VOCATIONAL TRAINING DEVELOPMENT INSTITUTE

INFORMATION COMMUNICATION TECHNOLOGY

AN INQUIRY INTO THE CHALLENGES EXPERIENCED BY ICT STUDENTS AT VTDI

A Study in Partial Fulfillment for the Degree of

Associate degree in Information Communication Technology

By

Ifeoluwa Igwebuike, Shaquill Sproul, Rufa’EL Buckeridge, Tammy Archat, Nikita Edwards

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Approved by:

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Supervisor: Paul Andrew Bourne, PhD.

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# CHAPTER 1

INTRODUCTION

**Introduction**

Information and Communication Technology (ICT) has transformed every aspect of life, from business and healthcare to entertainment and education. Its transformative power has created extraordinary opportunities for innovations, global connectivity, and economic growth *Sarvottam International School. (n.d.).* In education, ICT has redefined how knowledge is accessed and shared, enabling students to learn anytime, anywhere and facilitating the use of digital tools that enrich the learning experience, which is referred to as virtual or remote learning (*ICTE Solutions, n.d.).* Through virtual classrooms, online resources, and collaborative platforms, ICT has bridged the geographic divides and made education more inclusive and interactive.

This interactive approach enhances students' understanding of complex concepts and also encourages collaboration among peers, as they can work together on projects and share knowledge in real time, regardless of their physical locations. (ICTE Solutions, n.d.). By engaging with digital tools and resources, students can participate in diverse learning environments that cater to different learning styles and preferences, fostering greater engagement and motivation. By harnessing these technologies ICT students, can be better prepared for careers in a digital economy that demands high proficiency in technology (ICTE Solutions, n.d.).

The growing demand for ICT professionals in Latin America and the Caribbean is a pressing issue that has been increasingly recognised by industry leaders and policymakers. According to a recent statement by an industry executive, the region will need an additional 2.5 million ICT-related professionals by 2026 (Williams & Williams, 2022). This demand is primarily driven by the rapid digitalization of the economy, which is expanding the digital sector’s contribution to the overall economic output. The International Data Corporation (IDC) report further substantiates this trend, estimating that the demand for emerging new roles in digital business will grow faster than traditional IT jobs. This situation presents a significant challenge for regional countries to seize growth opportunities and necessitates a collaborative effort from all stakeholders to grow the digital talent pool and bridge the digital talent gaps, both in terms of the pool and skills.

The introduction of ICT into schools in the Caribbean has enabled students to engage with technology from an early age, preparing them for the demands of the global digital economy. In countries such as Jamaica and Trinidad and Tobago, programs like the One Laptop Per Child initiative and the eConnect and Learn (eCAL) program have been launched to equip students with essential technological skills (Onuoha et al., 2015) ​(Onuohaetal). These initiatives have improved teaching by encouraging interactive and student-centred learning, particularly in subjects such as mathematics and science, where the use of technology can help simplify complex topics​ (Ávila Muñoz & The Inter-American Distance Education Consortium, 2008).

The ICT in Education Policy 2022 by the Ministry of Education and Youth, Jamaica, provides a comprehensive framework for integrating technology into the country’s education system. The policy underscores the importance of STEM education and experimental methodologies in refreshing the curriculum to foster critical thinking, creativity, collaboration, and communication among students, ensuring that information remains current and relevant. The policy emphasis on e-learning or online learning creates opportunities for students to access curriculum materials both in and out of the classroom, thereby enhancing learning flexibility and inclusivity. Despite challenges such as inadequate ICT infrastructure and limited resources, the Ministry’s initiatives to expand internet access in schools and provide tablets for students in need demonstrate a commitment to reducing the digital divide and creating a level playing field for all students. The policy envisions a future where ICT is crucial to teaching and learning, preparing students for the demands of the 21st century and contributing to Jamaica’s Vision 2030 goal.

Education Institutions such as Vocational Training Development Institute (VTDI) are tasked with the development of ICT professionals to be issued into the rapidly growing ICT economy. With courses such as ICT, Animation, and Software Development, the institute is at the forefront of equipping students with the necessary knowledge and skills to enter the workforce. Renowned for its commitment to fostering innovation and practical skills, VTDI has consistently empowered students to excel in various fields, particularly in Information and Communication Technology (ICT).

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However, while ICT has created significant advantages in the Caribbean education system, there are challenges that must be addressed to maximize its potential benefits. The digital divide, particularly among rural and under-resourced schools, remains a critical issue, along with technical problems like damaged equipment and inconsistent internet connectivity ​(Onuohaetal) (Brown, Y., 2023).

In light of these national efforts, it is essential to examine the specific challenges faced by ICT students at VTDI. An inquiry into these challenges can provide valuable insights into how well the policy is being implemented at the institutional level and identify areas where additional support may be needed. Understanding the obstacles that VTDI students encounter, such as access to resources, quality of infrastructure, and the effectiveness of e-learning tools, will help in tailoring solutions that ensure all students can benefit from the advancements in ICT education. This inquiry is crucial for aligning VTDI’s educational strategies with the broader goals of the ICT in Education Policy and ultimately contributing to the nation’s vision of a technologically adept workforce

This paper delves into the specific challenges experienced by ICT students, examining how these barriers affect their education and future in the global digital landscape.

Institutions such as the Vocational Training Development Institute (VTDI) play a critical role in providing students with the skills they need to meet the difficulties posed by contemporary technology as Jamaica works to improve its ICT infrastructure. Despite this, students engaged in ICT programs frequently face diverse hurdles that may obstruct their academic success and career development. This study identifies these obstacles and develops strategies to improve the educational process and overall effectiveness of ICT training at VTDI.

**Background**

The Jamaican government, along with educational authorities, has acknowledged the essential role that ICT plays in the nation’s development. Programs like the Vision 2030 Jamaica National Development Plan highlight the need to improve ICT infrastructure and education as a strategy to overcome the digital divide. Research suggests that Jamaica is not utilising ICT and the Internet to their full potential for advancement despite significant financial investments (MC Systems, 2023). The Jam-Dex project highlights ongoing issues in the digital economy that show persistent barriers to widespread technology adoption (ICT Pulse, 2023). Within the realm of education, the Ministry of Education and Youth has developed the ICT in Education Policy to integrate technology into learning seamlessly. However, difficulties persist, especially concerning the practical implementation of ICT initiatives (Ministry of Education and Youth, 2022).

**Problem Statement**

Despite continuous efforts and progress in ICT education within Jamaica, students pursuing ICT at VTDI encounter substantial obstacles that affect their academic achievements and preparation for careers in the ICT sector. These hindrances, which have not been extensively covered in current literature, involve insufficient infrastructure, restricted access to technological tools, inability to make use of nearby resources and a lack of alignment with the requirements of the industry.

**Purpose of the Study:**

This research aims to pinpoint and examine the difficulties encountered by ICT students at VTDI. Through a detailed survey, the study intends to reveal distinct obstacles that students face. The findings will aid in formulating focused strategies and interventions to enhance ICT education and resources at VTDI, thereby improving students' academic outcomes and future career opportunities.

**Significance of Study**

Recognising the obstacles encountered by ICT learners at VTDI is crucial from both educational and developmental perspectives. Educationally, this research will supply critical stakeholders, such as educators and policymakers, with valuable insights into the hurdles present in ICT education. Such insights will assist in crafting and executing effective strategies aimed at enhancing educational results. Broadly speaking, bolstering ICT education supports Jamaica's national goal of utilising technology for socio-economic advancement, thus enhancing the nation's capacity to compete on the global digital stage.

**Research Questions**:

* What are the primary academic challenges ICT students at VTDI experience, and how do they impact their overall learning outcomes?
* How do financial constraints and limited access to technology resources affect ICT students' ability to complete their studies successfully?
* In what ways does the ICT curriculum at VTDI address real-world industry demands, and where are there gaps?
* What support systems (academic, financial, mental health) are available to ICT students at VTDI, and how effective are they in mitigating student challenges?
* How do external factors, such as internet access and personal responsibilities, influence the academic success of ICT students at VTDI?

Reference

Williams, S., & Williams, S. (2022, December 1). *Latin America And The Caribbean Will Need Additional 2.5 Million ICT Professionals In Next 5 Years, Says Expert | CANTO*. CANTO | Caribbean Focus. . .Global Perspective. <https://www.canto.org/blog/latin-america-and-the-caribbean-will-need-additional-2-5-million-ict-professionals-in-next-5-years-says-expert/>