













The findings indicate that the Life Sciences teachers experience mixed emotions, ranging from positive to negative feelings with regards to curricular changes. A range of feelings of excitement regarding the nature and need for changes is noted, but the participants also indicated their frustration and concern regarding the manner in which the changes were introduced, the expectations of the Department of Education, and the lack of appropriate support and resources in place to effect the changes. In coping and responding to the curricular changes, teachers have developed “bags of tricks” in order to achieve the purpose of teaching, namely to impart sound knowledge. Teachers believe that it is detrimental to teach learners content knowledge with which they themselves are not confident; hence they make every effort to develop themselves in order for teaching and learning to become a successful experience. The findings of this study could assist the curriculum planners as well as Life Science teachers to understand the importance of emotions in the teaching process, and to ensure that when future curricular changes are introduced; emotional support is also provided. At the same time, curricular changes are necessary and teachers need to strive to expand and deepen their subject content knowledge for their own development.









## **LIST OF TABLES**

Table 1: Weighting of knowledge areas for the assessment of content in Grades 10, 11 and 12

Table 2: Aligning responses to the research questions to the themes and frameworks

Table 3: Aligning the responses to research question no. 2 with the themes and the frameworks



## **ABBREVIATIONS**

C2005 - Curriculum 2005

CAPS - Curriculum and Policy Statements

DBE - Department of Basic Education

DoE - Department of Education

FET - Further Education and Training

GET - General Education and Training

LO - Learning Outcomes

NCS - National Curriculum Statements

OBE - Outcomes Based Education

RNCS - Revised National Curriculum Statements













summarises the conclusion and findings and provides recommendations for further research























































































































































themselves to implement them successfully. The teachers expressed great concern about having to teach learners when they themselves were not certain about what they were teaching; hence the theme that emerged from the analysis of the data, the “bag of tricks”. This “bag of tricks” consisted of a number of practices and pedagogies adopted by the teachers, including grouping learners according to their abilities, using debates, employing learner centred methods and presenting differentiated lessons. The complaint arose frequently among the participants in this study that the Department of Education had failed to prepare the teachers for a successful implementation of the curricular changes, in addition to having excluded them from the elementary stages of planning these reforms. Erduran and Msimanga (2014) affirm this by stating that the degree which is supposed to equip South African teachers of the science subjects in South Africa is of questionable relevance and quality.

The teachers in the present study realised that if they were to regain positive feelings toward their work, they had “to sort [through] their experiences, their anxieties, their fears, their excitements and learn how to use them in empowering ways” (Zembylas, 2002, p. 230). As such, they engaged in deliberate and on-going self-development, in particular by engaging in additional reading and studying as well as by ensuring that they were well prepared for a lesson prior to presenting it.

Teachers also coped with and responded to the challenges arising from the curricular changes by creating and increasing opportunities for collaboration among themselves in their subject clusters. Teachers convened meetings where they provided advice and shared experiences regarding how to approach certain topics, set assessment tasks and moderate School Based Assessments (SBAs) etc. They mentored each other, an action strongly supported by Hargreaves (2001). Hargreaves (2001) argues that mentoring reduces the physical distance between the reformers and teachers as well as between the subject teachers themselves. These meetings between teachers encourage collaboration and reflection (Guskey, 2002; Shulman, 1997), allowing for the sharing of resources and ideas as well as improved practice.

However, in the context of the present study, the distance between the curriculum reformers and the teachers was not closed since the latter claimed that they had been

entirely excluded from the reform process and were simply expected to implement the end product. Even the implementation itself was not accompanied by the desired support from subject advisors who were either unavailable or unable to clarify the curriculum changes and how to put them into practice. All the participants stated their wish for onsite support whereby the actual implementation of the changes could be observed in the classroom. Thereafter reflections could take place in support of teachers' further development and transformation. Even on those occasions when meetings were arranged, teachers often found it difficult to attend due to the schools under study being located in a deep rural context, long distances apart from one another. The planned curriculum does not observe the differing contextual limitations under which teachers practice (Naidoo 2012), for example the lack of resources, equipment, transportation and access to support.

### **5.3. Recommendations**

Although this was a small-scale study conducted in a deep rural district of KwaZulu-Natal, the data is potentially of much wider significance as regards the implementation of curricular reforms in the South African schooling system. The study revealed that Grade 11 Life Sciences teachers struggled significantly when curricular changes were introduced and enforced. During and beyond the transition phase, teachers found that they had large gaps in their subject content knowledge. In light of this, the study recommends that it is of critical importance to ensure that the subject advisors are trained and confident with the curricular changes to be introduced, so that they are able to train the teachers with efficiency. Subject advisors must also be present in each district.

The findings of the study further revealed that teachers experience negative emotions when they are uncertain about what they are going to teach. Frykholm (2004) confirms that teachers experience different kinds of discomfort when they are faced with a new curriculum to implement. The present study therefore recommends that teachers, together with the curriculum planners, could devise methods to reduce confusion during the transitional phases, such as follow-up programmes in schools to support teachers whilst teaching and demonstration lessons conducted by the subject advisors or specialists.

Teachers understand that the sciences curricula need to be revised and reviewed continuously due to new discoveries in research and new inventions (DBE, 2011a). As a

consequence, the teachers' practice and content knowledge will change; hence the study additionally recommends that continued professional development support should be made available to teachers. The districts and the Department of Basic Education should open up opportunities for teacher development. Subject teachers and the schools as entities should be encouraged to take more responsibility for their own professional development. This will ensure that the support provided is relevant, on time and continuous since the educators and the schools will be in control of their own destiny.

Hargreaves' concepts of political and professional distance within his framework of emotional geographies of teaching underline the need and desire for teachers to have a voice during the initial stages of the curriculum development process, before the implementation phase (Carl, 2005). Political distance is increased by the teachers' sense of powerlessness, while professional distance grows due to their feelings of inadequacy and failure. The present study therefore recommends that opportunities be opened up for teachers to take an active part in curriculum change in its first phases.

Further, it is the suggestion of this study that a more in-depth research project involving a larger sample extending throughout the province of KwaZulu-Natal should be conducted in order to increase the reliability and transferability of the results of the data collection and analysis. Finally, observation of the workshops that are carried out when a new curriculum is introduced would provide additional valuable data.

#### **5.4. Conclusion**

The researcher has highlighted the many different aspects of the emotional experiences of teachers when curricular changes are effected in schools. Emotional experiences that are faced by educators include their mixed emotions ranging from joy and excitement to anger and sadness, as well as their struggles with self-identity as teachers, especially when they felt that they were failing. Despite the challenges they experience, the findings of this study show that teachers employ a multitude of strategies to ensure that successful teaching and learning takes place. These strategies (the "bag of tricks", self-development and the tactic of collaboration) need to be applauded, supported and emulated.

However, it is undeniable that teachers are expected to work under extremely difficult

circumstances, which impact severely on their emotions; in turn significantly affecting teaching and learning itself. Due to the power of their potential results (positive or negative), teacher emotions require further exploration, especially in the South African context, where this field has not been sufficiently examined. This study has highlighted that despite their negative emotional experiences, there are many teachers who continue to teach with purpose, passion and commitment. Teaching remains a moral act infused with a deep sense of duty and a commitment to professionalism.

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## APPENDICES

### Appendix 1: Summary of responses to research question no. 1.

Deli	Pinkie	Ntobeko	Hlanzeka	Nhlanhlo	Melissa
<ul style="list-style-type: none"> <li>-Difficult to teach</li> <li>-Frustration</li> <li>-Confusion</li> <li>-Lots of work</li> <li>-Not well organized</li> <li>-Wanting to exit the system</li> <li>- Ridiculous</li> <li>- Not happy</li> <li>Uncomfortable</li> <li>- Uncertainty</li> <li>- Not effective</li> </ul>	<ul style="list-style-type: none"> <li>- Confusion</li> <li>- Frustration</li> <li>- Lack enthusiasm</li> <li>- Hate it, don't want it, boring</li> <li>- Irrelevant</li> <li>- Hostility against the subject</li> <li>- Discouraged</li> <li>- Not motivated to teach</li> <li>- Did not know how to teach the concepts introduced</li> <li>- Educators not part of the change in the initial stages.</li> </ul>	<ul style="list-style-type: none"> <li>-Not frustrated by curricular changes due to training and teacher only in CAPS system, hence familiar with CAPS</li> </ul>	<ul style="list-style-type: none"> <li>-Difficult to teach</li> <li>- Frustrating</li> <li>- Confused</li> <li>- Mixed feelings i.e. welcoming change but also unhappy.</li> <li>- Hurts very much when learners fail.</li> <li>- Results reflect poorly on teacher - You did not teach</li> <li>- Joy and satisfaction if learners pass</li> <li>- Failing hurts deeply</li> <li>- Feelings of guilt</li> <li>-Discouraged, - but have to go and teach anyway (helpless)</li> <li>- Losing interest</li> <li>- When feeling good, results likely to be good and vice versa.</li> </ul>	<ul style="list-style-type: none"> <li>-Very frustrated</li> <li>- Thoughts of leaving the job</li> <li>- Started enjoying the reforms as time progressed.</li> <li>- Frustrated by ongoing Life Science curricular changes</li> <li>- Beaten myself up for choice of Life Sciences as my major subject</li> <li>- Changes sudden</li> <li>- Did not like Grade 11 syllabus</li> <li>-Hates animal section</li> <li>- Learners failing</li> <li>-Painful, uncomfortable</li> <li>- Frequency at which change is taking place.</li> </ul>	

## Appendix 2: Summary of the responses to research question no. 2.

<b>Deli</b>	<b>Pinkie</b>	<b>Ntobeko</b>	<b>Hlanzeka</b>	<b>Nhlanhlo</b>	<b>Melissa</b>
<ul style="list-style-type: none"> <li>- Using group work</li> <li>- Learner presentations</li> <li>- Learners marking their own work</li> <li>- Learners taking responsibility for their own learning.</li> <li>- Use of learner centred methods</li> <li>- Attending workshops though not effective.-</li> <li>Come out of workshops still not sure and teach though not sure.</li> </ul>	<ul style="list-style-type: none"> <li>- A teacher being a scholar and a lifelong learner-</li> <li>Finding ways to teach a concept</li> <li>- Read ahead and always prepared</li> <li>- Dealing with frustrations before you get into the classroom.</li> <li>- Read more books.</li> <li>- Cluster meetings relieve stress and frustration</li> <li>- Change method of teaching</li> <li>- A teacher is a designer of learning programmes.</li> <li>- Conducting experiments.</li> <li>- Support by the subject advisor</li> <li>- use of learner centered methods, like</li> </ul>	<ul style="list-style-type: none"> <li>-Use different strategies, grouping learners according to abilities</li> <li>- Differentiated lessons</li> <li>- Use of debates</li> <li>- Research methods used</li> <li>- Drilling methods used, also for humanities classes, as well as teacher centered methods</li> <li>- An extra hour of teaching in the afternoons.</li> <li>- Organizing study guides for learners since there are no books</li> <li>- Use of exam bank</li> <li>- Teach learners how to conduct experiments</li> <li>- improvise and bring visuals (pictures)</li> <li>- Putting what</li> </ul>	<ul style="list-style-type: none"> <li>- Finding ways to bridge gaps</li> <li>- Making copies due shortage of books</li> <li>- Extra hours for teaching.</li> </ul>	<ul style="list-style-type: none"> <li>-Grouping learners into small groups</li> <li>- Use of classroom rules</li> <li>- Use of HoD support</li> <li>- More time for preparation.</li> <li>- Learners conducting experiments.</li> <li>- Using documents for guidance.</li> <li>- Providing copies for learners to see structures, due to lack of books</li> <li>- Intense preparation and planning</li> <li>- Meetings during workshops and moderations</li> </ul>	<ul style="list-style-type: none"> <li>-Use of group work.</li> <li>- Learners making presentations (learner centered methods)</li> <li>- Hold extra classes</li> <li>- Use of overhead projector(increase contact time)</li> <li>- Change approach to teaching so that learner performance improved</li> <li>- Prepare learners in Grade 10 for Grade 12.</li> <li>- Approaching other teachers for support</li> <li>- Reading documents</li> <li>- Organize more support material</li> <li>- Support from neighboring schools</li> <li>- Extra classes</li> <li>- Networking with relevant people</li> <li>- Studying the concept before teaching it</li> <li>- Moderations done</li> </ul>

	<p>hands on techniques, research and presentations</p> <ul style="list-style-type: none"> <li>- Support by other teachers</li> <li>- Additional hours for teaching.</li> </ul>	<p>is taught into practice</p> <ul style="list-style-type: none"> <li>- Applying content taught to everyday life situations</li> <li>- Support from the cluster</li> <li>- Setting assessment tasks together, sharing how to teach a concept</li> <li>- Intense preparation.</li> </ul>			<p>in clusters.</p>
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