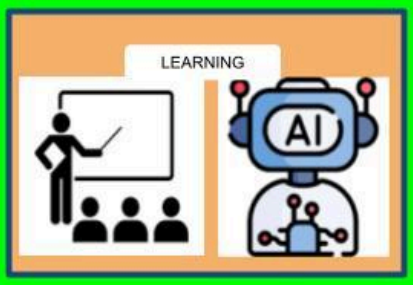
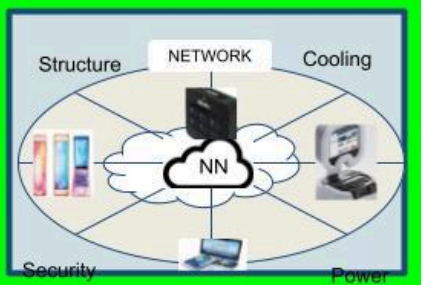
DECISION SUPPORT SCIENCE (DSS) OUTLINE

An Alternative Approach For Teaching Digital Technology in The Competence Based Education (CBE)

"Learning For Purpose : By Doing : From an Example : While Earning"





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Background Overview

Reorienting Digital Literacy Teaching Through Decision Support Science (DSS)
Aligned with Kenya's Competency-Based Curriculum (CBC)

This booklet presents a practical framework for teachers delivering the Digital Literacy curriculum under Kenya's Competency-Based Education (CBE). It introduces **Decision Support Science (DSS)** as a cross-cutting theme to enhance the teaching of digital literacy, with the aim of **equipping learners with 21st-century skills**—such as critical thinking, creativity, innovation, and digital problem-solving—that are essential for **employment, entrepreneurship, and national development**.

As the CBE emphasizes **learning with a purpose**, DSS encourages a shift from teaching digital skills in isolation, to applying these skills in **real-world contexts** such as agriculture, health, infrastructure, trade, and governance. Learners should not only know how to use digital tools, but also understand **why and when** to use them—to **solve problems**, make decisions & create value from data.

Why Digital Literacy Needs Purpose-Driven Learning

With the growing integration of **artificial intelligence (AI)** and smart technologies across all sectors, traditional approaches to computing education are becoming outdated. Teaching programming, for example, must go beyond syntax to foster **deeper thinking** about real-world challenges. DSS focuses on building **decision-making skills** by teaching learners how to:

- **Collect and organize data**
- **Transform data into information**
- **Analyze information into intelligence**
- **Generate actionable insights for decision-making**

This approach complements the **CBE learning outcomes**, particularly the strands that focus on **communication, collaboration, imagination, and**

innovation. It prepares learners not only to be users of technology, but **co-creators of solutions**.

A Story from the Past: A Lesson in Data and Decision Making

When I was in Standard 5 at Metuma Primary School, our teacher took us on an excursion to an animal rangeland. We were told to carry our activity books and record data: the animals we saw, homesteads in the rangeland, and which rivers had water. That weekend, we tabulated our findings in tables and charts—processing raw data into information. On Monday, our teacher analyzed the results and predicted that continued encroachment would drive animals out of their habitat.

Unknowingly, we had practiced the **core digital literacy cycle**: **data collection; information processing; and insight generation**. Today, with digital tools and technologies, this same process is **automated, accelerated, and scaled**. But the **principle still remains that :** Technology must serve to enhance understanding and guide action.

The Role of DSS in CBE Digital Literacy

Incorporating DSS into digital literacy teaching aligns with CBE's **competency pillars**, especially:

- **Critical Thinking and Problem Solving**
- **Learning to Learn**
- **Communication and Collaboration**
- **Digital Literacy and ICT Proficiency**

Learners are not just being trained to operate computers-but being prepared to:

- Understand how digital tools support **smart decision-making**
- Apply ICT to **real community challenges**
- Use data responsibly and creatively to **generate solutions**

CisoNet's Broader Vision

Through partnerships with technology providers, software vendors, and cloud platform developers, **CisoNet is contributing to the setup of a smart data center at Konza Smart City**. This infrastructure will support sectors like health, agriculture, education, and governance by enabling data-driven services.

We believe that **teachers are at the heart of this transformation**. By integrating DSS into your classroom, you're not only meeting CBE goals—you're building a future where learners can:

- Develop entrepreneurial mindsets
- Generate and store local data securely
- Build and manage smart digital systems
- Become creators of employment and innovation

Call to Action for Teachers and Innovators

We invite teachers to embrace a **solution-oriented teaching approach**, focusing on **how digital tools can solve local problems**. Your role is crucial in guiding learners to see digital literacy not as an isolated subject, but as a foundation for **nation-building through imagination, innovation, and responsible data use**.

We also welcome **entrepreneurs and job seekers** to collaborate with us in creating a robust ecosystem of **decision support services**—including app development, network solutions, cloud-based reporting, and intelligent data collection.

Together, we can empower the next generation to shape a **digitally self-reliant, economically vibrant Kenya**.

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