

International Journal of Learning, Teaching and Educational Research
Vol. 21, No. 9, pp. 120-133, September 2022
<https://doi.org/10.26803/ijlter.21.9.7>
Received Jun 16, 2022; Revised Aug 21, 2022; Accepted Sep 24, 2022

Economic and Management Sciences as the Ground Rule for Grades 10 to 12 Accounting Learners in South Africa

Nombulelo Dorah Jonda 

Central University of Technology, Free State, South Africa

Motalenyane Alfred Modise* 

Central University of Technology, Free State, South Africa

Abstract. The purpose of this study was to explore economic and management sciences (EMS) as ground rule for Grades 10 to 12 accounting learners in South Africa. The objective of introducing EMS in schools was to equip learners with basic real-life skills in accounting, economics, and business. This requires educators who are highly skilled and well vested with the content of EMS to impart knowledge to learners. However, research has shown continuous challenges in accounting, as it is regarded as a difficult subject due to a high failure rate. Data were obtained through semi-structured interviews from six EMS educators who were purposively sampled. The results revealed that EMS educators are qualified for either one or two EMS disciplines, resulting in EMS being taught by unqualified educators with inadequate content knowledge (CK) due to the scarcity of qualified educators. The study revealed a continuous neglect of accounting content, as EMS educators focus more on economics and business studies. The study also revealed that the time allocated to teach EMS is insufficient and that accounting should not be merged with other subjects as it requires more time. We recommend that the way in which EMS educators are trained should be reviewed. In addition, we suggest that a special program should be designed to fully equip EMS educators in all three areas to ensure the availability of qualified EMS educators. We further recommend that the Department of Education should review time allocation for EMS.

Keywords: accounting; educators; EMS; ground rule; learners

1. Introduction

The purpose of this study was to explore economic and management sciences (EMS) as ground rule for Grades 10 to 12 accounting learners in South Africa and to identify factors that affect learner performance. Lately, there has been a

* Corresponding author: *Motalenyane Alfred Modise, mamodise@cut.ac.za*

repeated recognition of the importance of educators' EMS subject matter knowledge (SMK), also known as content knowledge (CK). Not surprisingly, it has become clear that both the pedagogical knowledge and SMK of educators are key to high-quality EMS teaching and learner understanding (Van Driel & Berry, 2012). Therefore, a lack CK for EMS can be a potential barrier to effective teaching. For the profession that instructs other professions, there is no agreement about the body of knowledge compulsory to be an educator. Thus, the notion of pedagogical content knowledge (PCK) pursues the embodying of educators' professional knowledge and has been commonly used in the literature about educator knowledge (Gess-Newsome et al., 2019). The focus of this paper is the dimension of knowledge Shulman (1987) identified to be "the base of all knowledge bases": CK.

2. Literature Review

2.1 Educators' PCK and CK

CK, also known as SMK, is one of the fundamental types of knowledge bases an EMS educator must possess. SMK relates to the knowledge that is typically learned through formal education in schools and universities (Shulman, 1986; Uzzo et al., 2018). CK can be defined as facts, knowledge of ideas, ideologies, relations, procedures, and applications that learners should know in each subject area, or that educators should know about for their teaching, or simply the knowledge about the subject matter to be learned or taught (Etikan et al., 2016). Shulman (1986) emphasized that a mixture of SMK and pedagogical knowledge enables an educator to assist learners to construct proper understanding.

A strong theoretical grasp of themes enables educators to easily identify learners' misunderstandings and errors. Hence, a deep understanding of appropriate CK is one of the attributes of effective EMS educators (Mthethwa-Kunene, 2014). Educators' capability to recognize, describe, and use theories is important in education, as well as their ability to create, apply, and measure teaching (Banjo, 2019). According to Kotoka (2018) and Jadama (2014), educators' SMK can be evaluated by examination of the accurateness of EMS facts, the flexibility of presenting explanations demonstrated by educators, consecutive demonstration of facts, categorized presentation of facts, and lastly, the flow of concepts of presenting themes throughout a lesson (Jadama, 2014; Ngwenya & Maistry, 2012). Thus, educators with deep and comprehensible CK are expected to offer clear clarifications of difficult concepts and relations between essential ideas. Educators can detect applicable and correct illustrations of ideas. They organize and implement teaching that consists of several demonstrations and simulations of the perceptions, offering accurate illustrations of technical concepts, assessing learners' understanding, and identifying misconceptions and practical learning difficulties (Kunter et al., 2013).

However, many studies have shown that most EMS educators do not possess adequate CK and may avoid teaching some content or offer artificial treatment to difficult ideas as a lack of content adds to nervousness and a low level of self-efficiency, resulting in less operative instruction (Khanare, 2012; Modise, 2016). The measuring of educators' CK involves numerous tests, and previous research

papers have applied extensive approaches to appraise it. Consequently, it is at times problematic to produce results of such an appraisal procedure. Other researchers have utilized certain programs to verify educators' CK level, trying to directly assess CK through right or wrong replies or multiple-choice items (Mthethwa-Kunene, 2014; Olfos et al., 2014). Educators' PCK and knowledge of learners' misconceptions will be highlighted next.

2.2 Educators' PCK and Knowledge of Learners' Misconceptions

Learners do not come to the classroom as plain slates, but with some misunderstandings in relation to EMS themes. Olfos et al. (2014) affirmed that PCK is identified as the knowledge of how to educate a specific subject. However, knowledge of subject matter and knowledge of pedagogy are not sufficient to accomplish an active education training without understanding learners. This involves some knowledge about learners and their characteristics (conceptions, preconceptions, misconceptions, and learning difficulties). For learner and other contexts, educators require knowledge regarding opinions, interpretations, or attitudes learners carry to the teaching space from their personal background knowledge prior to learning about certain concepts (Gess-Newsome et al., 2019; Sithole & Lumadi, 2012). This knowledge is usually not imparted throughout educator training programs. However, it is developed throughout the years of teaching experience, through educators carefully giving attention to learners' feedback and as a result becoming acquainted with their learners' usual ideas about EMS technical topics or concepts (Qian & Lehman, 2017). Learners have differing understanding and attention concentrations regarding the EMS subject topics presented by educators. Their prior knowledge (preconceptions) around EMS can affect their recent learning understanding and may end in an idea being wrongly understood by learners (Banjo, 2019). Most learners bring with them into the classroom errors which most educators do not know how to address or most often tend to duplicate. These may relate to how to conduct certain procedures, explaining how to apply a rule to resolve a problem, instead of clarifying the accurate ideas that can aid to resolve learner errors (Mthethwa-Kunene, 2014).

To examine learner mistakes in relation to themes that they were taught, it is crucial to be able to identify these misconceptions. The term misconception is defined as chunks of incorrect knowledge that occur from pupils' prior knowledge and understanding, both within and beyond the teaching space (Kotoka, 2018). When educators are aware of what learners know, they will be able to help construct connections between what is known and unknown, and this can help educators to illuminate misunderstandings to assist learners to comprehend new information (Qian & Lehman, 2017). This will enable the educator to prepare their lessons using a technique that confronts any learner misconceptions, inspires debate and reasoning of views that pupils may carry in the EMS teaching space, and formulates clarifications and illustrations that may aid learners to access the content of the topic (Phakathi, 2018). Knowledge of such learning difficulties will also permit educators to set up potential prior CK required for specific subject matter, which learners may then simply connect to the new knowledge. In addition, Badu-Nyarko and Torto (2014) confirmed that for the teaching space to be productive in removing misunderstandings,

educators should introduce proper ideas in clear opposition to the learners' incorrect perceptions. A selected teaching (if the educator holds knowledge of learners' misconceptions) must incorporate demonstrations and activities that produce counterevidence and credible conceptual options to focus on misconceptions. Educators' PCK and knowledge of instructional strategies is discussed next.

2.3 Educators' PCK and Knowledge of Instructional Strategies

The experience of teaching and learning differs according to the mode of the subject at a particular time, which entails various instructional strategies to attain the lesson objectives for the subject to be taught (Peklaj, 2015). Pedagogical knowledge is depicted as the science of education, instruction, and training. It is one of the mediating factors between educators' SMK and classroom practice (Mthethwa-Kunene, 2014). It comprises understanding the subject matter and the exact requirements of that subject, such as instructional strategies. Instructional strategies serve as a pillar for teaching, and, when utilized properly, can help learners to acquire a richer knowledge of course material and inspire critical thinking beyond basic retention and shallow understanding (Killen, 2015). The selection of instructional strategies by EMS educators during a lesson is extremely significant because individual lessons need various instructional strategies (Shulman, 1987). Therefore, the proper selection of instructional strategy does not rely only on the educator's CK but then again also on their skill of learners' degree of knowledge (Badu-Nyarko & Torto, 2014; Killen, 2015). Karthikeyan (2013) inferred that the educator's success in teaching a specific topic of the subject (EMS) depends on the depth and extensiveness of the individual educator's PCK. Prior to the beginning of a lesson, an EMS educator is simply required to properly plan the lesson. They need to choose a suitable teaching strategy for that lesson, choose content that is fit to the learners' level of understanding, and lastly facilitate the exchange of ideas among the learners in their groupwork.

Educators with a wide-ranging knowledge of the elements of PCK constantly make a proper choice of instructional strategies applicable for the level of learners' development (Phakathi, 2018). PCK enables an educator to predict difficulties that learners may encounter during teaching, and to consequently become skilled with proper methods when designing lessons (Gess-Newsome et al., 2019). Similarly, during the process of instruction, an educator fuses more than a few knowledge domains, such as SMK and knowledge of instructional strategies, and at that phase an EMS educator links new EMS knowledge with what learners already know. Educators' PCK includes learning how to take advantage of diverse instructional methods that add up to a learning experience applicable to all learners. This comprises being adaptable and altering teaching that considers a few learning styles, abilities, and interests (Phakathi, 2018). According to Killen (2015), good instructional strategies ought to actively involve learners, help them to use their skills and prior knowledge to resolve problems encountered, stimulate them to take part throughout a lesson, and, lastly, build a conducive teaching space for all learners.

Studies have shown that even though skillful educators vary in their real teaching style and administration, they all use instructional strategies to get the best out of learners and their engagement in learning tasks. They inspire learners' energetic involvement, make certain that learners comprehend a task they are instructed to do, and set tasks and activities at the accurate level to guarantee high rates of achievement. In addition, they fashion a constructive and helpful classroom atmosphere, are good supervisors of conduct, and are skilled in motivating learners to learn (McNeill et al., 2016). Furthermore, the choice of a teaching strategy must also encourage a disciplined learning environment that allows learners to listen to other learners' inputs and encourage the sharing of ideas as they unfold from the lesson (Khudair, 2018). This distinct type of knowledge concerns an awareness of how learners come to know, common classroom-management abilities and lesson planning, as well as evaluation of learners. Badu-Nyarko and Torto (2014) and Killen (2015) asserted that outstanding EMS educators are those who are aware of inclusive useful instructional strategies combined with procedures for learning and teaching that encourage learners' enjoyment of EMS topics. Such educators often decide on instructional strategies that manage to produce the greatest learning experience for all learners.

However, a partial knowledge of instructional strategies can negatively influence the art of teaching (Khudair, 2018). One of the reasons for a deficiency of knowledge around instructional strategies may be deficient CK. Stripling et al. (2014) affirmed that educator knowledge of instructional strategies is reliant on their SMK. A review of research on educators' PCK (Killen, 2015) showed that factors manipulating educators' choice of instructional approaches are the time accessible to prepare lessons and teach, school resources, anxiety about classroom management, views around the use of activities, and individual knowledge of previous learning of a theme. Therefore, knowledge of subject matter and instruction implies that an educator has power over the success with which a lesson is presented (Chen, 2014).

Mohammadi et al. (2013) and Tambara (2015) discussed four elements that enhance effective teaching delivery. The first is the excellence of instruction, which refers to activities of instruction that make sense to learners (such as introducing information in an organized manner or observing changeovers to current issues). Secondly, the suitability level of teaching refers to an educator adapting their approach of teaching to the learners' various demands. Adaptability means the level of instruction (e.g., a lesson must be neither extremely hard nor simple for learners) or the different methods of within-class ability grouping. The third element is motivation, where learners must be effectively driven to want to pay attention to learning and to complete given tasks. For EMS educators, this requires linking EMS themes to the learners' experiences. The last element that enhances effective teaching delivery is time. This means that teaching and learning aspects must be measurable, for instance, approaches of classroom management allowing learners to spend a substantial quantity of time on assignments. Factors affecting learner performance are discussed below.

3. Factors Affecting Learner Performance

Learner performance and the achievement of the desired EMS goals are strongly reliant on educator training (Papageorgiou & Halabi, 2014). Educators are confronted with the task of acquiring knowledge of financial literacy, economics, and entrepreneurship, which require three hours of teaching each week. This three-element combination of EMS is unfavorable to educators who are trained only on a single element. Odumbe et al. (2015) claimed that an educator cannot assertively teach learners while he or she is educationally vulnerable in one of the elements. Factors which weaken EMS learners' performance are discussed below.

3.1 Educators' Capability

The school environment needs to be conducive to the intended goals and objectives of the EMS to succeed. Many schools find themselves having no option but to hire educators who lack EMS CK since there is a lack of qualified educators who are well vested and equipped to teach the subject, and it is challenging for unqualified educators to teach a subject without proper training. The concern is that EMS educators are not adequately trained to handle the demands of the new curriculum, considering that they are skilled in specialized subjects. As a result, educators who are poorly trained, unmotivated, and show no creativity are not likely to produce inspired entrepreneurial thinkers (Papageorgiou & Halabi, 2014). Unfortunately, most schools find themselves with educators who either were only exposed to commercial subjects up to matric level; at least specialized in one or two of the three components of the EMS; never exposed to any EMS knowledge in their schooling; or qualified and knowledgeable with all the three components of EMS. Modise (2016) asserted that even though the attention of the school curriculum is on entrepreneurship, teaching these skills is beyond the skills of many educators. By nature of educators' training and experience, often, educators do not have the knowledge to provide learners with skills on how the economy works. This is because several educators do not have business training, do not own a business, or have never worked in the business sector or any business, except in education. If EMS educators lack sound background knowledge of EMS but are expected to teach, this is sure to have dire consequences. Undoubtedly, the schooling system rather than the tertiary education system is responsible for this failure, hence the country has low rates of entrepreneurial activity. Below, EMS instructional time allocation is reviewed.

3.2 EMS Instructional Time Allocation

In the Curriculum and Assessment Policy Statement (CAPS) document for EMS, it is specified that the time allocation for EMS teaching is two hours per week (South Africa. Department of Basic Education [DBE], 2011). Time allocation plays an essential role in the attainment of EMS-related goals and objectives. Learners have different ways of grasping concepts, some being quick and others slow. Time allocation can therefore be a challenge for those learners who are slow. On the other hand, time allocation presents a problem as it does not take into consideration the situational factors (such as lack of textbooks, teaching aids, poorly built classrooms, and learners from disadvantaged backgrounds) that could negatively influence educators' objectives. EMS learning space demands that learners be exposed to the movement of money, goods, and services; business

and government; the rights and responsibilities of the various role-players in the economy; environmental economic growth; and poverty-reduction strategies. A lack of exposure to various business environments, norms, language, and procedures of the business world can also be a challenge to learners who are slow to understand and internalize the EMS-related knowledge. Therefore, school authorities need to align time allocated to EMS with what is prescribed in the CAPS document. As a result, educators also cannot seek to achieve the EMS-related classroom objectives if schools are disregarding and pay no attention to the recommendations outlined in the CAPS document. Furthermore, objectives of the EMS classroom cannot be achieved if the time allocated for EMS learning does not match what is approved by the educational publications of the Department of Education. Next, overcrowded classrooms is discussed.

3.3 Overcrowded Classrooms

Many South African government schools are characterized by overcrowded classrooms (Modise, 2016). Overcrowding in the classroom can be defined as where a classroom has more learners than the prescribed educator-learner ratio of 1:30. In EMS, because of its nature, an overcrowded classroom can be a disruption of the educator's lesson objectives, leading to inferior performance. Assan and Lumadi (2012) asserted that goals in place will be difficult to achieve if educational organization authorities pay no attention to class sizes. It is challenging for EMS educators to give attention to overcrowded classes filled with learners from different backgrounds and who have different understanding abilities, often affecting the motivation level. Therefore, overcrowded classrooms affect how much time educators give to individual learners and make it difficult for them to monitor behaviours and activities. Alber (2014) added that an overcrowded classrooms can be noisy, which is why it is important for educators to set up rules to help monitor the noise levels.

3.4 Lack of Motivation

Motivation is defined as an inner state that stimulates, produces, and supports behavior. Therefore, the mindset of educators is greatly related to their lack of motivation (South Africa. DBE, 2012). The integration of accounting (financial literacy), economics, and business studies (entrepreneurship) into the further education and training (FET) level has been shown to contribute to poor learner performance and low abstract insight, which have led to poor matric outcomes. Assan and Lumadi (2012) added that some EMS educators lack motivation to boldly present information on something that has not produced any required outcomes previously. The absence of motivation overshadows the desire and the eagerness to conduct EMS work and creates unwanted EMS-related impediments. It deprives learners of the ability to be creative and analytical and causes individual learners to be satisfied with mediocrity. It restricts learners in striving for life-long solutions to daily challenges, which certainly leads to inferior performance.

4. Research Method

The aim of this study was to gain an in-depth understanding of EMS as ground rule for Grades 10 to 12 accounting learners and to identify factors that affect

learner performance. To do this, we employed a qualitative research method. According to Creswell and Plano Clark (2018), Creswell (2015), and Johnson and Christensen (2012), qualitative research enables the researcher to examine people's words and actions and report it in narrative and descriptive ways – more closely representing the situation as experienced by the participants. For this study, interviews were used as data collection instrument and were conducted with six EMS educators. Letters and consent forms were sent to all EMS educators from secondary schools in Lejweleputswa District in South Africa. Six EMS educators agreed to participate by signing the consent form. A small sample size should be considered appropriate in qualitative research as it can be useful in reaching data capacity (Kumar, 2014). A tape recorder was used to record the interviews, while the note-taking technique was also utilized as a complementary strategy. The phenomenological approach is appropriate for studies which have the goal of exploring people's actual social experiences. In this regard, it was appropriate to investigate EMS as ground rule for Grades 10 to 12 accounting learners and to identify factors that affect learner performance.

4.1 Data Collection and Procedure

Data were collected from six EMS educators, who were selected using the guidelines of purpose sampling by Creswell and Creswell (2018). Semi-structured interviews were used to collect the data from the participants to elicit information about EMS as ground rule for Grades 10 to 12 accounting learners and to identify factors that affect learner performance. Approval to conduct research was granted by the participants, who completed consent forms as individuals in the Free State province, South Africa. For ethical reasons, participants volunteered for the study and the purpose of the research was explained to the participants.

4.2 Data Analysis

Data were thematically analyzed using open-coding procedures (Belotto, 2018; Leedy & Ormrod, 2013). These involved systematically organizing, categorizing, and summarizing data and describing it in meaningful themes. Themes were assigned codes to condense the data into categories.

5. Findings and Discussion

To present the findings and discussion, we assigned pseudonyms to the participating EMS educators (e.g., Participant 1, Participant 2, etc.). The findings and discussion are presented in the order of the three identified themes: (i) educators' CK about EMS, (ii) teaching strategies applied by EMS educators, and (iii) learners' misconceptions.

5.1 Educators' CK About EMS

One of our focuses was the knowledge that EMS educators should possess to teach the subject. Participants responded to this in the following ways:

*"... as an EMS educator, you must know **all those three subjects**. You must be able to understand accounting, know accounting, and how to apply it as much as they know how to apply economics and business studies, because EMS is inclusive of the three of them." (Participant 1)*

*“I think as an educator, you should **have the content knowledge of all three elements of EMS**. You must be well vested in all of them to be able to effectively present or teach your learners. However, it becomes a challenge for an educator who only specialized in one and not all the subjects.” (Participant 4)*

*“It is especially important to have **a content knowledge of EMS**. I mean, if you do not, then you will not be able to deliver the content to the kids, hence it becomes a problem. For instance, when coming to financial literacy ... it becomes a challenge for me to thoroughly teach it to my class, because I do not have the depth of it as I did not specialize in it.” (Participant 2)*

The notion of having a full CK as educators shows how important it is to possess such knowledge to be able to teach and empower learners. This supports the literature in this paper, which indicated that challenges concerning the subject matter of EMS are centered on the demand for educators to grasp and understand EMS content as a merged subject (Modise, 2016). When that is not taken into consideration, educators will continue to neglect some content in which they are not fully confident (e.g., accounting), simply because they lack knowledge in it. Modise (2016) confirmed that several educators instructing EMS who did not specialize in accounting, as a result tended to teach entrepreneurial or economics aspects, while sacrificing the financial literacy curriculum. Modise (2016) stated that when these educators present financial literacy, it is too theoretical rather than practical.

5.2 Teaching Strategies Applied by EMS Educators

Teaching strategies applied by educators play an important role when teaching EMS to ensure that content is properly presented. Supported by literature, teaching strategy is defined as the methods of teaching appropriate in assisting learners to learn the intended lesson content and to be able to create achievable goals in the future (Mohammadi et al., 2013). In the interviews, participants mentioned the following different teaching strategies:

*“I make use of **scaffolding** strategy ... where I teach a learner and you are with them step by step until they can do things themselves, especially when you are teaching the accounting part of EMS, where you give the learner content week in, week out, until you let them be able to calculate certain things by themselves. I start with them, I do the activity in class, do examples with them, and then I give them home activities. The next time we meet, they can do them on board themselves, cause now they have learned how to.” (Participant 1)*

*“Mostly, I use **teamwork strategy**, where learners can work together and help one another about a certain topic, and come make presentations, where learners can create posters and come in class and present.” (Participant 3)*

*“I love doing **question and answer**. If I teach the general ledger, I will explain it to them first, step by step. I also break down everything in steps,*

everything. Everything I do, I break it down in steps, then they write the steps down and they go study the steps. And then I will, when we do the general ledger, I will say, 'Ok, opening balance, what is my month?' Then they give the month, I write it. 'What is the day?' They give it to me, I write. Then I ask them the details: 'Folio, where did I get the information, what is the month?' So, I never write everything on the board for them. I ask them the whole time. Every single transaction, I ask them. And I also ask children to come write on the board for me, especially when I do the AOL [assets, owner's equity, and liabilities]. I say, 'Come ... do this transaction for me.' (Participant 5)

*"... the **use of textbook** in classroom can never be overlooked, and that's what I make use of every day, and of course the combination of other teaching strategies like case studies to provide learners an opportunity to apply what they learn in my class to real-life experiences and come up with solutions to the problem." (Participant 4)*

Learners learn differently and at their own pace, so educators should make use of different strategies that accommodate different learners in the classroom. Participants made use of different teaching strategies that they found suitable for each lesson presentation in their own classroom. This provides learners with the opportunity to be the center of teaching and learning and allows them to take the lead and choose how they want to learn.

5.3 Learners' Misconceptions

Learners do not enter a classroom as empty slates but have presumptions concerning certain topics of the subject (EMS). This supports the literature in this paper, where PCK is identified as the ability of exactly how to instruct specific subject matter (Olfos et al., 2014). Yet, knowledge of subject matter and pedagogy is not considered sufficient to achieve efficient teaching preparation without an understanding of learners. This involves some knowledge about learners and their characteristics (their conceptions, preconceptions, misconceptions, and learning difficulties). It also involves knowledge regarding other contexts that require educators' knowledge around thoughts, opinions, or views learners carry to the class from their personal background experience prior to learning certain topics that are taught (Gess-Newsome et al., 2019). Regarding this, participants said the following:

"Well, I have noticed that most of my learners do not like the financial literacy, because they think that accounting is hard, and the entrepreneur and economics parts are easier and would want to rather focus on them." (Participant 4)

"Different types of accounts. Learners cannot distinguish between capital, owners' equity, and salaries. They do not know which ones are an expense. They think about salaries as them receiving it, so to them it is an income. When they are in Grade 8 accounting class, I start teaching them to think about themselves as a business organization. 'So, you are the business, so a salary, you [are] going to pay the salary, you do not receive

the salary. So, it is an expense for you.' But a lot of them still do not understand it." (Participant 6)

"... learners lack interest of the financial literacy, because you may find they are not even interested to do commercial subjects in the next grades, so they find it difficult and think that they are unable to understand [the] accounting part." (Participant 2)

Accounting, also known as financial literacy as part of EMS content, is perceived by learners as the most difficult element of the subject. Therefore, financial literacy (accounting) has continued to be problematic in schools. Learners find the accounting part of EMS difficult to understand and therefore lack interest. In addition, there is a pattern of educators instructing EMS as an integrated subject that combines different subjects even though they were not trained to teach all three of its components and might have specialized in only one of the three. This is one of the major factors weakening the performance of learners.

A summary of the findings is provided in Table 1.

Table 1: Summary of findings

Finding 1	Finding 2	Finding 3	Finding 4
EMS educators are qualified for either one or two disciplines in EMS, which results in EMS being taught by unqualified educators with inadequate CK due to the scarcity of qualified educators	There is continuous neglect of accounting content, as EMS educators focus more on economics and business studies	The time allocated to teach EMS is insufficient, and accounting should not be merged with other subjects as it requires more time	Very few EMS educators are trained in all three EMS disciplines.

6. Conclusion

Research has increasingly shown an interest in EMS as the ground rule for Grades 10 to 12 accounting learners. This study aimed to explore EMS as ground rule for Grades 10 to 12 accounting learners in South African schools and to identify factors that affect learner performance. The study commenced with a methodical review, which revealed the need for EMS educators to be trained in all elements of EMS to properly present the content to learners. The study revealed that a lack of training of EMS educators has led to them ignoring or not giving much attention to certain areas in which they did not specialize, specifically accounting. The study revealed that for teaching space to be productive in removing misunderstandings, educators should introduce proper ideas in clear opposition to the learners' incorrect perceptions. Also, the research revealed that a proper selection of instructional strategy does not rely only on the educator's CK but also on their ability to determine learners' degree of knowledge.

7. Limitations

Only six educators from secondary schools in Lejweleputswa district in South Africa were willing to take part in this study. The voices of a larger educator cohort were thus excluded, who might have had different sentiments about EMS as ground rule for Grades 10 to 12 accounting learners and factors that affect learner performance.

8. Recommendations

Based on the limitations of this study, we recommend that similar and relative studies be conducted in different districts and provinces in South Africa. Through this, the voices of more educators will be heard regarding issues such as educator training. These studies should also consider the way in which EMS educators are appointed to teach the subject. Furthermore, research should be conducted to determine the applicability of this study in other subjects.

9. References

- Alber, M. (2014). *Managing overcrowded classrooms: Strategies* (2nd ed.). London: Routledge.
- Assan, T. E. B., & Lumadi, M. W. (2012). Facets of integration in Economic and Management Sciences: Theory, Learning-Teaching, Assessment and Metaphor. *Journal of Social Sciences*, 32(3), 255-264.
<https://doi.org/10.1080/09718923.2012.11893070>
- Badu-Nyarko, S. K., & Torto, B. A. (2014). Teaching methods preferred by part-time tertiary students in Ghana. *International Journal of Humanities and Social Science*, 4(1), 226-233.
http://www.ijhssnet.com/journals/Vol_4_No_1_January_2014/26.pdf
- Banjo, B. O. (2019). An exploration into teachers' pedagogical content knowledge (PCK) for teaching quadratic function in Grade 10 [Master's thesis]. University of South Africa, Pretoria.
- Belotto, M. J. (2018). Data analysis methods for qualitative research: Managing the challenges of coding, interrater reliability, and thematic analysis. *The Qualitative Report*, 23(11), 2622-2633. <https://doi.org/10.46743/2160-3715/2018.3492>
- Chen, J. (2014). Teachers' conceptions of approaches to teaching: A Chinese perspective. *Asia-Pacific Educational Research*, 24, 341-351.
<http://dx.doi.org/10.1007/s40299-014-0184-3>
- Creswell, J. W. (2015). *A concise introduction to mixed methods research*. Sage.
- Creswell, J. W., & Creswell, J. D. (2018). *Research design: Qualitative, quantitative, and mixed methods approaches* (5th ed.). Sage.
- Creswell, J. W., & Plano Clark, V. L. (2018). *Designing and conducting mixed methods research*. Sage.
- Etikan, I., Musa, S. A., & Alkassim, R. S. (2016). Comparison of convenience sampling and purposive sampling. *American Journal of Theoretical and Applied Statistics*, 5(1), 1-4. <https://doi.org/10.11648/j.ajtas.20160501.11>
- Gess-Newsome, J., Taylor, J. A., Carlson J., Gardner, A. L., Wilson, C. D., & Stuhlsatz, M. A. M. (2019). Teacher pedagogical content knowledge, practice, and student achievement. *International Journal of Science Education*, 41(7), 944-963.
<http://dx.doi.org/10.1080/09500693.2016.1265158>
- Jadama, L. M. (2014). Impact of subject matter knowledge of a teacher in teaching and learning process. *Middle Eastern & African Journal of Educational Research*, 7, 20-29.

- Johnson, R. B., & Christensen, L. (2012). *Educational research: Quantitative, qualitative, and mixed approaches*. Sage.
- Karthikeyan, P. (2013). Humanistic approaches of teaching and learning. *Indian Journal of Research*, 2(7), 57–58.
- Khanare, T. B. (2012). Experiences and practices of Form Three integrated science teachers with regard to outcomes and assessment strategies [Master's thesis]. University of KwaZulu-Natal, Durban.
- Khudair, B. (2018). The relationship learning and knowledge based view of strategy. *Open Journal of Business and Management*, 6, 333–348.
<https://doi.org/10.4236/ojbm.2018.62024>
- Killen, R. 2015. *Teaching strategies for quality teaching and learning* (2nd ed). Juta and Company.
- Kotoka, J. K. (2018). An investigation of physics teachers' technological pedagogical content knowledge and their learners' achievement in electricity [Doctoral dissertation]. University of South Africa, Pretoria.
- Kumar, R. (2014). *Research methodology: A step-by-step guide for beginners* (4th ed.). Sage.
- Kunter, M., Klusmann, U., Baumert, J., Richter, D., Voss, T., & Hachfeld, A. (2013). Professional competence of teachers: Effects on instructional quality and student development. *Journal of Educational Psychology*, 105(3), 805–820.
<https://doi.org/10.1037/a0032583>
- Leedy, P. D., & Ormrod, J. E. (2013). *Practical research: Planning and design* (10th ed.). Merrill/Prentice Hall.
- McNeill, K. L., Gonzalez-Howard, M., Katsh-Singer, R., & Loper, S. (2016). Pedagogical content knowledge of argumentation: Using classroom contexts to assess high-quality PCK rather than pseudo argumentation. *Journal of Research in Science Teaching*, 53(2), 261–290. <https://doi.org/10.1002/tea.21252>
- Modise, A. M. (2016). Pedagogical content knowledge challenges of accounting teachers. *International Journal of Education*, 13(3), 291–297.
<https://doi.org/10.1080/09751122.2016.118>
- Mohammadi, M., Naderi, E., Shariyatmadari, A., & Naraghi, M. S. (2013). The survey of the relationship between the epistemological beliefs of teachers with the inclination toward teaching approaches. *European Journal of Experimental Biology*, 3(3), 524–530.
- Mthethwa-Kunene, K. E. (2014). Exploring science teachers' pedagogical content knowledge in the teaching of genetics in Swaziland [Doctoral dissertation]. University of Pretoria.
- Ngwenya, J. C., & Maistry, S. M. (2012). Teaching and assessment in accounting: An exploration of teachers' experiences in a rural KwaZulu-Natal school. *Journal of Social Sciences*, 33(1), 21–30. <https://doi.org/10.1080/09718923.2012.11893083>
- Odumbe AG, Enose MWS & Ayodo TMO 2015. Factors influencing student academic performance in daysecondary schools in Kenya. A case study of Migori Sub County. *Greener Journal of Educational Research*, 5(3):78–97.
<https://doi.org/10.15580/GJER.2015.3.071815099>
- Olfos, R., Goldrine, T., & Estrella, S. (2014). Teachers' pedagogical content knowledge and its relation with students' understanding. *Revista Brasileira de Educação*, 19(59), 913–944. <https://doi.org/10.1590/S1413-24782014000900006>
- Papageorgiou, K., & Halabi, A. K. (2014). Factors contributing toward student performance in a distance education accounting degree. *Meditari Accountancy Research*, 22(2), 211–223. <https://doi.org/10.1108/MEDAR-08-2013-0032>
- Peklaj, C. (2015). Teacher competencies through the prism of educational research. *CEPS Journal*, 5(3), 159–180. <https://doi.org/10.26529/cepsj.134>

- Phakathi, S. P. (2018). The challenges of curriculum changes in teaching economic and management sciences in schools in the Umhlathuze circuit [Master's dissertation]. University of Zululand, Richards Bay.
- Qian, Y., & Lehman, J. (2017). Students' misconceptions and other difficulties in introductory programming: A literature review. *ACM Transactions on Computing Education*, 18(1), 1-24. <https://doi.org/10.1145/3077618>
- South Africa. Department of Basic Education (DBE). (2011). Economic and management sciences, Curriculum and Assessment Policy Statement of the National Curriculum Statement senior phase Grades 7-9. Government Printers.
- South Africa. Department of Basic Education (DBE). (2012). National protocol for assessment of the National Curriculum Statement Grades R-12. Government Printers.
- Shulman, L. (1986). Those who understand: Knowledge growth in teaching. *Educational Researcher*, 15(2), 4-14. <http://www.jstor.org/stable/1175860>
- Shulman, L. (1987). Knowledge and teaching: Foundation of a new reform. *Harvard Educational Review*, 57(1), 1-22. <https://dx.doi.org/10.17763/hear.57.1.j463w79r56455411>
- Sithole, B. M., & Lumadi, W. (2012). Pedagogical challenges besetting business studies teachers in secondary schools: A Botswana perspective. *Journal of Social Science*, 32(1), 71-80. <https://doi.org/10.1080/09718923.2012.11893053>
- Stripling, C. T., Thoron, A. C., & Estep, C. M. (2014). Learning activities utilized and readiness for the student teaching internship. *Journal of Agricultural Education*, 55(4), 148-161. <https://doi.org/10.5032/jae.2014.04148>
- Tambara, C. T. (2015). Unpacking teachers' pedagogical content knowledge and skills to develop learners' critical thinking skills in mathematics [Doctoral dissertation]. Stellenbosch University.
- Uzzo, S. M., Graves, S. B., Shay, E., Harford, M., & Thompson, R. (Eds.). (2018). *Pedagogical content knowledge in STEM: Research to practice*. Springer.
- Van Driel, J. H., & Berry, A. (2012). Teacher professional development focusing on pedagogical content knowledge. *Educational Researcher*, 41(1), 26-28. <https://doi.org/10.3102/0013189X11431010>