

Exploring the Impact of Cognitive Factors on Learning, Motivation and Career in Malaysia's STEM Education

ABSTRACT

Advancements in science, technology, engineering, and mathematics (STEM) are critical to the success of modern societies. However, STEM education and careers are often hindered by cognitive factors, such as mindset, motivation, and learning strategies. This paper examines the complex interplay between cognitive factors and STEM education and careers, highlighting the profound influence of these factors on success in these fields. Through a comprehensive review of existing literature and empirical evidence, this paper presents a compelling case for the need to prioritize cognitive development in STEM education and career pathways. We argue that by fostering a growth mindset, cultivating intrinsic motivation, and promoting effective learning strategies, individuals can overcome cognitive barriers and achieve success in STEM education and careers. Ultimately, this paper underscores the critical role of cognitive factors in shaping the future of STEM fields and offers practical recommendations for educators, policymakers, and STEM professionals to support cognitive development and enhance STEM outcomes.