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## Accounting teachers' teaching practices associated with learners' performance in high schools

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Grade 12 learners, in many instances, have early and late classes unlike the rest of the learners in the school. Sometimes their classes run over weekends and during school holidays. The aim of this study was to establish whether there was value in subjecting learners to extra classes over and above their normal class periods. We used the qualitative approach and purposive sampling to select the sample. The teaching of only 1 subject, accounting, was studied and the value of extra classes evaluated. Schools in the KwaZulu-Natal province, South Africa, that have consistently produced a 100% pass rate over a period of 3 years were selected to participate in the study. Data were collected using an interview schedule. The analysis of the data confirms that there is value in subjecting learners to more teaching because there is a direct relationship between teaching and learner performance. The worked example effect, as recommended through the cognitive load theory, was found to be dominant among the teaching strategies that accounting teachers used in extra classes.

**Keywords:** accounting education; cognitive load; extra classes; teaching practices

### Introduction

The importance of education cannot be overemphasised. In South Africa education is recognised as a fundamental right of every child and is enshrined in section 29:1 of the Constitution of the Republic of South Africa, 1996 (RSA, 1996). The South African Government commits itself to providing free basic education up to Grade 12 for all those who cannot afford to pay. Bandura (1989) defines a school as a place where children develop the cognitive competencies and acquire knowledge and problem-solving skills essential to participate effectively in society. It is, therefore expected that all schools should be able to assist learners to acquire knowledge and develop their cognitive skills. Providing assistance to learners to acquire knowledge is, however, challenging since the South African education system is based on inclusivity. Learners with different abilities are now taught in one class. Being able to deal with learners with diverse needs such as learners' age, learning styles, and/or health status in separate classes is no longer an option (Taole, 2019).

In a quest to assist Grade 12 learners to perform better, extra classes were introduced. Grade 12 teachers are encouraged to conduct extra classes through boot camps, winter schools, catch-up plans, and so forth. This is done over and above the minimum of 4 hours per week as determined by the Department of Basic Education ([DBE], RSA, 2011). The DBE organises and funds these extra classes for Grade 12 if they take place outside the normal school calendar. This is an indication that Grade 12 learners are, in certain instances, subjected to more teaching.

However, it is frustrating to realise that even after the effort by the DBE to encourage schools to have extra classes, we still have schools that underperform in the Grade 12 final examinations. From 2008 to 2018, Grade 12 learners who managed to obtain 50% and above in accounting amounted to less than 50% of the total number of learners registered nationally (DBE, RSA, 2019). More teaching is meant to reinforce subject content for learners, but these results show that teaching more is less effective in enhancing the anticipated pass rate. It is possible that learners might not learn anything while the teacher is teaching. There could be many reasons for this, but it can also be associated with cognition of knowledge, which, according to Lutz and Huitt (2003), is facilitated by attention. When information is overlearned, it becomes habitual, and attention is distracted. Lutz and Huitt (2003) further argue that if learning is to take place, rote or maintenance rehearsal is not sufficient to produce the desired results.

With the study we sought to establish whether there was

- value in subjecting learners to more teaching;
- any direct relationship between teaching and learner performance; and
- any particular instructional technique that schools used to prevent cognitive overload during extra classes.

### Literature Review

The human mind processes a limited amount of information at any given time (Sweller, 1994). It is not possible for a human mind to process an unlimited amount of information without fail. If extra classes mean extra teaching, learners' cognitive load processing capacity might be exceeded. If this happens it can hamper the way

in which learners acquire knowledge. This study was, therefore, anchored in the cognitive load theory. This theory suggests that there is a limit to the amount of information that the human mind can process at a given time (Sweller, Van Merriënboer & Paas, 1998). This theory recommends instructional techniques that can be used to ease the cognitive load and subsequently improve learner performance (Chen, Pedersen & Murphy, 2011; Sweller et al., 1998). According to Chen et al. (2011), those instructional techniques are the goal-free effect, the worked example effect, the completion problem effect, the split-attention effect, the modality effect, the redundancy effect, and the variability effect. If the purpose of extra classes is to give learners time to do activities, the goal-free effect, the worked example effect, and the completion problem effect are to be used. If the intention is to teach, the split-attention effect, the modality effect, the redundancy effect, and the variability effect should be used (Chen et al., 2011). Inappropriate instructional designs used by teachers can impose an overload on learners' cognitive abilities to learn content (Sweller, 1994).

Amid these challenges, teachers are expected to provide quality education using teaching strategies that cater for different abilities as well as for the developmental ages of learners. This is in line with Piaget's theory which proposes that instruction needs to be consistent with the developmental level of the learner. What the learner is able to comprehend at a specific time must be taken into consideration since intellectual development is a lifelong process (Wood, Smith & Grossniklaus, 2001). Teachers need to be mindful of the fact that the way in which learners process information differs from learner to learner because it is genetically linked (Lutz & Huitt, 2003).

Teaching strategies might also be a factor. O'Leary and Stewart (2013) believe that comprehension of the content taught might not be dependent on the time a learner spends learning but rather on the way learners learn. A lack of improvement in certain instances is caused by a mismatch between learners' learning styles and teachers' teaching methods (O'Leary & Stewart, 2013). It is common for teachers to focus their attention on how to teach without looking at how learners acquire knowledge (Wong, Cooper & Dellaportas, 2015). If this is the case, the effectiveness of their teaching will remain questionable.

The most effective method of teaching depends on setting goals for what the learner will be taught (content) and how that process and content will be handled (Biggs, 1991; Entwistle, McCune & Hounsell, 2002).

It can be argued that only effective teaching can bring about change in the improvement of the accounting results. Wygal and Stout (2015) agree

that effective teaching is judged by performance. Wygal and Stout (2015) regard the class session learning environment, learner focus, preparation and organisation, importance of the practice environment, passion and commitment to teaching (as a profession), and the design of the course learning environment as major characteristics of teaching effectiveness in accounting. Assan and Thomas (2012) believe that teachers are not only perfecting their skills in teaching but also improving their subject knowledge.

With this study we looked at how teachers viewed their teaching, even though Ramsden and Entwistle (1981) contend that research from the viewpoint of learners rather than that of the teacher can provide more profound knowledge of learner learning. Ferreira and Santoso (2008) believe that learners' perceptions of accounting affect their performance and that the role of learners' perceptions in the field of accounting has received limited attention. This is in line with the findings in a study by Ramsden and Entwistle (1981) that suggest that teachers' teaching quality and attitudes have a direct influence on learners' approaches to studying. This kind of engagement between learners and teachers is found to be the most highly valued aspect in learner learning. But this is not about time taken when either teaching or learning. Increasing teaching time might result in information blindness (Stejskalová, Komárková, Bednářová & Štrach, 2019) or information overload (Allen & Wilson, 2003), which Sadiku, Shadare and Musa (2016) define as a condition that occurs when one is trying to process too much information. If learners are overloaded with information, there is the possibility that their ability to process the information can be compromised. Studies suggest that attention spans during lectures diminish over time (Bradbury, 2016; Lamba, Rawat, Jacob, Arya, Rawat, Chauhan & Panchal, 2014; TeKippe, Bechtel, Faga & Szabo, 2020). Lamba et al. (2014) suggest that to ensure learners' full attention and concentration, lengthy classes should have breaks or some learning activities. This will make the class enjoyable and improve the learners' attention span.

Despite all these challenges teachers still need to improve learner performance, hence compulsory extra classes were introduced, mostly for Grade 12 learners. These extra classes are meant to provide learners with more time to learn or more self-study time. Ku, Shih and Hung (2014) believe that without appropriate after-school learning programmes or remedial strategies, learners can easily fall behind and lose interest in learning.

If schools opt for extra classes beyond the stipulated school hours, parents should be involved. According to Pillay and Saloojee (2012) there is a pressing need for a sound relationship between the teachers, learners, and parents. This assertion is confirmed by Segoe and Bisschoff (2019) that

parental involvement in school activities determine their children's educational achievements and development since it has a direct impact on improving learner attitudes and improving positive parent-teacher relations.

### Methodology

This study was conducted in 2019 in independent and public schools in KwaZulu-Natal that had continuously obtained 100% pass rates in Grade 12 accounting from 2016 to 2018. Teachers who formed the sample were only those that taught accounting in Grade 12 between 2016 and 2018 in the selected schools. This criterion was used to demarcate the parameters of the population from which the sample was to be chosen (Strydom & Delpont, 2011). The DBE's website was visited prior to collecting data to download the National Senior Certificate Examination Diagnostic Reports for 2016 to 2018. These documents provide information of schools' performance in each subject. From these documents schools' performance in accounting was checked and recorded. This was done to identify schools who obtained a 100% pass rate in accounting for 3 consecutive years. The information collected was in the public domain, accessible, manageable and practical resources. Information from documents is stable and cannot be influenced by the researcher. The information can be used over and over while remaining unchanged. According to Bowen (2009), document analysis is a systematic procedure for reviewing or evaluating documents. Document analysis was used to complement other research methods and not as a stand-alone research method (Bowen, 2009). The documents studied helped to give historical insight into Grade 12 performance as well as government interventions.

KwaZulu-Natal is divided into 12 education districts and each district had qualifying schools. Schools in South Africa are categorised into quintiles to cater for differing environments. Schools are classified on a continuum from quintile 1 (schools in very poor communities) to quintile 5 (schools in the most affluent communities). The total sample was classified into quintiles per district. Of the 26 schools that met our requirements, only eight from different quintiles and districts were visited. Some of the quintile 1 schools were in deep, rural areas and could not be included in the study as it was very difficult to arrange meetings with the staff at these schools. Their telephone numbers and cell phone numbers were mostly out of service, and electronic mail (email) to these schools could not be delivered. In a significant number of cases the accounting teachers that we were looking for were no longer teaching at the schools. We only managed to get eight teachers from eight different schools – two teachers from quintile 1 schools, two teachers from quintile 2

schools, two teachers from quintile 4 schools, one teacher from a quintile 5 school and one teacher from an independent school.

Data were collected through the use of interview schedules and observation sheets. During school visits, we observed the environment in which the schools operated. This was done to determine whether there were any commonalities in the environments that made the schools perform better than other schools regardless of their geographical location. The geographic location of schools was taken into consideration to ascertain whether the environment in which schools operated had an impact on the overall performance or not. The school buildings, surroundings, and the general behaviour of learners were observed.

We adopted an interpretivist/phenomenological approach since the aim was to understand teacher's perceptions, perspectives, motives, actions, intentions and understanding of a particular situation (De Vos, Strydom, Fouché & Delpont, 2011). The constructivist view that no single truth existed, shaped this study. Teachers were interviewed to solicit their views and to listen to their accounts of how they experienced teaching in their environments and cultural contexts. Interviews were considered to be suitable since an in-depth knowledge of what was happening in schools was required. The interview schedule was designed to be consistent with the research questions, objectives, and the research strategy adopted for the study (Saunders, Lewis & Thornhill, 2003). Semi-structured interviews were chosen in order to spend time with the participants to obtain all the necessary information.

Before the start of each interview, participants were given the interview schedules as suggested by Greeff (2011). Research questions were in English but participants with English as their second language were allowed to respond in isiZulu, if they wanted to, in order to present certain points more accurately. The interviewers all spoke isiZulu. When the written transcripts of the interview responses were prepared, whatever was said during the interviews was translated into English.

To ensure that the issues of reliability and validity were taken into consideration the transcripts of the recorded interviews were sent to relevant participants for approval, as is recommended by Greeff (2011). After the approval of the transcripts, data were analysed. The completed document was then sent to an independent person to confirm the results as suggested by Farrelly (2013). Triangulation of data collection methods and data analysis were also used to strengthen both validity and the reliability of the study.

Participation in the research was voluntary, and no compensation was promised or given to the participants. The researchers obtained permission to

conduct the study in government schools from the provincial DBE. The schools were then approached to ask for their permission to participate in the study. Letters were sent to independent schools to request them to participate in the study. All participants were informed in time about this study so that they could participate willingly and know why they were doing so.

Confidentiality in the collection of information was guaranteed in the covering letter. After being completed, interview notes were not linked to any one person. The names of the schools were not included in the study documentation and pseudonyms were used to refer to teachers. The information gathered from the research was treated with the utmost confidentiality and was not used for any other purpose except for this study. The DBE and independent schools were informed that the information collected would be the property of the institution that initiated the research and could only be provided to them as a complete research paper.

#### Limitation of the Study

Due to financial constraints, schools were only visited once. The intention was to visit schools more than once so that class observations could be undertaken and that interviews could be conducted. Because of financial constraints, classroom observation to look for patterns of behaviour to understand the assumptions, values and beliefs of the participants, and to make sense of the social dynamics, was not concluded. The intention with the class visits was to corroborate or verify the interview results. In certain schools it was found that the chosen teachers were no longer teaching at those schools and as a result the names of those schools were removed from the list of participants.

#### Findings

An inductive approach was used since we started by observing a specific phenomenon with the hope of arriving at a general conclusion (De Vos et al., 2011). Data collected in the form of recordings throughout the province were transcribed into manageable units and were categorised and arranged into different themes (Taylor-Powell & Renner, 2003). The following themes emerged: value in subjecting learners to more teaching, direct relationship between teaching and learner performance, and instructional techniques that schools use to prevent cognitive overload during extra classes.

#### Value in Subjecting Learners to More Teaching *Extra classes for learners*

Extra classes are mainly conducted from Grade 10 to 12 on a sliding scale. The classes are conducted in the morning before normal school periods start, in the afternoon after normal school periods, and on Saturdays and holidays. At only one school classes were also conducted on Sundays.

These classes were conducted

- to enable teachers to finish the syllabus on time;
- to give learners enough time to do activities or accounting exercises that they could not do during class or activities that they had to do at home;
- so that the teacher could reinforce the content covered during class through revision or by giving extra accounting activities (tasks).

Dan said: *“Sometimes I conduct extra classes to emphasise the content that was covered during normal classes.”*

Thando added: *“We have one morning class once a week to cover the content. The duration of the class is only 1 hour 30 minutes.”*

The schools visited had no problems with absenteeism and late coming to extra classes since they had effective policies to deal with absenteeism and late coming. This was done through constant consultation with parents and all the relevant stakeholders.

#### Direct Relationship Between Teaching and Student Performance

##### *Adherence to the prescribed teaching plan provided by the Department of Basic Education*

Schools visited were above the threshold (60% pass rate) of those schools that are compelled to follow a prescribed teaching plan since they are subjected to compulsory common written tests from the DBE. The teaching plan is used by the DBE to monitor teachers' progress. It was discovered that although the teachers followed this teaching plan they constantly deviated from it. The argument was that the teaching plan (pacesetter) was too fast for their learners. The teachers felt that they needed to proceed at their learners' pace and if the pace was too slow, they considered extra classes.

The teachers mentioned that the syllabus was overloaded and that they had insufficient time to complete it unless they considered extra classes. They maintained that without extra classes they would never finish the syllabus.

Glan said: *“Because accounting is so vast, it is impossible to finish the syllabus without extra classes. We are not only revising but we are covering content.”*

Andile said: *“Sometimes I use extra classes to cover the content if I feel that we are behind schedule and also to finish earlier so that we can have enough time for revision.”*

The teachers were striving to finish the syllabus during the second term or at the beginning of the fourth term at the latest in order to have ample time for revision. The teachers raised the issue that the pacesetter sometimes gave them 2 days to finish certain content only for them to discover that they needed more than 2 days to finish that content. The teachers mostly did not rush to be in line with the pacesetter but taught until the learners grasped the content. This shows that

teachers believed that there was a direct relationship between teaching and performance.

#### Instructional Techniques that Schools Use to Prevent Cognitive Overload During Extra Classes *Teaching and developing in-depth knowledge of accounting concepts and procedures*

Teachers believe that it helps learners to be taught any content related to what is prescribed in the syllabus. In Grade 10, for instance, they teach Grade 10 content and some content prescribed for Grades 11 and 12 if they feel that it is relevant to what they are teaching. When learners finally go to Grade 12, they would find that much of the content was covered in both Grades 10 and 11. This helps to reduce the workload in Grade 12 and as a result they finish earlier and are able to revise by repeating accounting exercises/activities.

Linda said:

*I always make sure that we finish during the second term so that we use the entire third term for revision and content reinforcement. It is easy to do that because in Grade 12 I only teach what was not taught in previous classes. In [the] June examination they write the full examination paper for the entire Grade 12 syllabus.*

It emerged that teachers believed that explaining basic concepts and linking these to real-life situations helped learners to understand accounting. This was done by using other material suitable for the grade to supplement what was supplied by the DBE because the teachers believed that laying a proper foundation helped the learners.

#### *The use of previous examination papers in teaching and in assessment*

It emerged that teachers used previous examination question papers, not only in assessment, but also in teaching.

Andile said:

*I collect different question papers from different provinces and give these to learners. I call this a package. For all content I ask them to look for a question from all provinces. For one content they end up having different types of questions.*

Linda and Andile said:

*During normal class I teach, and during extra class I give them activities to do. Learners have resource files. I do revision concurrent with teaching. I teach and then give them different questions from different provinces. I give feedback timeously.*

Glan said:

*I teach something new and give them an example to do and mark it and give them more, if I have to. I give them 10 activities in a particular section to do. If that content is set in the examination, the learners will pass.*

Teachers agreed that the textbooks did not contain enough activities or that the activities were too easy. Sometimes questions extracted from question papers are given to learners to do on their own or sometimes teachers work on them with learners in class. They collected as many question papers as

possible from different provinces. They used those question papers to test learners by giving them many short tests on a specific concept.

Andile said: *"I use previous question papers for class tests so that they can be familiar with the style of setting for the DBE."*

Giving learners activities or exercises to do helps to increase their attention span and helps them to stay alert. These activities or exercises are taken directly from the previous examination question papers.

#### Discussion of the Results

The findings of this study are centered around the three objectives mentioned in the introduction.

##### Value of Subjecting Learners to More Teaching

The participants agreed that subjecting learners to more teaching helped them to improve their results. This is, therefore, the reason why participants were so committed to conducting extra classes. The participants viewed pedagogical knowledge as helpful in navigating the curriculum delivery. This is in line with the findings of Ramnarain and Fortus (2013) that the use of multiple pedagogical strategies that are easily understood by learners is informed by their knowledge of the subject content. Assan (2019) and Ramnarain and Fortus (2013) confirm that teachers' understanding of content knowledge and learning informs their classroom practices.

##### Direct Relationship Between Teaching and Student Performance

Participants mentioned that noticeable improvement in learners' performance was the result of teachers' direct involvement. Learners are not left to study by themselves, but teachers are always there, either teaching or giving guidance when needed. A passion for teaching and a love for learners were dominant in teachers' responses; this is in line with the findings by Ramsden and Entwistle (1981) and Wygal and Stout (2015) who suggest that the teachers' teaching quality and attitudes have a direct influence on learners' approaches to studying. This direct influence suggests that there is a causal relationship between teachers' teaching and learners' performance (Saunders et al., 2003).

Teachers' teaching practices or styles suggest that they generally designed their own teaching plan (pacesetter) so that they finished on time and were ready for the national examination. In order to ensure that they finished on time, they designed their own curriculum (syllabus) and disregarded the one prescribed by the DBE. They looked at the content assigned for secondary school accounting and divided it according to their own preferences.

It emerged that teachers believed that the prescribed and recommended textbooks did not contain the appropriate activities to prepare their learners adequately. As a result, teachers used

question papers for teaching and also for assessment of teaching.

There is sometimes a danger of planning a lesson around a previous examination question paper and only to teach what is required for that question paper. Teachers gave themselves time to determine assessment patterns in previous question papers. They looked at how a certain aspect of the syllabus was assessed and only taught that. If question papers for 3 consecutive years required of learners to prepare an income statement, teachers might be tempted only to teach how to prepare an income statement and forget about other financial statements. If, indeed, an income statement is asked in a final examination the learners might be able to answer such perfectly, yet still not know what a balance sheet or a cash flow statement looks like.

**Instructional Techniques that Schools Use to Prevent Cognitive Overload During Extra Classes**  
Participants' arguments also touched on instructional methods that they used to improve participation and to reduce boredom or redundancy. This was done mainly by giving learners activities taken from the previous examination question papers. This helped in preventing cognitive overload. Previous examination question papers were also used as a teaching technique. The use of previous examination question papers is what Sweller et al. (1998:273) describe as "the work example effect." This instructional technique is used to avert cognitive overload among learners. The teacher selects an activity from a particular question paper as an example to show learners how it is done. After that, similar activities from other question papers are given to learners to do on their own. It is unlikely that learners will experience unnecessary cognitive overload if they are given guided instructions through worked examples.

According to the participants, extra classes referred to a situation where learners were given time over and above the normal school timetable. Teachers created an impression that the accounting syllabus for Grades 10 to 12 is overloaded. They thought that one could only finish the syllabus if extra classes were presented over and above the normal classes provided for in the school timetable. Teachers felt that if different concepts embedded in the syllabus were not adequately covered due to time constraints, this might have an impact on the acquisition of knowledge and on a deep understanding of accounting in general.

For teachers to be able to finish their work they needed to sacrifice their time to conduct extra classes.

Andile said: *"I spend much of my time with learners. We have morning and afternoon classes during school days. I also conduct extra classes during holidays and Saturdays."*

These extra classes put strain on the lives of teachers, especially those who did not want to offer extra classes. Linda said:

*I do not like extra classes because they interfere with my family time and my family is always complaining. The pacesetter makes me tense or stressed more than I am when actually doing my job. I am still busy with chapter 2 when I am supposed to be at chapter 7 already. That is why I put it away. The pacesetter is too fast for me and for the kids.*

#### Impact of Geographical and Financial Environment (Quintile 1 to 5) on Learner Performance

With this study we did not find any evidence of different treatment of learners in different geographic environments. We noticed through observation that in all schools, regardless of their geographical location, learners were at school on time for learning. Because of the pressure from all stakeholders to perform, the school management team was hands-on with the extra classes. Their main focus was to improve school results through engaging learners in more teaching and through inculcating the culture of independent learning. This was done through various teacher activities. An example was where teachers used learners to help one another. Absenteeism was not a major issue because schools were able to control it. At the schools that were visited, extra classes were used to give learners time to study and to do homework. This arrangement helped those whose home conditions did not allow them to do these activities. It emerged that geographical location and home environment had no or little impact on student performance during extra classes. This was because the schools allowed learners to do at school what they would otherwise have had to do at home.

Our findings confirm the results of a study conducted by Pillay and Saloojee (2012) that challenges in teaching and learning are not unique to rural schooling and teachers who teach in rural schools. Du Plessis and Mestry (2019), however, feel that the deprived socio-economic status of parents in rural areas places learners at a financial disadvantage. The sample was drawn across all social classes and there was no evidence that the quality of education offered in many rural schools was poor as argued by Du Plessis and Mestry (2019). All learners in our sample who sat for the matric examination passed.

#### Conclusion

Our study revealed that there was value in subjecting learners to more teaching and that there was a direct relationship between teaching and learners' performance. It also revealed that the "worked out example effect" helped in improving attention and consequently decreased cognitive overload. It was discovered that the emphasis was more on the teachers trying to finish the syllabus

and on learners learning the syllabus content. From the interviews it also emerged that teachers considered the syllabus to be overloaded and as a result they conducted extra classes to increase the contact time stipulated by the DBE. Teachers were more concerned about their knowledge acquisition, content delivery in class and proper ways of assessing using Bloom's taxonomy. It was more about them learning better and faster ways of imparting knowledge to learners during extra classes and about assisting learners to acquire knowledge. However, there was consensus among these teachers that learners sometimes did not concentrate much in a normal class because they knew that there would be extra classes where they could ask questions freely.

As much as teachers cited syllabus overload as the reasons for extra classes it emerged from the interviews that they contributed to this overload by teaching work in the current class that should be taught in the subsequent classes. This study shows that there will always be extra classes as long as teachers hold the perception that constant repeating helps learners to understand better.

#### Authors' Contributions

BBN wrote the manuscript. All authors conducted the interviews, analysed the data and reviewed the final manuscript.

#### Notes

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