


# Chapter 7


## An Analytical Review of the Trend Performance of Grade 12 Physical Science Students in Eswatini

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### ABSTRACT

*Science plays a significant role in the economic, technological, political, and environmental development of any nation because it has permeated all facets of human life. In view of the emphasis on the understanding of science, this research focussed on the trend performance of physical science in Grade twelve in Eswatini. Trend performance is important to determine if the learners are improving on a yearly basis. One of the key trend analysis benefits is the ability to chart a comparison between countries and industry standards. The purpose of this study is to provide detailed information on the performance of candidates in physical science examinations over a period of five years in Eswatini. This is a descriptive research design utilising data for the past five years, which were extracted from the Examinations*

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*Council of Eswatini database. Quantitative data were analysed descriptively, to establish the differences between the different years.*

## **INTRODUCTION**

Through promoting scientific literacy and preparing people for a variety of careers, science education is essential in influencing how societies will develop in the future (National Research Council, 2012). Students who study physical science, a field that blends physics and chemistry, gain a basic understanding of the natural world as well as critical thinking and analytical skills (Taber, 2014). But there has long been concern about secondary physical science academic achievement worldwide.

Concern has been expressed globally about students' performance in science classes, especially in physical science. For example, the findings of the 2018 Programme for International Student Assessment (PISA) by the Organisation for Economic Co-operation and Development (OECD) showed that only about 7% of 15-year-old pupils in OECD countries attained the highest levels of competency in science (OECD, 2019).

Similar patterns appear regionally. The majority of students in the Southern and Eastern Africa Consortium for Monitoring Educational Quality (SACMEQ) III research did not meet the required competency levels in reading and mathematics among learners in Grade 6 across 14 nations (SACMEQ, 2010).

The situation is the same across the country. The Ministry of Education and Training in Eswatini claimed that students' performance in science classes, particularly physical science, has been consistently low (Ministry of Education and Training, Eswatini, 2018). Only 22.8% of candidates received a credit pass or better in physical science, according to the results of the 2012 Swaziland General Certificate of Secondary Education (SGCSE) examination (Examination Council of Swaziland, 2012).

Research shows that many factors, including teacher qualifications, the availability of teaching and learning resources, infrastructure, and classroom overcrowding, affect students' performance in science, especially physical science (Banerjee, 2016; Mutai, 2011). Low academic accomplishment in scientific disciplines is a result of these difficulties being further compounded (Ministry of Education, Eswatini, 2012).

This study examined the trend in secondary physical science students' performance on the Eswatini General Certificate of Secondary Education (SGCSE) during a five-year period, from 2019 to 2023, in light of these worries. The study examined the academic performance of students studying physical science, comparing various academic years and examining the variables that may have contributed to the patterns

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