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Trends and Projections in Lesotho's Geography Education: Highlights of the Challenges and The Anticipations for the Future of Geography

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A B S T R A C T :

Even though geography education in Lesotho stays as a vital tool for understanding the country's diverse physical landscapes and human interactions, it is facing a significant decline in its efforts to produce geographically enlightened students. This has motivated researchers to initiate investigations into the issues that might be linked to this mishap. Motivated by the philosophical views embedded in the Theory of Constraints, this review article explores the negative trends observed by previous studies, and by Examinations Council of Lesotho's examiners' repots in order to provide a comprehensive overview of the current state of the subject in question. Additionally, this article projects the potential future impediments that are luckily to exist if the current issues may not be mitigated or addressed as soon as possible. Importantly, this paper unpacks the identified bottlenecks such as lack of resources, language barriers, misalignment with environmental education, inquiry –based learning deficiencies, and syllabus limitations. Thus, this paper argues for the need for the government of Lesotho (through Ministry of Education) and curriculum designers to work collaboratively in order to lessen or completely remove the identified disparities; otherwise, the effects will be significantly unpleasant and far-reaching to both learners and the country at large.

Keywords; Trends, Challenges, Issues, Geography Education, Lesotho

1. Introduction

Geography education forms part of the secondary school curriculum. Offered by both the government schools, church schools, and private schools, this subject assumes the status of an elective course and competes with subjects such as Development Studies, History, and Biology. Even though geography education in Lesotho stays as a vital tool for understanding the country's diverse physical landscapes and human interactions, this 'prestigious' subject is somewhat facing significant decline in its efforts to produce geographically enlightened students. This paper explores the negative trends observed by previous studies, and examiners' repots to provide a comprehensive overview of the current state of the subject in question. Additionally, this article projects the potential future impediments that are luckily to exist if the current issues may not be mitigated or addressed as soon as possible. Thus, this conceptualization is underpinned by the following review questions:

- What are the negative trends in Geography Education in Lesotho?
- What potential future impediments may exist due to unaddressed current trends?

This literature review is believed to hold significance in various ways. First, it reveals the chronic and systemic bottlenecks in Geography education, hence establishes a strong case for target reforms. Its multilayered perspectives on issues that surround the curriculum enactment elevates this paper from just a review on academic performance to a diagnostic tool for policy improvements. Secondly, its articulation on future projections not only strengthens the review's arguments but cites the practical urgency to reform the Geography curricula. Lastly, this paper bridges the gap between educational research and classroom realities, thus providing evidence for policy makers to justify curriculum redesign. Thus, it is considered appropriate to signify this paper as a strategic blueprint for diagnosing and transforming Geography education in Lesotho; as it integrates empirical trends with theoretical insights offering a clear direction for improvement in policy, pedagogy, and practice.

This paper is organized into four distinctive sections and are as follows; Section 1 contains the introduction of the review; which is dedicated to situating this paper within a broader perspective about Geography education in Lesotho, Section 2 mainly focuses on the discussion of the identified trends in Geography education as highlighted by the examiners' reports and previous studies, the paper extents with Section 3 that mainly articulates on the potential future projections of issues that surround Geography education. Section 4 is dedicated to the conclusions drawn from the review of the studies discussed in the body of this conceptualization.

2. Theory of Constraints

This review is underpinned by Theory of Constraints (TOC). TOC is a management philosophy that aims to enhance organization's performance by addressing the issues (referred to as bottlenecks) that impede attainment of the desired goal (Sanjika, 2010). TOC focuses specifically on system-wide performance rather than individual tasks; thereby identifying the behavioral, policy-related, or physical constraints that hinder for the achievement of organizational objectives (Cox & Schleier, 2010; Şimşit et al., 2014) .

The main principle of TOC is that every system has at least one or more bottlenecks which lower the chances of maintaining optimal performance. As a result, effective management of bottlenecks is necessary to foster continuous improvement and increase system's outcomes (Şimşit et al., 2014). Those who advocate for this this theory argue that constraints may arise not only from production departments but also from the organization's clients, as well as internal processes (Barrett, 2018). In a more holistic perspective, TOC encourages managers to identify and resolve constraints or bottlenecks in order to address challenges across various sectors (Trojanowska & Dostatni, 2017). The figure bellow illustrates 'a bottleneck' as envisioned by TOC.

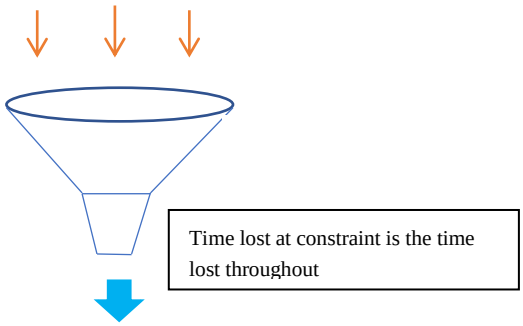

Fig 1. An illustration of a bottleneck or constraint

Source: Trojanowska and Dostatni (2017)

Figure 1 illustrates how a bottleneck limits capacity, resulting in lost time that cannot be recovered. The mouth (TOFU) is where the system is operating without issues or bottlenecks. The bottom (BOFU) represents an area of constrain which determines the quality of the outputs. In order to address the constraints, the organisation or entity might require investment in equipment or labour, further exacerbating disruptions.

The Theory of Constraints (TOC) serves as this review's guide, emphasizing the need for schools to address core issues limiting academic performance (Sanjika, 2010). TOC highlights that system's optimal performance is impeded by the system's weakest link. Thus, identifying constraints within the school's operations can enhance academic achievements without significant cost increases (Şimşit et al., 2014). The TOC offers steps that need to be followed by managers to keep the firm efficient. The steps include identifying, exploiting, subordinating, and elevating constraints, with continuous iteration to improve overall performance. Despite TOC's ability to help organizations' managers to effectively increase the outputs across their sectors, it has been criticized for its linear focus which seem to oversimplify the complexities of modern organizations (Princewill et al., 2022; Sanjika, 2010). Influenced by TOC, this paper focuses on discussing the negative trends sourced from studies used for this review. Thus, the bottlenecks in Geography education are presented based on the review questions posed in the introduction section of this paper.

3. Trends in Geography Education

3.1. Trends as highlighted by the reports

3.1.1. Lack of map-reading and interpretation skills

ECOL's 0183 report (2019) reported that majority of students had difficulties with grid references, scale, map key, vertical intervals, height, and relief. Some of the students provide numerical figures without including units. This trend was reported by 2022's report-which revealed that candidates faced significant difficulty in utilising key to decode messages from the given map. In the same vein, the 2023's examiner's report validated that students in Lesotho lack basic map reading and interpretation skills. This suggests that majority of geography learners lack proficiency in the effective use of topographic maps. However, the 2024 report highlights that there has been an improvement in map reading as compared to the previous years.

3.1.2. Difficulty in resource-based questions

The 2019, 2021, 2022, 2023, 2024 ECOL's Geography reports cite that there is a progressive struggle by learners to interpret the pro-vided inserts. According to these reports, learners seem unable to engage with the given resources, which leads to incorrect answers (Examinations Council of Lesotho, 2019, 2021, 2022, 2023). This highlights that learners are unable to apply the learned theory to analyse the situation or messages encoded on the provided resources.

3.1.3. Unfamiliarity with command words

ECOL 0183 reports of 2021, 2022, 2023, and 2024 further posit that learners lack understanding of different command words used in questions. While command words guide students on how to approach their answers, unfamiliarity with such words can lead to incorrect responses.

3.1.4. Concerns with physical geography

The reports of 2019, 2021, and 2022 highlighted that performance in physical geography is not optimal. As reported by the examiners, the performance is at an average level (sometimes below average). According to these reports, there is a notable gap in the understanding and application of fundamental physical geographic concepts. However, the 2023 examiner's report highlighted a slight improvement in this aspect as learners were able to identify and interpret features. Consequently, the performance in physical geography section was declared "fair". Unfortunately, this was eroded by the 2024 performance as learners performed below average in this section (Examinations Council of Lesotho, 2024). It would seem appropriate to conclude that physical geography theme remains a significant area of difficulty in Lesotho's geography education.

3.1.5. Inappropriate terminology

Since 2019 until date, there has been recognition (by the examiners) that learners have not yet mastered geography-specific terminology. According to the 2019, 2021, 2022, 2023, 2024 ECOL Geography reports, misunderstanding of and deficiency in the use of geographic jargon impede the ability to communicate and comprehend geographic concepts effectively.

3.2. Trends in literature: 2010-Present

3.2.1. Lack of technological integration

Although Lesotho's Geography syllabus provides a room for foundational skills, it does not directly integrate modern technologies such as GIS and GPS. Few researchers emphasize this drawback. For example, Raselimo and Thamae (2018) point that while the geography curriculum lays the groundwork for using the aforementioned technologies, it does not encourage explicit inclusion of such technologies. In the same manner, Besele and Molatseli (2022) argue that the lack of direct integration of GIS and GPS may not adequately prepare students to develop essential map reading and interpretation skills, thus fail to apply such skills within contemporary technological tools.

3.2.2. General ineffectiveness of education

In a broader perspective, Lekhetho (2021) highlights that the issues within education system include ineffective school management, poor teacher quality, and primary education. These problems have an impact on Geography education, resulting in strained effectiveness and a negative public perception concerning the education system. As noted by Raselimo and Thamae (2018), Geography education struggles to produce learners who can actively participate in societal activities due to these underlying issues.

3.2.3. Resource accessibility and pedagogical concerns

Arguing on how resource accessibility and pedagogical concerns influence poor educational outcomes, Besele (2023) cites that the Geography syllabus relies on resources that cannot be accessed by underprivileged schools, particularly in rural areas. Thus, this results in academic limitations such as poor drawing skills as reported by (Examinations Council of Lesotho, 2021). In extension, Besele (2023) asserts that the geography syllabus emphasizes teaching and learning that does not align with the assessment methods of the Examinations Council of Lesotho (ECOL), as it focuses more on memorization rather than practical application of concepts which form part of ECOL's assessments.

3.2.4. Lack of learner-centered approaches

What is more, the current Geography curricula place teachers at the forefront of the learning process, leading to teacher-centered approaches characterized by excessive lecturing and note-giving (Besele, 2023). The possible consequence of this type of education is, in my opinion, that this methods may limit the opportunities for learners' collaboration and exchange of ideas; which are essential for deeper under-standing and knowledge sharing. Perhaps Besele (2023) was right to argue that teacher-centered approaches detracts the development of psychomotor skills, as teachers seem to prioritize the cognitive aspects of learning. Importantly, it appeals to Raselimo (2010) that while the geography teachers rhetorically espouse learner-centered methods, in practice they generally employ traditional teacher-centered and book-centered methods; which may be linked to scholar academic principles as warned by Besele (2023).

3.2.5. Resource shortages and high workloads

While the success of Geography education is dependent on resources, Geography teachers are faced with the challenge of lack of resources such as outdated information, insufficient teaching aids, and limited access to the internet (Bitso, 2012). This drawback is exacerbated by heavy teaching loads

and large class sizes (40-70 students); which makes it difficult for teachers to find time for thorough information-seeking and effective instruction. Bitso (2012) found out that shortage of teaching materials make it difficult to teach human and physical geography themes. This hinders the teachers' ability to deliver quality geography education.

3.2.6. Language barriers

One of the significant challenges highlighted by Khalema and Raselimo (2024) is that learners often struggle with geographical terms due to paucity in proficiency in English; as a result of being previously taught in Sesotho. Consequently, their ability to fully engage with the Geography curriculum is impacted negatively. This drawback is also observed by Koekoe (2023), who established that most of the geography students who had been previously taught in Sesotho, found it challenging to defend or explain things in English.

3.2.7. Inquiry-based learning deficiencies

Similar to lack of learner centered methods highlighted earlier, ineffective integration of inquiry based learning (IBL) methods and lack of syllabus execution guidance undermines the effectiveness of Geography teaching and learning (Koekoe, 2023). Among other observable challenges, the time allocated for geography lessons, coupled with lack of instructional resources, hinder the implementation of IBL in Lesotho's secondary schools (Koekoe, 2023).

3.2.8. Misalignment with Environmental Education

Almost a decade ago there was a noticeable absence of general understanding and commitment to environmental education within Lesotho's Geography curriculum (Raselimo & Wilmot, 2013). According to Raselimo and Wilmot (2013), there were pressures such as covering the examination syllabus and unsupportive school administration; which undermined the effectiveness of Geography education. Five years later, Raselimo and Thamae (2018) found out that the syllabus provided limited action-oriented learning opportunities which in turn affected students' practical engagement with environmental issues. This implies that curriculum developers seem to overlook the importance of students' interactions with the environment surrounding them. If prioritized, environmental education may advance students' understanding of the natural world thus improve their geography literacy and environmental awareness.

3.2.9. Other bottlenecks

Selialia and Kutara (2023) report additional challenges faced by geography, such as unclear policies, insufficient professional development, and inadequate monitoring and evaluation. Inadequate lesson periods was reported by Bitso (2012) as one of the issues surrounding geography education. Raselimo and Wilmot (2013) stated that the pressure to cover the examination syllabus affects the learning outcomes in Lesotho's geography education. Similar to this finding, Koekoe (2023) revealed that Geography teachers have to complete the syllabus within three years, which affects the quality of instruction dedicated to the learners. Lastly, Besele (2023) mentions that the Geography syllabus fuels the teaching and learning of Geography that is misaligned to Examinations Council of Lesotho's assessments methods, resulting in confusions on how to effectively enact the curriculum for both personal and academic gains by the geography learners.

4. Future Projections

The previous section extensively unpacked the negative trends that may hinder for the delivery of high quality Geography education in Lesotho. This paper argues for the need to address the highlighted bottlenecks. If the aforementioned issues in Lesotho's Geography education remain unaddressed, the future implications could be far-reaching for both learners and for the development of Lesotho. The forthcoming paragraphs are dedicated to the discussion of the anticipated future across key areas believed to represent the bottlenecks as per TOC.

4.1. Technological lag and deficiency of skills

As highlighted by Besele and Molatseli (2022) and Raselimo and Thamae (2018), Geography education does not explicitly incorporate use of modern technologies. If this issue remains overlooked by curriculum designers, students will continue to graduate high school without practical skills in modern technologies such as Geospatial technologies (GIS and GPS navigators). Consequently, lack of modern geospatial technologies may reduce employability in technology-driven fields such as urban planning, disaster management and mitigation, as well as environmental management. In addition, there will be a widening gap between Lesotho and neighboring countries that integrate technology in their educational settings. Thus, the government should finance schools and ensure that electricity and computers are efficiently installed within schools in order to enable the schools to include use of GIS and GPS during lessons. This might ensure a curriculum that does not fail to meet the digital demands of the modern and ever-changing world.

4.2. Continued educational ineffectiveness

Another significant point that is raised by Lekhetho (2021) is that effective Geography education remains undermined by ineffective school management and poor teacher quality. These two issues alone can result in continued underperformance and demotivated learners. Not only does this issue projects to

learners but also to the external environment; as it will maintain low public confidence in education system. This issue, accompanied by resource shortages and heavy teacher workloads (Bitso, 2012), will encourage Geography lessons that are content-heavy; lacking depth and learners engagement. Consequently, this will maintain persistent inequalities in academic outcomes.

Due to lack of teaching and learning resources, teachers are bound to resort to teacher-centered instruction. Unaddressed, this issue will unfortunately lead to learners becoming passive recipients of knowledge rather than active knowledge constructors. Obstruction to learner-centered instruction will result in poor development of critical thinking skills, collaboration skills, and problem solving skills. These are constructs of a poor or ineffective education. Over reliance on teacher-centered methods will continue a circle of rote memorization, thus under-mine practical knowledge construction and application.

4.3. Continuous urban-rural divide

Based on the syllabus' reliance on inaccessible resources by underprivileged secondary schools, as put forth by Besele (2023), secondary school Geography education will luckily experience deepening disparities in quality between urban and rural schools. That is, the rural students may be less prepared for national examinations and not synchronize with the modern workforce demands like their counterparts. This, in my opinion, will reinforce systematic inequalities and academic underdevelopments.

4.4. Deficiency in environmental literacy and exploration

Koekoe (2023) discovered that some of the secondary schools in Lesotho are characterized by weak integration of Inquiry-Based Learning-a construct that defines the core of environmental education which was found lacking by Raselimo and Wilmot (2013), and Raselimo and Thamae (2018). The anticipated future in this aspect would be that learners will continue to miss opportunities to interact with the environment, thus diminish learners' understanding and responsiveness to environmental issues. The misalignment with environmental education might result in reduced efforts to improve sustainability, conservation, and climate action. Once learners miss such opportunities to engage with the environment that surrounds them, they might become what I term 'environmentally-ignorant citizens'.

4.5. Policy and curriculum confusion

Lastly, several publications (Besele, 2023; Besele & Molatseli, 2022; Raselimo & Thamae, 2018; Raselimo & Wilmot, 2013) have highlighted key bottlenecks imposed by the Geography syllabus (which acts as the guiding policy for lessons), stressing that there is a cumulative effect on how geography curriculum is enacted by Geography teachers. Besele (2023) raises concerns about the unclear educational policy which is, to some degree, misaligned with Examinations Council of Lesotho. It is my belief that this curriculum-confusion causes inconsistencies in teaching, learning, and assessment practices. The syllabus itself deprives the teachers the freedom to teach learners skills that are often tested during examinations.

As such, it is within the scope of this paper to call for the need to ensure collaboration between curriculum developers and examiners; otherwise, the misalignment between policy development and national assessment will continue to confuse Geography teachers-leading to misdirection within classroom instruction. When such misdirection manifest at the outcome-stage of the system, the integrity of Geography education will remain under criticism.

5. Conclusions

The ECOL's reports and academic literature on the trends in Lesotho's geography education cite that Geography education in Lesotho faces serious challenges. This literature review highlights that consistent struggle by learners in map reading, interpretation of given resources, and understanding of physical geography aspects remain prominent in Lesotho's Geography education. Despite some of the ECOL's latest reports highlighting slight improvements, the overall picture suggests that these bottlenecks remain widespread. It can be concluded that, amongst others, lack of understanding of command words, inappropriate use of Geography specific terminology, the below-average performance in physical geography represent deeper deficiencies in curriculum enactment and assessment readiness. Further conclusions drawn reflect that these trends are compounded by missed opportunities to practice and paucity in skill-oriented tasks during lessons.

In a broader pedagogical and systemic perspective, this review highlights that the curriculum's failure to adapt to modern teaching methods such as inquiry-based learning and other leaner-centered methods poses significant bottlenecks to effective Geography education. With systemic factors like inadequate access to teaching and learning resources, limited professional development, and high workloads, issues that surround Geography education are further exacerbated. Based on the literature reviewed, it is concluded that the technological lag; noting absence of GIS, GPS, and other geospatial technologies, puts learners at risk of graduating without skills that are demanded for employment in the fields that require spatial and environmental literacy. The literature revealed that the integration of these modern technologies is primarily depended on electricity and computer installation in secondary schools; which is currently overlooked. Hence, I conclude that lack of electricity installation within secondarily schools in Lesotho poses a significant barrier for integration of technology driven lessons.

Unaddressed, these issues will result in continued educational divide —particularly between urban and rural learners. The overreliance on rote learning, characterized by lack of environmental education, will continue to deny the learners an opportunity to engage with ecological issues. If these challenges persist, Lesotho will be at risk of producing a generation of geographically incompetent learners with limited practical application skills,

critical thinking skills, and digital competencies. Consequently, this might ultimately weaken the country's ability to tackle environmental and developmental concerns. In brief, this review concludes that comprehensive reform in Geography curriculum design is urgently required to reverse some of the aforementioned trends in order to improve the quality of this fruitful subject.

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