end in mind. What does the learner need to know and be able to do?
  Identify curriculum resources.
- Identify the knowledge and skills.
- Create a learning scale related to the learning aims.
- Create assessment(s).
- Plan classroom activities and assignments.
- Some exciting teaching methodology were shared and observed. Hereunder follows an example of some which are different and innovative:

Teaching language through literature:

The educator calls the learners' attention to the fact that the only way the text can be put together is through a language. As a result, unlike the usual practice of educators dealing with language and literature separately, the educator utilises literature as a basis for demonstrating the language aspects in use. For example, learners are shown that drama is a reflection of direct speech. Any instances of responsive altercations are pointed out as reported speech. Furthermore, learners are taught to read in response to the punctuation marks, a pointer right there of guiding learners to understand punctuation marks and how they are used. All regular language forms are also pointed out, for example, question forms and question tags.

Furthermore, learners' attention is also brought to the relatedness of texts. For example, a drama text depicts a good model of a dialogue and to a certain extent, an interview.

Subject specialisation

In some schools visited, this method is adopted. In this case, educators offer the 'module' in which they are the strongest. For example, there are educators who only teach literature, writing or language. On face value, this looks like 'teaching to a question paper', e.g. Literature: Paper 2 and Writing: Paper 3. The intended impact, which was witnessed at the three schools, is that each 'module/paper/section' is dealt with as if it is an independent subject. The 'specialist' is focused, and can thus go overboard in preparing and teaching the lessons.

The educators (specialists) visit each other's classes whenever the time allows. This serves as some form of PD.

Learner-initiated teaching

This refers to a situation in which learners volunteer to offer a lesson. This mainly happens during revision classes wherein learners who have grasped the particular subject matter (the performing

learners) offer to conduct the lesson. The educator sits in as one of the learners and has to raise a hand and be acknowledged before they can ask.

The following language teaching approaches as required from CAPS are adhered to in teaching, learning and assessment: text-based, communicative, integrated and process orientated approaches.

- Educators are using the inductive and deductive teaching and learning methods interchangeably, i.e. prepare to teach learners where the content is focusing from the known to the unknown or prepare to teach learners where the content is focusing from the unknown to the known.
- Educators practised drill work, especially strengthening the language structures and conventions.
- Educators established and arranged tele-conferences / Skype / whatsapp groups between learners from different schools to discuss literature setworks.
- Educators arranged literature setwork quizzes on school / district / provincial levels.
- Educators arranged participation of learners in treasure hunts – integration of language.
- Educators arranged participation of learners on TV news / actuality TV programmes, etc.
- Educators created platforms (on-line also) for learners to publish their creative writing pieces and to participate in competitions, expo's and Olympiads on school / provincial / national levels.

- Educators practised cooperative teaching and learning and assessment. Pair work enables many learners to talk at the same time; it is particularly effective with large classes. It is highly inclusive in that it requires all learners to communicate. It is especially useful in multilingual, multi-grade classes, as pairings can be organised flexibly and supportively in line with one's learners needs. Cooperative learning is only successful if the five principles are present, i.e.
    - Positive interdependence.
    - Individual and group accountability.
    - Promotive face-to-face interaction.
    - Development of good social skills.
    - Group processing.

Best Practice 3: Assessment

Formal Assessment:

Tasks (Alternative Assessment)

Managing tasks

Most of the formal assessment tasks are set by clusters, districts or provinces and distributed to schools. However, some schools prefer to set their own tasks as those address specific focus areas. The cluster/district set tasks are only used as practice materials for learners.

Tests

Setting tests

As indicated above, the tests and other tasks are set at cluster or district level. Tests are set to address areas in which learners fall short, for example, language tests every Friday.

Ensuring quality

HODs and Deputy-principals (academic) are responsible for the quality of the paper. As indicated earlier, Grade Heads have to quality-assure tests and tasks for the grades they lead.

Examinations

Setting and ensuring the quality of exams

Provincial departments set and quality-assure the examination papers. These and memoranda are then distributed to schools to administer.

Best Practice 4: Struggling learners

Dealing with learners that struggle:

- As indicated above, one of the strategies is learner-initiated lessons in which performing learners 'teach' other learners. This stands to benefit struggling learners as research holds that learners can learn better from each other.
- Another strategy employed was regular informal testing of struggling learners in areas they find challenging. The performance of learners in each test determines whether the level of the test is maintained or escalated.

Best Practices: Lessons from Learners

Best Practice 5: Learner Experience

Classroom experience:

Learners are active participants in their learning. Lessons are learner-oriented and interactive. The educators are facilitators and learners take charge of the lesson until there is an area that needs educator-intervention. Cooperative learning was evident in most classes.

Dealing with challenging topics:

Learners know the topics they find challenging and are always trying to find a way to improve that. For example, during the interview with learners at one school, this very question to learners ended up with the official having to briefly guide learners in how to respond (broadly meaning to understand and apply) to the challenging topic. The metaphor of the desire to still one's hunger is applicable to these learners.

Learning support

As indicated above, learners are supported throughout their challenges. Additional classes and opportunities are availed to them to do better. This support does not only end with weaker candidates. Stronger candidates are given expanded opportunities to enhance their performance.

Value of/ Interest in subject

Learners appreciate the value of Afrikaans as a LoLT and a subject, as well as how much they need the subject to enhance their learning as well as access the world beyond the classroom. It should be stated that all the learners interviewed could express their views clearly and with a measure of confidence.

Concluding Remarks

It is clear, from the report above, that success in every school is driven by a strong and supportive management and a flexible, knowledgeable and dedicated team of educators. The parent community has to be actively involved, as it is the case with some of these schools which are located in rural areas. Furthermore, learners must have a voracious appetite to learn, as well as take an active and leading role in their learning.

Chapter 19: Successful Teaching and Learning Framework English HL and FAL

Best Practices from the classroom

Introduction

This chapter provides guidelines on innovative teaching methodologies on challenging topics/concepts as identified during educator and learner interviews. It also highlights general enabling conditions that support teaching and learning in the classroom.

General enabling conditions – Subject specific:

Resources, e.g. textbooks, workshops (technical subjects), etc.

All the schools visited have language textbooks as well as literature texts for learners. A few schools have additional, educator-developed notes for learners, e.g. Motloboni and Selborne. Educators at these schools do not depend on the one language textbook the school has acquired for learners. Instead, they have a collection of all the prescribed language texts available, as well as any texts that can enrich the learners' grasp of the subject. Worksheets or activities are drawn from the spread of texts and given to learners for enrichment.

Notional time

All the schools exceed the prescribed notional time, with Dendron leading the pack in this regard. While most schools will go up to 17h00, the Dendron day goes up to 23h00, with educators actively involved with revision, additional sessions for clarification or supervising an assessment activity given to learners. Motloboni has a different approach in the fourth term. Grade 12 learners have revision and evening classes on their own. Educators are 'told' which aspects to teach, if any, i.e. educator support is learnerinitiated. Selborne has boarding facilities. As a result, learners also have supervised evening study time.

Support from management and district/province

In all the schools, the management hand is very strong. The HODs have full control and full cooperation of the team. Furthermore, the HODs are team members and, leading willing teams, allow them to colead. At Selborne the quality assurance of assessment tasks is a joint effort. Educators are Grade heads and they quality-assure all the activities in the grades they head. The HOD is thus also led to leadership by others.

The HODs frequently monitor learners' books and give educators feedback on their findings. The findings occasionally lead to professional development sessions. It should be noted that the sessions are not necessarily run by the HOD. Instead, the HOD delegates the educator who does well in the identified aspect to lead the session.

The agenda for district support to the school, particularly at Dendron and Motloboni, is determined by the school. The Subject Advisors are called to visit and address a particular aspect. The other schools also reported satisfactory support by the district.

Professional development

The schools have not formalised professional development. However, in all instances, HODs conduct sessions for educators in which they provide guidance related to the shortcomings observed in learners' books. The sessions are varied from one-on-one, where only one team member is affected, to a team session, where the whole team stands to benefit. As indicated in the discussion under support from management, the PD sessions are not necessarily run by the HOD. Instead, the HOD delegates the educator who does well in the identified aspect to lead the session.

One predominant way of PD is the HOD teaching the aspect concerned while the educator observes. This is followed by a discussion in which the educator shares what they have learnt and how they will address the aspect further.

Workload

The issue of workload differs from school to school. Some schools still have the educators stretched and carrying a heavy workload. In some instances, educators offer tuition in all the grades, at different subjects. The educators at these schools turn this into an advantage. They pace learners in those lower

classes and know how to consolidate their strengths and weaknesses when they reach senior classes. In Selborne, for example, all the educators have an even mixture of lower and higher classes. In Dendron, three of the four educators offer tuition in Grades 10-12, while the other also teaches Grades 8 and 9 as well.

Best Practices: Lessons from Educators

Best Practice 1: Teaching Strategies – Best Practices

Challenging topics:

In line with the findings of the diagnostic report, the language section, especially visual literacy and editing questions, are cited as problem areas in all the schools, EFAL and EHL alike.

Dealing with challenging topics:

All the schools visited have a focused intervention strategy to address the cited topics. Hereunder follow the few shared:

- Scheduled language tests every week.
- Focused visual literacy tests every week.
- Focused language and editing test every week.

The following strategies enhanced the abilities of learners to interpret visual texts:

- A shared visual meta-language (a shared, specialised terminology) that describes meaning of all visual elements are explicitly taught and repeated. Access to a visual meta-language enables learners to accurately and consistently talk about how meaning is made in visual texts. Learners understand what the drawings in a cartoon, or the drawings or photographs in an advertisement, are communicating to the reader.
- The steps to answer visual literacy questions are continuously practised. (Look at the picture, look at the detail, identify and become aware of the critical language aspects, read the words in the visual text and link them to the picture, read the words in the heading of the picture and the words below the picture, answer the questions.)
- Taught learners explicitly how to answer questions on advertisements, cartoons and comic strips.

- Use a variety of visual text types such as non-fiction, textbooks, picture books, art, advertisements, posters, graphic novels, comic strips, animations, film clips, web pages, and more.

Best Practice 2: Planning

Innovative teaching (methodology):

Some exciting teaching methodology were shared and observed. Hereunder follows an example of some which are different and innovative.

Teaching language through literature:

The educator calls the learners' attention to the fact that the only way the text can be put together is through a language. As a result, unlike the usual practice of educators dealing with language and literature separately, the educator utilises literature as a basis for demonstrating the language aspects in use. For example, learners are shown that drama is a reflection of direct speech. Any instances of responsive altercations are pointed out as reported speech. Furthermore, learners are taught to read in response to the punctuation marks, a pointer right there of guiding learners to understand punctuation marks and how they are used. All regular language forms are also pointed out, for example, question forms and question tags.

Furthermore, learners' attention is also brought to the relatedness of texts. For example, a drama text depicts a good model of a dialogue and to a certain extent, an interview.

Subject specialisation:

In three of the seven schools visited, this method is adopted. In this case, educators offer the 'module' in which they are the strongest. For example, there are educators who only teach literature, writing or language. On face value, this looks like 'teaching to a question paper', e.g. Literature: Paper 2 and Writing: Paper 3. The intended impact, which was witnessed at the three schools, is that each 'module/paper/section' is dealt with as if it is an independent subject. The 'specialist' is focused, and can thus go overboard in preparing and teaching the lessons.

The educators (specialists) visit each other's classes whenever the time allows. This serves as some form of PD.

Learner-initiated teaching:

This refers to a situation in which learners volunteer to offer a lesson. This mainly happens during revision classes wherein learners who have grasped the particular subject matter (the performing learners) offer to conduct the lesson. The educator sits in as one of the learners and has to raise a hand and be acknowledged before they can ask a question or make a contribution.

The following language teaching approaches as required from CAPS are adhered to in teaching, learning and assessment: text-based, communicative, integrated and process orientated approaches. Educators are using the inductive and deductive teaching and learning methods interchangeably, i.e. prepare to teach learners where the content is focusing from the known to the unknown or prepare to teach learners where the content is focusing from the unknown to the known.

Educators practised drill work, especially strengthening the language structures and conventions.

Best Practice 3: Assessment

Formal Assessment

Assignments/Projects (Alternative Assessment)

Managing assignments/projects

Most of the formal assessment tasks are set by clusters, districts or provinces and distributed to schools. However, some schools prefer to set their own tasks as those address specific focus areas. The cluster/district set tasks are only used as practice materials for learners.

Tests

Setting tests

As indicated above, the tests and other tasks are set at cluster or district level. Tests are set to address areas in which learners fall short, for example, language tests every Friday.

Ensuring quality

HODs and Deputy-principals (academic) are responsible for the quality of the paper. As indicated earlier, Grade Heads have to quality-assure tests and tasks for the grades they lead.

Examinations

Setting and ensuring the quality of exams

Provincial departments set and quality-assure the examination papers. These and memoranda are then distributed to schools to administer.

Practical Assessment Task (PAT)

Managing PAT

Value of PAT

Best Practice 4: Struggling learners

Dealing with learners who struggle:

As indicated above, one of the strategies is learner-initiated lessons in which performing learners 'teach' other learners. This stands to benefit struggling learners as research holds that learners can learn better from each other.

Another strategy employed was regular informal testing of struggling learners in areas they find challenging. The performance of learners in each test determines whether the level of the test is maintained or escalated.

Best Practices: Lessons from Learners

Best Practice 5: Learner Experience

Classroom experience:

Learners are active participants in their learning. Lessons are learner-oriented and interactive. The educators are facilitators and learners take charge of the lesson until there is an area that needs educator-intervention. Cooperative learning was evident in most classes.

Dealing with challenging topics:

Learners know the topics they find challenging and are always trying to find a way to improve that. For example, during the interview with learners at one school, this very question to learners ended up with the official having to briefly guide learners in how to respond (broadly meaning to understand and apply) to the challenging topic. The metaphor of the desire to still one's hunger is applicable to these learners.

Learning support:

As indicated above, learners are supported throughout their challenges. Additional classes and opportunities are availed to them to do better. This support does not only end with weaker candidates. Stronger candidates are given expanded opportunities to enhance their performance.

Value of/ Interest in subject:

Learners appreciate the value of English as a LoLT and a subject, as well as how much they need the subject to enhance their learning as well as access the world beyond the classroom. It should be stated that all the learners interviewed could express their views clearly and with a measure of confidence.

Concluding Remarks

It is clear, from the report above, that success in every school is driven by a strong and supportive management and a flexible, knowledgeable and dedicated team of educators. The parent community has to be actively involved, as it is the case with most of these schools which are located in rural areas. Furthermore, learners must have a voracious appetite to learn, as well as take an active and leading role in their learning.

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