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THE ROLE OF SUBJECT ASSOCIATIONS IN THE MINISTRY OF EDUCATION

(Story on page 3)

By Peter Mulenga

COSTAZ PRESIDENT

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WHAT IS INSIDE.....

THE ROLE OF SUBJECT ASSOCIATIONS IN THE MINISTRY OF EDUCATION

By Peter Mulenga, COSTAZ President

Introduction

Subject Associations are professional bodies composed of educators who specialize in specific academic disciplines. These associations play a crucial role in advancing education by fostering collaboration, enhancing teaching methodologies, conducting research, and influencing curriculum development. Their contributions extend beyond the classroom, impacting policy-making and professional development for educators.

The Ministry of Education recognizes the importance of Subject Associations and will continue to collaborate with them as a strategy to enhance curriculum implementation. Given the evolving nature of education, belonging to such professional organizations is not just advantageous but essential for educators striving for excellence.

The Role of Subject Associations in Education

1. Enhancing Teaching and Learning
Subject Associations serve as platforms for educators to exchange innovative teaching methodologies. By sharing best practices, educators can adopt more effective instructional techniques, improving student engagement and learning outcomes. Additionally, these associations facilitate peer learning, allowing teachers to gain insights from colleagues who have successfully implemented new strategies in their classrooms.

2. Conducting Research and Generating Knowledge
A key function of Subject Associations is to conduct research on specific subjects to expand knowledge and inform teaching practices. By engaging in academic inquiry, these associations help develop new insights, teaching techniques, and educational resources, ultimately enhancing the quality of education delivered to students.

3. Curriculum Evaluation and Development
Subject Associations play a pivotal role in evaluating curriculum content to ensure its relevance to societal needs. Their recommendations contribute to the development of a well-rounded curriculum that prepares students for real-world challenges. Educators who are part of these associations can provide feedback on curriculum gaps and propose improvements that align with modern educational demands.

4. Supporting Effective Implementation of the Curriculum
Beyond curriculum development, Subject Associations also contribute to its effective implementation. They provide teachers with guidance on how to interpret and execute curriculum requirements, ensuring uniformity and quality in teaching across different educational institutions.

5. Enhancing Assessment and Evaluation Methods
Determining the most effective assessment strategies is crucial in education. Subject Associations contribute by researching and recommending appropriate evaluation procedures for assessing learners' performance in various subjects. This ensures that assessments are fair, reliable, and aligned with learning objectives.

6. Policy Influence and Advocacy
Through collective representation, Subject Associations have the power to influence educational policies and reforms. Their insights, drawn from practical classroom experiences, help shape policies that reflect the actual needs of teachers and learners. This ensures that education policies are informed by evidence-based recommendations from professionals in the field.

"Affiliation to professional subject associations is not just beneficial but essential for teachers and teacher educators in Zambia."

The Importance of Belonging to Subject Associations

1. Curriculum Development and Implementation

Professional Subject Associations are instrumental in the development and piloting of new curricula. Active participation in these associations allows educators to contribute their expertise, ensuring that educational frameworks are relevant, effective, and aligned with both national and global trends.

2. Continuing Professional Development (CPD)

The Teaching Council of Zambia awards credit points for participation in CPD engagements, which count towards promotions and career advancements. Subject Associations provide platforms for continuous learning, ensuring that educators remain updated on the latest pedagogical trends, research, and technological advancements. Regular participation in CPD activities enhances a teacher's professional competence and effectiveness in the classroom.

3. Networking and Collaboration

Membership in professional associations offers educators the opportunity to connect with peers, subject matter experts, and policymakers. These connections foster collaboration, knowledge sharing, and professional growth. By engaging with like-minded professionals, educators can exchange ideas, participate in joint projects, and access mentorship opportunities.

4. Professional Recognition and Career Advancement

Active involvement in Subject Associations increases an educator's visibility and credibility within the profession. The Ministry of Education and other relevant bodies often seek input from these associations when considering appointments and promotions. Teachers who demonstrate a commitment to professional development through association membership stand a higher chance of career progression.

5. Promoting Professionalism in Education

By affiliating with professional bodies, educators uphold and promote high standards of professionalism in teaching. This not only enhances their reputation but also elevates the status of the teaching profession as a whole. Subject Associations help instill a culture of ethical conduct, continuous learning, and excellence in education.

6. Access to Valuable Resources and Support

Subject Associations provide members with access to a wealth of educational resources, including research papers, academic journals, lesson plans, and teaching materials. They also offer mentorship, coaching, and career guidance, helping educators navigate challenges and enhance their teaching skills.

7. Influence on Education Policy and Decision-Making

Being part of a professional association gives educators a collective voice in shaping educational policies. These organizations advocate for teachers' interests and ensure that policymakers consider their perspectives when making decisions that affect the education sector.

Conclusion

Yearly affiliation with professional Subject Associations is not merely an option—it is a necessity for educators in Zambia. These organizations provide avenues for professional growth, networking, curriculum development, and policy influence. As Zambia undergoes significant educational transformations, Subject Associations will play an even more critical role in ensuring the successful implementation of the new education system.

Educators who take advantage of these associations will not only enhance their skills and career prospects but also contribute meaningfully to the advancement of the teaching profession. By committing to professional development and collaboration, teachers can help shape a more effective, innovative, and responsive education system for future generations.

COSTAZ PROFILE

COSTAZ REGISTRATION

Computer Science Teachers' Association of Zambia (COSTAZ) was dully registered on 26th of August 2021 in accordance with the provision of societies Act Cap 119 of the Laws of Zambia with the agenda to provide a professional platform for teachers of ICT /Computer Science, leaners in schools and other organization/ persons with interest in ICT

MISSION STATEMENT

To provide a platform for Computer science/studies teachers to share, research, innovate and facilitate teaching and learning of Computer science/studies in Zambian schools (institutions).

MOTTO

"Embracing Technology with Innovation, Integrity, Excellence and professionalism

VISION

Inclusive, innovative, relevant and quality lifelong competence enhancement through CPDs by Computer Science Teachers and any other organization/ persons with interest in ICT.

OBJECTIVES

- To provide a meaningful platform of Computer Science/Studies teachers' concerns.
- To work with the Ministry of Education and other stakeholders to ensure that Computer Science is a standalone department.
- To enhance quality and relevance in the provision of Education Technology and Digital Literacy Capacity Building and Up-skilling through CPDs, seminars, workshops and conferences.
- To integrate ICT in other subjects and promote/support ICT in special schools.
- Equipping School Administrators and those in other senior positions at DEBs/PEOs/HQ with Basic Computing Skills.
- To enhance efficiency and safeguarding of ICT Facilities in schools.

EMPOWERING THE FUTURE THROUGH COMPUTER SCIENCE, ICT AND DESIGN & TECHNOLOGY

By Simpande Derrick (M.ICT)
Charles Lwanga College of Education

In today's rapidly evolving world, technology has become an indispensable part of our daily lives, shaping how we communicate, work, and solve problems. Schools, as the foundation of education and skill-building, must embrace this technological evolution by investing in the Technology Department. This department, encompasses subjects like Computer Science, Information and Communication Technology (ICT), and Design and Technology, are vital to preparing students for the demands of the 21st-century workforce and fostering innovation.

Bridging the Digital Divide

One of the most significant roles of the Technology Department in schools is addressing the digital divide. By providing students with access to computers, internet connectivity, and modern tools, schools can ensure that all learners, regardless of their socioeconomic background, acquire essential digital literacy skills. These skills are no longer optional but are prerequisites for most careers and higher education opportunities.

Enhancing Critical Thinking and Problem-Solving Skills

Computer Science, ICT, and Design and Technology encourage students to think critically and solve complex problems. Programming, for instance, teaches logic, sequencing, and precision, while ICT introduces students to data analysis, cybersecurity, and effective communication tools. Design and Technology challenges students to innovate, create prototypes, and refine their ideas through practical application. These disciplines cultivate an analytical mindset that extends beyond the classroom.

Preparing Students for Future Careers

The global economy is increasingly dominated by technology-driven industries, making STEM (Science, Technology, Engineering, and Mathematics) education more crucial than ever. By fostering skills in coding, robotics, digital design, and software development, schools equip students with competencies that align with high-demand careers in tech, engineering, and beyond. Furthermore, early exposure to these fields helps students discover their passions and potential career paths.

Encouraging Creativity and Innovation

Design and Technology, a key component of the Technology Department, emphasizes creativity and hands-on learning. Students learn to design solutions to real-world problems, using tools like 3D printers, CAD software, and other modern technologies. This practical approach not only enhances their technical skills but also fosters an entrepreneurial mindset, inspiring students to become inventors and innovators.

Facilitating Lifelong Learning and Adaptability

Technology evolves rapidly, and staying relevant requires adaptability and a commitment to lifelong learning. The Technology Department instills these traits in students by teaching them how to learn new tools, understand emerging trends, and apply foundational knowledge to unfamiliar challenges. This adaptability ensures that students remain competitive in an ever-changing job market.

Promoting Collaboration and Communication

ICT and related disciplines emphasize teamwork and effective communication, both of which are critical in modern workplaces. Collaborative projects in technology classes teach students to work with peers, share ideas, and use digital tools to communicate efficiently. These skills are vital for success in diverse professional environments.

Enhancing Learning Across Disciplines

The integration of technology enhances learning in other subjects as well. For example, programming can be used to solve mathematical problems, digital design can enrich art projects, and data analysis can deepen understanding in science. By fostering interdisciplinary connections, the Technology Department amplifies the overall educational experience.

Conclusion

The Technology Department in schools, incorporating Computer Science, ICT, and Design and Technology, plays a pivotal role in preparing students for a tech-centric future. By providing the tools, knowledge, and skills necessary to navigate and innovate in a digital world, this department empower students to succeed and contribute meaningfully to society. As schools continue to evolve, prioritizing the development of comprehensive technology programs is not just beneficial but essential for shaping the leaders and innovators of tomorrow.

THE GENESIS OF COSTAZ

Narrated by Moses Sakala

The Computer Science Teachers Association of Zambia (COSTAZ) was officially registered on August 26, 2021. However, the journey toward its establishment was far from straightforward. Unlike other subject associations that already had dedicated directorates and assigned Standards Officers at the Ministry of Education headquarters, Provincial Education Offices (PEOs), and District Education Board Offices (DEBS), COSTAZ faced challenges in identifying the appropriate office to facilitate its registration and official recognition by relevant authorities.

Why Create a Dedicated Association for ICT, Computer Studies, and Computer Science Teachers?

Before the formation of COSTAZ, Computer Studies was grouped under the Zambia Association for Mathematics Education (ZAME). However, ZAME's primary focus was addressing challenges in teaching mathematics, and discussions related to computer studies were often sidelined. During ZAME meetings, mathematics-related concerns dominated the agenda, while ICT-related topics were only briefly touched upon in parallel sessions.

Despite repeated efforts by ICT teachers to voice their concerns during these meetings, little to no change was made. The lack of a dedicated platform for ICT educators became increasingly evident, prompting a group of forward-thinking individuals to take decisive action.

The Birth of COSTAZ

Recognizing the need for an independent association, a group of passionate educators—Mr. Mulenga Peter, Mr. Ntolongo Aaron, Ms. Zulu Alice Mercy, among others—began advocating for the formation of a separate body that would specifically address the needs of ICT, Computer Studies, and Computer Science teachers in Zambia.

Within just a few months, the movement gained momentum. COSTAZ structures were established across almost all provinces and districts, with ICT teachers actively engaging in discussions and virtual meetings. However, despite the rapid growth of support, one major hurdle remained—official registration.

The Registration Process

After forming structures, it became clear that without official recognition, the association stood on unstable ground. Leaders of COSTAZ tirelessly engaged various offices within the Ministry of Education to seek guidance on the formal registration process.

Through persistence and determination, COSTAZ was eventually legally registered on August 26, 2021, marking a significant milestone for ICT educators in Zambia. The association now serves as a dedicated platform to address the challenges, professional development, and curriculum-related concerns of Computer Studies, ICT, and Computer Science teachers nationwide.

From L to R Mr. Katongo, Mr. Silomba, Mr. Siame, Mr. Mulenga, Mr. Sakala and Mr. Salinyinga (During the registration process of COSTAZ)

The Registration Process: Overcoming Challenges

With guidance from the Permanent Secretary for Education Services and the Director of Curriculum, we were advised that for COSTAZ to gain official recognition, it needed to be registered with the Registrar of Societies. The Ministry headquarters provided crucial support throughout this process, culminating in a recommendation letter that allowed us to proceed with the registration.

However, our initial assumption that the recommendation letter alone would suffice turned out to be a misunderstanding. Upon arriving at the Registrar of Societies, we were presented with a set of requirements that needed to be fulfilled before registration could be completed. These included:

Development and submission of a formal constitution for the association

What we had initially thought would be a simple one-day process now seemed overwhelming. Identifying 10 colleagues to provide fingerprints proved challenging, as many were engaged in election duties due to the country's General Elections. This meant we had to wait until they were available before proceeding.

Crafting the COSTAZ Constitution

Another major hurdle was the constitution. We had to draft it from scratch within the shortest possible time. To speed up the process, we attempted to research other associations' constitutions online, but this yielded little success. Instead, we reached out directly to leaders of other associations, requesting their guidance. Fortunately, some were willing to assist, which allowed us to kick-start the drafting process immediately.

Few Pioneers of COSTAZ planning on how the 10 finger prints will be done and the first association constitution

A dedicated team, including a few COSTAZ pioneers, gathered at Highlands Secondary School, where I was working at the time. Using the computer lab, we worked tirelessly to draft a constitution that would lay the foundation for the association. Despite the challenges, the team's commitment and unity enabled us to complete the document in record time.

With the fingerprints collected and the constitution finalized, we were finally ready to submit our application to the Registrar of Societies.

Why the Rush?

One might wonder why everything was done in such a time-sensitive manner. The reason was that the team handling the registration was not based solely in Lusaka—members had traveled from across the country, and they needed to return as soon as possible. The team included:

Mr. Mulenga (Kasama, Northern Province)

Mr. Siame (Ndola, Copperbelt Province)

Mr. Silomba (Kapiri Mposhi, Central Province)

Mr. Simukoko (Muchinga Province)

Mr. Ntolongo (Southern Province)

Ms. Zulu, Mr. Katongo, Mr. Salinyinga, and myself (Lusaka Province)

With members coming from different regions, we had limited time to finalize everything before they had to return to their respective provinces.

After Registration: What Next?

With the registration complete, the real work had only just begun. As a young association with limited resources, we faced numerous challenges. However, we remained committed to our mission, continuously knocking on doors of key stakeholders with determination and sacrifice.

At this stage, COSTAZ operated with minimal financial support, meaning that leaders had to contribute not just their time but also personal resources to keep things moving. Despite the obstacles, our collective passion and dedication drove us forward, ensuring that COSTAZ became a fully functional and recognized association for ICT, Computer Studies, and Computer Science educators in Zambia.

Expanding COSTAZ: The Push for Independence and Growth

Driven by the passion and demands of our members, we continued to push for greater recognition and autonomy within the education system. One of our key priorities was securing an independent department with dedicated Heads of Department (HODs) to separate ICT, Computer Studies, and Computer Science from other subjects such as Science, Mathematics, and Business Studies.

Recognizing the importance of this move, we engaged in discussions with the Ministry Headquarters (HQ), advocating for the establishment of a standalone department. HQ acknowledged our concerns and granted our request—with a condition: the department would initially operate under interim status.

At that moment, what mattered most was achieving independence, regardless of the terms. This milestone not only gave us the recognition we had long fought for but also ensured that COSTAZ was formally introduced to all institutions within the Ministry of Education. Furthermore, an official directive was issued instructing institutions to support and integrate us into the Ministry's structures.

The Journey of COSTAZ: From Struggles to Success

The COSTAZ that people see today had a challenging beginning, but through unity and collaboration—from the district level to the national level—we persevered. We extend our sincere appreciation to the National Science Centre and Dr. Banda for their unwavering support in strengthening STEM education and advancing the STEM Association.

Bridging the ICT Skills Gap: University Partnerships

Recognizing the skills gap and shortage of human resources in the ICT sector, we took proactive steps to find solutions. One key strategy was forging partnerships with universities offering ICT programs, including DMI St. Eugene University, City University, and others. Through these engagements, we developed plans on how these institutions could support aspiring ICT professionals—particularly educators in the technological field.

As a result of these efforts, Memorandums of Understanding (MoUs) were signed, securing bursaries at varying percentages for teachers pursuing further education in ICT. This initiative is a crucial step toward expanding the ICT workforce in Zambia and ensuring that the field continues to grow and evolve.

COSTAZ remains committed to pushing boundaries, advocating for ICT advancements, and creating opportunities for professional development in the education sector. Our journey has been challenging, but our collective determination has made significant progress possible.

COSTAZ envoy to DMI ST EUGENE UNIVERSITY to sign an MoU for our members to have access to different bursary scheme the university offers

The leadership knocked on all doors including unions to request for different interest of our members. SESTUZ gave us a wavering support and a listening ear to our needs

UPHOLDING PROFESSIONALISM IN MANAGING EDUCATIONAL DOCUMENTS

The Directorate of National Science Centre (DNSC), on behalf of the Ministry of Education (MoE), has noted with concern that some individuals or groups within professional associations are prematurely sharing or publishing unauthorized documents without proper authorization.

This practice constitutes a serious breach of discipline and undermines the integrity and professionalism expected within the Ministry of Education. As with any organized institution, the Ministry has established rules and procedures for handling sensitive and classified information. It is imperative that all stakeholders adhere to these protocols to maintain the credibility and orderly functioning of the education sector.

Access to draft documents through activities such as validation, consolidation, or material production is a rare privilege, and it comes with a responsibility to maintain confidentiality. This access does not, under any circumstances, grant the right to disseminate such materials prematurely or without authorization.

To maintain the highest standards of professionalism, all Teacher Subject (Professional) Associations are hereby advised and reminded as follows:

1. **Exercise Professionalism and Restraint**

o Refrain from releasing or discussing any document not officially authorized for publication.

o Avoid the urge to be the first to announce new developments unless mandated to do so within your jurisdiction.

o **Focus on Constructive Engagement**

o Utilize your platforms to engage in meaningful discussions and research around the Competency-Based Curriculum (CBC). Suggested areas of focus include:

✦ Distinctions between the CBC and the Outcome-Based Curriculum (OBC).

✦ Designing lesson plans that align with CBC objectives to produce competent learners.

✦ Identifying learning environments that best support the CBC approach.

Exploring effective assessment strategies for CBC implementation.

These discussions will not only enrich your professional understanding but also prepare educators for the transition to CBC while awaiting official guidelines and documents.

3. **Respect Confidentiality and Jurisdiction**

o Desist from sharing any document not explicitly addressed to your association or without written permission from the authorized addressee.

o Understand that premature dissemination of classified information can jeopardize the legal and procedural formalities necessary before public release.

o **Be a Model of Integrity**

o Uphold the values of professionalism and discipline by adhering strictly to the Ministry's protocols.

Encourage your members to act responsibly and to use their influence to promote constructive dialogue and innovation within the framework of the CBC.

The Ministry of Education values the contributions of Teacher Subject (Professional) Associations in shaping the future of education in Zambia. However, maintaining professionalism and adhering to the established protocols is crucial for the successful implementation of the Competency-Based Curriculum. Let us work together to ensure that this transition is carried out with integrity and excellence.

Your cooperation and commitment to these principles will greatly contribute to the success of this critical educational reform.

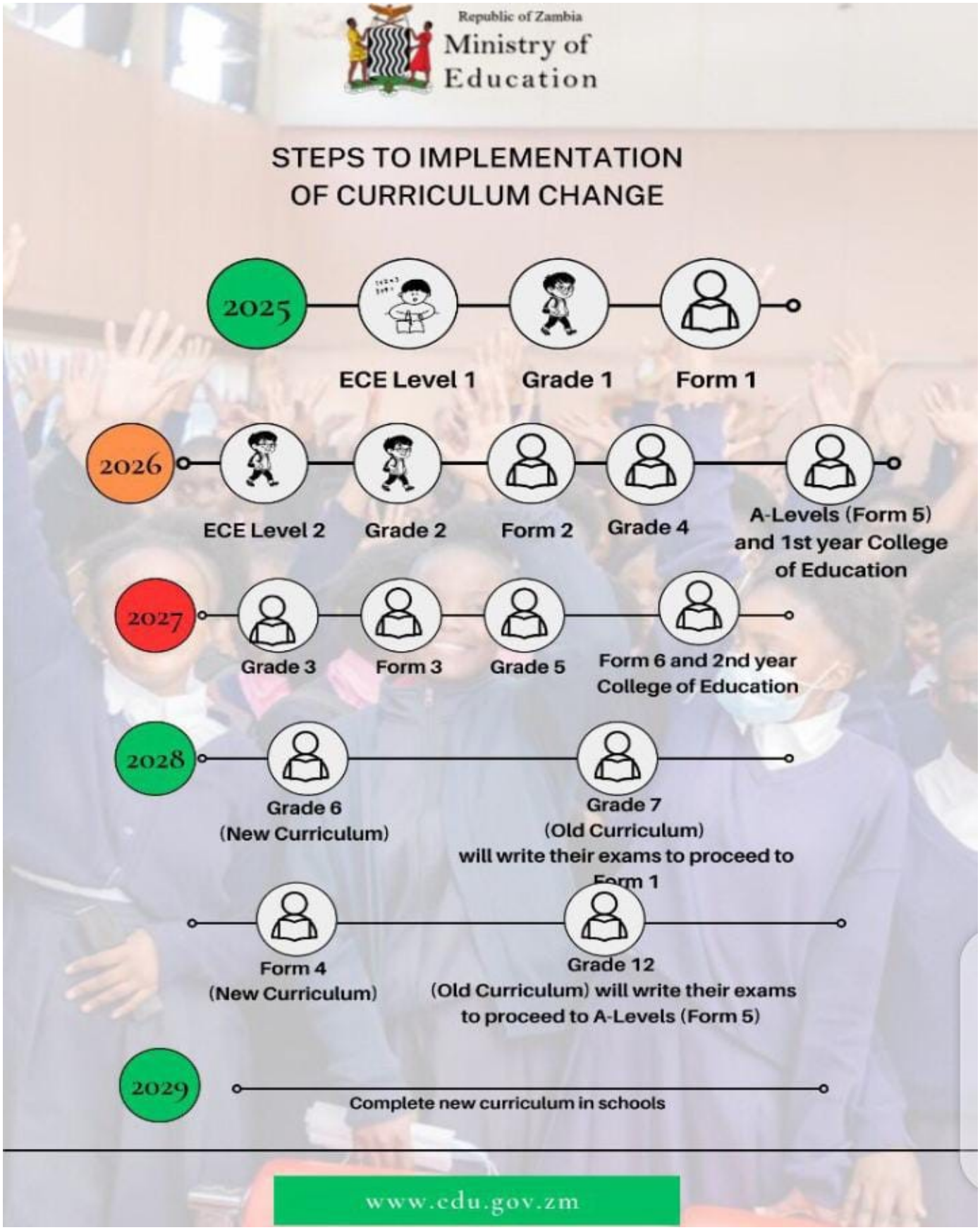
Issued by:

Masendeke Alvin

STEM Subject Associations Coordinator

Ministry of Education Director – National Science Centre

CURRICULUM CORNER



SOURCE: WWW.EDU.GOV.ZM

THE SIGNIFICANCE OF THE COMPETENCE-BASED CURRICULUM

By Simpande Derrick (M.ICT)
Charles Lwanga College of Education

In recent years, the global education landscape has undergone a significant transformation with the adoption of the competence-based curriculum (CBC). This approach to education, which emphasizes the development of specific skills and competencies rather than the mere acquisition of knowledge, has been prefigured as a more effective way to prepare learners for the demands of the modern world. By focusing on practical application, critical thinking, and creativity, the CBC equips learners with the tools needed to thrive in dynamic and competitive environments.

Bridging the Gap Between Education and Employment

One of the primary advantages of the competence-based curriculum is its ability to bridge the gap between education and employment. Traditional education systems often prioritize rote memorization and theoretical knowledge, leaving graduates ill-equipped for the practical demands of the workplace. In contrast, the CBC focuses on developing skills that are directly applicable in real-world settings.

For instance, in countries like Finland and Kenya, the CBC emphasizes problem-solving, teamwork, and digital literacy. Learners are introduced to real-life scenarios, such as creating business plans or designing sustainable solutions to environmental issues, fostering a sense of relevance and preparedness for future careers. By aligning education with the needs of industries, the CBC not only enhances employability but also fosters innovation and entrepreneurship.

Promoting Holistic Development

Another key benefit of the CBC is its emphasis on holistic development. Education is not merely about academic excellence; it is also about nurturing emotional intelligence, interpersonal skills, and ethical values. The CBC integrates these elements into its framework, ensuring that learners grow into well-rounded individuals.

For example, the curriculum might include activities like group projects, community service, and creative arts. These activities encourage learners to collaborate, empathize, and express themselves, which are essential traits in today's interconnected world. By addressing the intellectual, emotional, and social aspects of education, the CBC fosters personal growth and resilience.

Encouraging Lifelong Learning

The competence-based curriculum also instills a culture of lifelong learning. In an era characterized by rapid technological advancements and ever-changing job markets, the ability to learn and adapt is crucial. The CBC achieves this by teaching learners how to learn—through inquiry-based approaches, self-directed projects, and reflective practices.

For instance, students might engage in research on topics of their choice, analyze their findings, and present their conclusions. This process not only builds confidence but also encourages curiosity and a proactive attitude toward learning. As a result, CBC graduates are better equipped to acquire new skills and knowledge throughout their lives.

Addressing Individual Learning Needs

Another significant aspect of the CBC is its focus on personalized learning. Recognizing that learners have diverse abilities, interests, and paces of learning, the CBC adopts a flexible approach that caters to individual needs. This ensures that no student is left behind.

For example, educators might use differentiated instruction methods, such as tailoring tasks to suit different skill levels or providing additional support to struggling learners. By accommodating diverse learning styles, the CBC fosters inclusivity and maximizes the potential of every learner.

Challenges and Opportunities

While the competence-based curriculum offers numerous benefits, its implementation is not without challenges. Adequate teacher training, sufficient resources, and effective assessment methods are crucial for its success. Additionally, there is a need for cultural and systemic shifts to fully embrace the CBC.

However, these challenges also present opportunities for innovation and collaboration. Government, educators, and stakeholders can work together to create supportive ecosystems that facilitate the effective adoption of the CBC. For instance, digital tools and online platforms can be leveraged to enhance teaching and learning processes, while partnerships with industries can provide valuable insights and resources.

Conclusion

The competence-based curriculum represents a paradigm shift in education, prioritizing skills and competencies that are essential for the 21st century. By bridging the gap between education and employment, promoting holistic development, encouraging lifelong learning, and addressing individual needs, the CBC prepares learners to navigate the complexities of a rapidly evolving world. While challenges exist, the potential benefits far outweigh the difficulties, making the CBC a transformative approach to education that holds the promise of a brighter future for learners and societies alike.

REVISED SUMMARY OF THE 5 YEARS PHASED OUT APPROACH IMPLEMENTATION OF THE 2023 SCHOOL CURRICULUM

By Wilfred Musape

The Examinations Council of Zambia (ECZ) has managed to lobby with the Directorate of Curriculum Development (DCD) to only implement the new Curriculum at ECE, Grade 1 and Form 1 in 2025 and defer the implementation at Grade 4 and Form V to 2026.

The deferment of Grade 4 implementation especially to 2026 was arrived at after an observation that if the Grade 4 equally started in 2025 would mean in 2027 there will be two Primary Examinations (Grade 6 and 7) yet only one set of Grade 12 would have exited the school in 2027 thereby causing a challenge of accommodating the two sets of Form 1 in 2028.

Henceforth, starting the Grade 4 in 2026 would mean having two sets of Primary Examinations (Grade 6 and 7) at the same time having two sets of Grade 12 and Form IV exiting the school in 2028 thereby creating the space for accommodating two sets of Form 1 in 2029.

It must be noted that all School Curriculum implementations take up a phased out approach manner until all learners come to take the New School Curriculum. Therefore, the Old School Curriculum of 2013 will continue to be taught side by side with the New School Curriculum of 2023 until such a time that all learners reach the level where they will be required to switch to the New School Curriculum. Below is the summary version of the 2023 New School Curriculum whose implementation starts in January 2025

A. 2025 SCHOOL CALENDAR YEAR

1. ECE
2. Grade 1
3. Grade 2
4. Grade 3
5. Grade 4
6. Grade 5
7. Grade 6
8. Grade 7 (exam)
9. Form 1
10. Grade 9 (exam)
11. Grade 10
12. Grade 11
13. Grade 12 (exam)

B. 2026 SCHOOL CALENDAR YEAR

1. ECE
2. Grade 1
3. Grade 2
4. Grade 3
5. Grade 4
6. Grade 5
7. Grade 6
8. Grade 7 (exam)
9. Form 1
10. Form II
11. Grade 10
12. Grade 11
13. Grade 12 (exam)
14. Form V
15. Form VI

> "It must be noted that all School Curriculum implementations take up a phased out approach manner until all learners come to take the New School Curriculum. "

C. 2027 SCHOOL CALENDAR YEAR

1. ECE
2. Grade 1
3. Grade 2
4. Grade 3
5. Grade 4
6. Grade 5
7. Grade 6
8. Grade 7 (exam)
9. Form 1
10. Form II
11. Form III
12. Grade 11
13. Grade 12 (exam)
14. Form V
15. Form VI

D. 2028 SCHOOL CALENDAR YEAR

1. ECE
2. Grade 1
3. Grade 2
4. Grade 3
5. Grade 4
6. Grade 5
7. Grade 6 (exam)
8. Grade 7 (exam)
9. Form 1
10. Form II
11. Form III
12. Form IV (exam)
13. Grade 12 (exam)
14. Form V
15. Form VI

E. 2029 SCHOOL CALENDAR YEAR

1. ECE
2. Grade 1
3. Grade 2
4. Grade 3
5. Grade 4
6. Grade 5
7. Grade 6 (exam)
8. Form 1
9. Form II
10. Form III
11. Form IV (exam)
12. Form V
13. Form VI

THE 8 CAREER PATHWAYS

1. NATURAL SCIENCE PATH WAY

- ENGLISH
- MATHEMATICS
- ICT
- PHYSICS
- CHEMISTRY
- BIOLOGY
- CIVIC EDUCATION

2. AGRICULTURE SCIENCE PATHWAY

- AGRIC SCIENCE
- ENGLISH
- MATHS
- CIVIC EDUCATION
- CHEMISTRY
- PHYSICS
- ICT

3. TECHNOLOGY PATHWAYS

- DESIGN & TECHNOLOGY/ COMPUTER SCIENCE
- ENGLISH
- MATHS
- CIVIC EDUCATION
- PHYSICS
- CHEMISTRY
- ICT

NOTE: LEARNERS WHO WILL CHOOSE COMPUTER SCIENCE , WILL NOT TAKE ICT.

4. HOME ECONOMICS & HOSPITALITY

- FN/FF/HOSPITALITY MANAGENT/ TRAVEL & TOURISM.
- ENGLISH
- MATHS
- CIVIC EDUCATION
- BIOLOGY
- CHEMISTRY
- ICT
- SWAHILI/FRENCH/PORTUGUSE/CHINESE

Note: CHEMISTRY MAY BE AN OPTION TO THOSE TAKING TRAVEL & TOURISM

5. SOCIAL SCIENCES PATH WAY.

- GEO/HIS/RE
- ENGLISH
- MATHS
- CIVIC EDUCATION
- ICT
- CHEM/PHY/BIO
- LIT. ENG/LIT. ZL/ SWAHILI/ FRENCH/ PORTUGUSE/CHINESEEACH

6. BUSINESS AND FINANCE PATHWAY.

- PRINCIPLES OF ACCOUNTS
- COMMERCE
- ENGLISH
- MATHS
- CIVIC EDUCATION
- ICT
- GEO/HIS/RE/CHE/PHY/BIO

7. PERFORMING AND CREATIVE ARTS.

- MUSIC/ART & DESIGN
- ENGLISH
- MATHEMATICS
- CIVIC EDUCATION
- ZL
- ICT
- LIT IN ENG/LIT IN ZL.

8. PHYSICAL EDUCATION & SPORTS.

- PHYSICAL EDUCATION
- ENGLISH
- MATHS
- CIVIC EDUCATION
- ICT
- BIOLOGY
- GEO/HIS/RE/CHEM/PHY

By:
BERNARD TITO

THE TRANSFORMATIVE ROLE OF AI IN EDUCATION

By Simpande Derrick (M.ICT)
Charles Lwanga College of Education

Artificial Intelligence (AI) is revolutionizing industries worldwide, and education is no exception. By harnessing the power of AI, educators, students, and administrators can enhance learning experiences, improve operational efficiency, and create more inclusive educational opportunities. Here, we explore the ways AI is reshaping the educational landscape and the potential it holds for the future.

Personalized Learning

One of the most significant impacts of AI in education is personalized learning. Traditional classrooms often follow a one-size-fits-all approach, which can leave some students behind while failing to challenge others. AI-driven platforms analyze individual learning styles, strengths, and weaknesses to deliver customized content and recommendations. Adaptive learning systems, such as DreamBox, Carnegie Learning, and Khan Academy, adjust the pace and difficulty of lessons to suit each learner's unique needs, fostering greater engagement and comprehension.

Automating Administrative Tasks

Teachers and administrators often spend a significant portion of their time on routine tasks, such as grading, attendance tracking, and scheduling. AI can take over these responsibilities, freeing educators to focus on teaching and mentoring. Tools like Gradescope use AI to streamline grading, while intelligent chatbots handle routine queries from students and parents, improving efficiency and responsiveness.

Enhancing Accessibility

AI has the potential to make education more accessible for students with disabilities. Speech-to-text and text-to-speech technologies, powered by AI, assist students with hearing or visual impairments. Similarly, tools like Microsoft's Immersive Reader help students with dyslexia by reading text aloud and highlighting words in real-time. These innovations enable all students to access educational materials and participate fully in learning activities.

Intelligent Tutoring Systems

AI-powered tutoring systems provide on-demand support to students, supplementing classroom instruction. These systems, like Squirrel AI and IBM Watson Tutor, offer real-time feedback, answer questions, and guide students through problem-solving processes. By simulating one-on-one tutoring experiences, these platforms help learners overcome challenges at their own pace.

Data-Driven Insights

AI systems can analyze vast amounts of data to uncover patterns and trends that inform decision-making in education. For instance, predictive analytics can identify at-risk students and suggest interventions before issues escalate. Educational institutions can also use AI insights to optimize curricula, improve resource allocation, and measure the effectiveness of teaching methods.

Challenges and Ethical Considerations

While the benefits of AI in education are immense, there are challenges to address. Privacy concerns arise with the collection and storage of student data. Ensuring that AI systems are free from biases is another critical issue, as biased algorithms can perpetuate inequalities. Additionally, the reliance on AI should not undermine the essential human elements of education, such as empathy, creativity, and critical thinking.

The Future of AI in Education

As AI technologies continue to evolve, their role in education will expand. Virtual reality (VR) and augmented reality (AR) powered by AI could create immersive learning environments, while natural language processing (NLP) advancements may enable more sophisticated interactions between students and AI systems. Collaboration between educators, technologists, and policymakers will be essential to ensure that AI is used responsibly and equitably in education.

Conclusion

AI is not a replacement for teachers but a powerful tool that can augment and enhance the educational experience. By addressing current challenges and leveraging AI's potential, we can create a future where education is more personalized, efficient, and inclusive than ever before. The transformative power of AI in education is just beginning to unfold, promising a brighter future for learners worldwide.

THE URGENT NEED FOR A COMPUTER SCIENCE DEPARTMENT IN ZAMBIAN SCHOOLS 2025 COULD BE THAT OPPORTUNITY

By Dr Aaron Chansa.

Alan Turing is widely considered to be the first to propose the theoretical framework of computer science in the 1950s.But the emergence of this discipline was seen after the 1960s when a lot of Universities in Europe and America began establishing computer science departments, with the very first one being at Purdue University in 1962.With the advancement in computer architecture ,the world wide web ,global adoption of the internet and the grand entry of Artificial intelligence, the urgency of promoting computer science in Zambia is not debatable anymore.

Being one of the die- hard advocates for a separate computer studies department in schools, I had honestly hoped that the Ministry of Education would make it happen in the just past year. And one of my greatest desires for Zambia's education is the placing of a higher premium on technologies, beginning with early graders. I know that many schools in the country lack computers and even where you find computers, the computer to pupil ratios are screamingly discouraging. It is also not a secret that in Zambia, like many other African nations, poor internet connectivity hinders progress in technological endeavors by teachers, learners and parents. Inadequate or lack of electricity and digital infrastructure are huge bottlenecks which may require the whole to discuss. But this gloomy scenario should not prevent introduction of a department for computer. Instead, it ought to be one of the items on top of the list for action by the Ministry in 2025.

"Having a computer studies department in Zambian schools will have great benefits not only to learners but to teachers, schools, parents, the education sector and the whole country."

Having a computer studies department in Zambian schools will have great benefits not only to learners but to teachers, schools, parents, the education sector and the whole country. The teachers of the subject will be better coordinated for effectiveness and efficience.Apart from increased visibility of computer science in schools and the nation, the identified leaders[teachers] at schools and higher levels of the ministry will be more accountable for failure or successes of the department to communities than they are today. If well effected, a department dedicated to computer science at every school in all the 116 districts of our country will improve digital literacy, enhance learning experiences, raise a generation of innovators and creatives for sustainable development of Zambia.

As we reflect on 2024, I fervently hope that the long awaited computer science department will be created in 2025.Technology has come to stay and all countries are now positioning themselves for technological take off. Zambia must not be an exception.

For feedback send to,

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CELEBRATING FOUR YEARS OF COMPUTER SCIENCE TEACHERS ASSOCIATION OF ZAMBIA (COSTAZ): REFLECTIONS AND THE FUTURE.

BY NTOLONGO AARON – NEC EDITOR

The computer Science Teachers Association of Zambia (COSTAZ) will be celebrating its fourth anniversary in September this year, marking a significant milestone in its journey to promote and enhance the teaching of Computer Science in Zambia.

This article reflects on the association's achievements thus far, the challenges it has faced and the future not only of the association but also the landscape of Computer Science and Information and Communication Technology (ICT) as new subjects in Zambia, especially in light of the new curriculum and its effect social-economic development.

Just like in the natural sense, the birth of the Computer Science Teachers Association of Zambia (COSTAZ) wasn't without hurdles. In 2015 when the government introduced Computer Studies in Zambian schools, the situation was, at best, chaotic. There was inadequate infrastructure, inadequate equipment, no clear policy direction and most importantly a critical shortage of trained teachers to handle the subject.

These and other challenges made teaching the subject not only difficult but handling the resultant practical examination thereof overwhelming, to put it lightly. In the absence of equipment, especially to the many inexperienced teachers at the time, this was daunting and tasking.

With no time, many colleges of education started offering the course and we started seeing a steady increase in the numbers of trained Computer Studies teachers in schools. By 2020, a good number of teachers of Computer Studies in Zambian Schools had some level of training or indeed had graduated, this could also be seen from the performance, the trend had been steadily climbing indicating that the teachers had grown in confidence. This therefore goes to show the impact of having a well trained workforce in terms of output.

Over the past four years, the association has grown in strength and worked tirelessly to achieve its objectives, making significant strides in enhancing computer science education in Zambia.

Some Key Achievements

The association has achieved some notable milestones in the last three years;

- The Association has not only established links, both local and international, with stake holders like the parent Ministry of Education, Examinations Council of Zambia, Curriculum Development Centre, The Zambia Information and Communication Technology Authority (ZICTA), SMART Zambia, most teacher unions, among others but has also received the blessings thereof.
- Through the two National Conferences and the various Provincial and District Conferences, the association has been able to capacity build the teachers of computer studies from across the country.
- The association was equally actively involved in the formulation of the New Curriculum which emphasizes building competence in the learner rather than theoretical knowledge. And COSTAZ stands ready to play its part in the actualization of the same.
- Membership database: As we stand the association has an established and growing database of its membership countrywide and it is yet to grow even more.

Story continues on page 17

Giakonda Solar Schools

COSTAZ would like to appreciate the works being done by GIAKONDA in helping schools in Southern province. The works of the organization are a testament to the passion the organization has for ICT in Zambian Schools. It is for this reason that the COSTAZ National leadership organized a meeting with the organization to lobby for more provinces to benefit from the programs it is running.

Future Directions

As we look back at the years, we should equally not lose sight of where we are going too:

- Chief among the plans is to grow our association membership even more. Without leaving anyone or any school behind.
- It is the vision of the association to develop and implement innovative programs to promote and enhance the teaching of computer science in the country.
- The association further plans to strengthen its relationships with industry stakeholders to provide opportunities for both teachers and pupils.
- Keep advocating for policy changes to support the development of computer science in Zambian schools.
- review of the syllabus in Universities and Colleges in view of the new Zambian school 2023 curriculum.
- Be part of ICT and Computer Science Book writing and book reviews.
- Organize and plan the 2025 national conference.
- Strengthen and capacity build all association departments.
- The association to find other methods of resource mobilization.
- Strengthen ties with Headquarters, Provincial Education Office, District Education Board Office and all line ministries.

In hindsight, the association has made some significant progress with regard to promoting and enhancing computer science education in Zambia. And as the association celebrates its fourth anniversary later this year, the association remains resolute and committed to its mission and vision. We look forward to the next chapter of the associations and its continued impact on the education sector.

The author is one of the founding member of the association and is a teacher of Computer Studies at Maamba Secondary School of Sinazongwe District.

A strong advocate of e-waste Management.

REASONS WHY SCHOOLS NEED TO CHOOSE TECHNOLOGY PATHWAY

By Doreen Muchona

Being a 21st century generation where digital literacy is a mandate to every Zambian citizen, schools need to choose the technology pathway in order to enable both teachers and learners be exposed to the technology for their day to day activities like a reading and researching school materials.

Zambia is facing a lot of challenges that require people with experience and knowledge on how to use computers in order to solve the problems being faced.

People need to use creative problem -solving approaches to tackle complex challenges.

ICT if well utilized can bridge the gap of being illiterate in many sectors of life to having more skilled manpower to eliminate the current challenges like climate change and others.

Teachers and learners will stay updated by being engaged with Industry publications, blogs and podcast to stay current with best practices in their day to day life.

Since schools will be connected to internets, teachers will be able to attend workshops and conferences online.

They will be able to participate in professional development opportunities to expand knowledge and network.

Wide network with people worldwide will help both learners and teachers to foster open communication by actively listening to others

BREAKING THE BARRIER IN INDIVIDUALS WITH SPECIAL EDUCATION NEEDS; A CASE OF MR. JOHN MATTHEWS PHIRI A VISUALLY IMPAIRED TEACHER OF COMPUTER STUDIES

Mr. John Matthews Phiri, a computer studies teacher at Jerusalem Primary School in Chipata District, Eastern Province, recently spoke at a national conference on breaking barriers for individuals with special education needs.

During his presentation, he highlighted how technology has bridged the gap between visually impaired individuals and their sighted counterparts. He described his journey as a visually impaired teacher, calling his employment a miracle and emphasizing that, despite his condition, he effectively carries out his duties.

However, Mr. Phiri acknowledged the challenges he faces, particularly teaching large classes of over 85 students. One major difficulty is the use of local languages, which the assistive software he relies on cannot interpret.

He urged the government to be more supportive of visually impaired educators and to recognize them as qualified computer studies teachers. Additionally, he called on school management for greater motivation and support to help him and others like him thrive in their profession.

Mr. Phiri

BIRTH OF ICT AS A COMPULSORY AND EXAMINABLE SUBJECT IN ZAMBIAN SCHOOLS

By Siame Timothy

ICT (Information and Communication Technology) was introduced as part of Zambia's education curriculum to align with global technological advancements. It was recognized as a critical tool for enhancing learning and fostering innovation. Its aim at was to prepare students for the modern, technology-driven world. The introduction of ICT into schools was guided by the Zambia National ICT Policy of 2006. The Policy emphasized ICT integration in education, health, agriculture and other sectors. It included plans to enhance ICT literacy among citizens and bridge the digital divide. The Ministry of Education developed strategies to incorporate ICT in both primary and secondary education. Computer studies was introduced in the revised 2013 Zambian curriculum for Grades 1 to 12 instead of ICT where it focused on developing digital literacy, problem-solving, and innovation skills. In 2014, full implementation began with Computer studies as a compulsory and examinable subject in schools. However, this milestone in implementing the policy and due to luck of equipment to use during the implementation period some schools failed to copy with the demands it came with and opted for other subjects like PE, HE and others as they continued to lobby for support from Government and other cooperate entities to construct computer labs and donate computer equipment.

From the time COSTAZ came on the scene the narrative changed as it advocated for ICT for all learners through engagements with several stakeholders with emphasis on the importance of ICT to the citizens and the country at large. This dream has been realized according to the 2013 curriculum review, ICT has been granted compulsory status in all pathways for all learners qualifying to form 1. At A Level Computer Science has also been maintained and examinable.

OBJECTIVES OF ICT IN SCHOOLS

- Equip learners with basic computer literacy and skills.
- Enhance teaching and learning through technology-based resources
- Prepare students for careers in technology and other sectors requiring ICT competence.
- Foster innovation, creativity, and problem-solving.

IMPACT OF ICT EDUCATION

- Improved digital literacy among students.
- Enhanced teaching methodologies using technology.
- Prepared students for ICT-related careers and further education.
- Contributed to bridging the digital divide in Zambia.

Computer studies failed to thrive because of some challenges in Implementation such as:

- Infrastructure: Many rural schools lacked computers, reliable electricity, and internet connectivity.
- Teacher Training: Insufficiently trained teachers to deliver ICT lessons effectively.
- Funding: Limited budget for acquiring ICT equipment and maintaining infrastructure.

EFFORTS TO ADDRESS CHALLENGES TO MAKE ICT THRIVE IN ALL SCHOOLS:

- Government to partner with private organizations and NGOs to provide equipment and resources.
- More organised teacher training programs and workshops to build capacity.
- Government to employ more ICT teachers.
- More funding towards acquiring ICT equipment and maintaining infrastructure.
- Expand access to electricity and internet connectivity, especially in rural areas.

Here is a pictorial illustration depicting a rural integrating ICT, showing students using laptops under a solar-powered roof. This visual, highlights the innovative efforts to bridge the digital divide in rural areas. Let me know if you'd like more! ICT in rural Zambian schools can thrive and benefit from solar panel project that the Government has embarked on as well as internet connectivity.

If this initiative is to be enhanced ICT literacy can bridge the digital divide among citizens

CONCLUSION

ICT as a compulsory and examinable subject reflects Zambia's commitment to modernization and equipping its youth for a technology-driven future.
Ongoing investments and partnerships are crucial to overcoming challenges and ensuring sustainable implementation.

About Narrator/Author

Mr. Siame Timothy is one of the founding member of COSTAZ currently holding the position of Senior Planning Officer based in Ndola

ICT KEY TO DEVELOPMENT

By Silomba M. Ernest

"ICT is the key that opens a human being mind to achieve the greater success and opens greater opportunities for one to conquer the modern world".

"ICT is the key that unlocks the human mind, enabling individuals to achieve greater success and seize opportunities to navigate the modern world."

This statement highlights the transformative power of Information and Communication Technology (ICT) in expanding access to services and vital information, ultimately improving community life. The rapid development of ICT has the potential to reshape economies and societies in multiple ways. It reduces information and transaction costs, fosters collaboration to enhance workforce efficiency, drives innovation, and improves education and access to essential services.

Innovation is now embedded in everyday life, from consumer experiences to industrial and public-sector operations. For students, ICT equips them with critical skills to navigate both academic and professional landscapes. Mastering ICT enhances accuracy, organization, and presentation skills—fostering pride in their work, boosting self-esteem, and motivating them to reach their full potential in academics and beyond.

Moreover, ICT has dismantled outdated perceptions, such as the notion of "BBC" (Born Before Computers), bridging generational gaps in digital literacy. While younger individuals view ICT as essential, older generations may face challenges adapting to technology.

Economic development plays a crucial role in ICT adoption, ensuring widespread access and digital inclusion for all.

CYBER HYGIENE TIPS

By Alice Zulu Mercy

Password Management

Use strong, unique passwords combining uppercase and lowercase letters, numbers, and special characters.
Change passwords regularly (every 60-90 days).
Use a password manager to securely store and generate complex passwords.

Online Safety

Be cautious with emails—avoid clicking on suspicious links or downloading unknown attachments.
Verify websites before entering sensitive information; ensure URLs begin with "https" and check for misspellings.
Enable two-factor authentication (2FA) for an extra layer of security.

Device Security

Keep software updated—regularly update operating systems, browsers, and applications.
Install and maintain antivirus software to protect against malware and cyber threats.
Regularly back up important files to a secure location.

Additional Tips

Use a VPN to secure your connection, especially on public Wi-Fi.
Monitor your online accounts for unusual activity.
Stay informed about the latest cybersecurity threats and best practices.

Final Reminder:

Always use unique passwords for each account and enable 2FA whenever possible. Avoid reusing passwords across platforms, and be mindful of suspicious emails or links. Regularly update your software and utilize antivirus tools to stay protected. Stay cyber-smart!

UTILIZING OPPORTUNITIES: THE VALUE OF STUDYING ABROAD

By *Walubita Ngula*

My journey as a computer studies teacher began in 2014 at Mukuni Secondary School, located in Kazungula District, Southern Province, Zambia. At the time, I was entrusted with teaching three Grade 8 classes in computer studies. The subject had just been introduced in schools, marking an exciting new chapter in Zambia's educational landscape. Simultaneously, I was pursuing a Bachelor's Degree in Geography and Religious Education at the University of Zambia through distance education.

In 2017, the University of Zambia advertised a fast-track Diploma in ICT with Education program aimed at training teachers. Recognizing this as a valuable opportunity, I applied and was selected to undertake the full-time diploma program. By December 2017, I had successfully graduated with a Diploma in ICT with Education.

The following year, another opportunity presented itself when the Zambia ICT College—now known as the Zambia University College of Technology—offered a 50% scholarship for a fast-track degree in ICT with Education. I was selected to pursue this program, which commenced in January 2018 through a distance learning mode.

Being passionate about exploring scholarships in the ICT field, I discovered the Indian Technical and Economic Cooperation (ITEC) program, which is funded by the Indian government. Under this program, I undertook an Advanced Certificate in the Design of Educational Materials using Web Technologies. The course was hosted at the National Institute of Technical Teachers Training and Research in Chennai, India, from 12th February to 13th March 2020. During the program, I gained proficiency in various programming languages, including JavaScript, PHP, HTML, and CSS. Witnessing India's technological advancements during this time inspired me to set a goal of pursuing a master's degree there. Despite this commitment, I successfully completed my degree in ICT with Education in 2021.

"Being passionate about exploring scholarships in the ICT field, I discovered the Indian Technical and Economic Cooperation (ITEC) program, which is funded by the Indian government"

In July 2021, I came across a Facebook post by FAWEZA advertising scholarships under the "Study in India" initiative. Motivated by this opportunity, I applied for a master's scholarship and qualified after passing the PRAGATI exams—a prerequisite for the "Study in India" program. I was awarded a 100% scholarship worth $10,000 per annum to study for a Master of Computer Applications (MCA) degree at KIIT University in Bhubaneswar, Odisha State. This two-year program, which I completed successfully, provided me with exposure to advanced technologies and cutting-edge computer laboratories. Key subjects included Big Data Analytics, Software Engineering, Python, and Java. Additionally, I earned certifications in CompTIA A+, CompTIA Security+, Certified Information Systems Security Professional (CISSP), and Certified Ethical Hacking (CEH).

Studying abroad offered me access to a well-organized academic environment, state-of-the-art computer laboratories, highly qualified lecturers, and abundant academic resources, including recommended textbooks and advanced personal laptops. These two years significantly enhanced my ICT skills and knowledge, affirming the value of such opportunities for professional growth.

I strongly encourage my fellow countrymen and women to actively seek scholarship opportunities to advance their careers. Programs like "Study in India" not only broaden academic and professional horizons but also equip individuals with skills that contribute meaningfully to national development.

Mr. Walubita Ngula currently serves as a lecturer at Kapasa Makasa University under the Department of ICT. He holds a Master of Computer Application (MCA), Bachelors in ICT with Education (BICTE), Diploma in ICT with Education, CISSP,CEH.

2023 COSTAZ National Conference in Mongu Western Province in Pictures

A teacher demonstrating how ICT can be incorporated in the teaching of ECE during the 2023 COSTAZ National Conference in Mongu—Western Province

ICTs if well utilized can be used at any level of education starting from ECE to Tertiary

2023 COSTAZ National Conference in Mongu Western Province in Pictures

Some of the Delegates at the conference

Some of the COSTAZ Leadership at the conference

THE ROLE OF TECHNOLOGY IN UNDERSTANDING COMPLEX COMPUTER SCIENCE AND ICT CONCEPTS IN SECONDARY AND TERTIARY INSTITUTIONS

By Chiyuni Unior

In this 21st century, the term "technology" is an important issue in many fields including education. This is because technology has become the knowledge transfer highway in most countries. Technology integration nowadays has gone through innovations and transformed our societies that has totally changed the way people think, work and live (Grabe, 2007). As part of this, schools and other educational institutions, which are supposed to prepare students to live in "a knowledge society", need to consider ICT integration in their curriculum (Ghavifekr, Afshari & Amla Salleh, 2012).

Technology provides a more engaged learning environment; one significant benefit of integrating technology in course design is that it helps to create a more engaging learning environment for students. It is hard to deny the impact that technology has had on the way we teach and learn.

Technology can help teachers to present subjects in more interactive and creative ways. With all the possibilities out there (and with more on the way with advancements like virtual reality) it is an intriguing time to be a teacher planning a course.

Prepares Students for the Future; Technology is everywhere, which is why it is important that it plays a part in students' current learning environment. Using technology when you teach will help students to become more familiar with common programs that they will use in their future careers.

Teachers aim to prepare their students, and a great way to do that is with technology. Since it will play a large role in their lives moving forward, students need to be able to understand the basics. The use of computers and the internet will be an integral part of their future professional and personal lives.

Technology provides teachers with an opportunity to connect with their students in a new way. It allows you to open up lines of communication and use the Internet to explain curriculum material in a new way, which can be very helpful to students.

Many students these days already gravitate towards the Internet, so by using these technologies in the classroom, you may increase opportunities to build community with your students.

Boosts Collaboration; an engaging learning environment requires a lot of collaboration. Technology is a great way to promote and facilitate discussion among students. They will interact with each other through the technology and discuss different ways they can collaborate and learn together.

Supports Learning; Many students learn best when they have access to technology. To reach as many students as possible, it is crucial that technology be incorporated into the course design.

Technology can offer a variety of teaching and learning techniques that can help teachers convey the subject material to a larger audience (more on that in a bit). The hope of many teachers is to reach as many students as they can, and technology provides a great solution for them.

Technology empowers students to take ownership of their learning, expanding opportunities for self-directed and personalized learning experiences. Online courses and educational apps offer flexibility, allowing students to learn at their own pace and tailor their educational journey to suit their individual needs.

Because technology has transformed access to learning tools, students who previously may not have had access to these tools now also have the opportunity to build skills they will use in college and the workforce. Battling this so-called "opportunity gap" makes personalized learning and skill development more inclusive and accessible.

One of the most notable changes is the digitization of educational materials. Interactive e-books and online resources, giving students dynamic and multimedia-rich content that can be updated as the world changes, are replacing traditional textbooks. This shift not only makes learning more engaging but also allows for more up-to-date and easily accessible information.

Classroom dynamics have evolved with the introduction of interactive whiteboards, tablets, and other devices. Teachers can incorporate multimedia elements into their lessons, and collaborative tools enable students to work together on projects, fostering teamwork and communication skills that are crucial for their future success.

Access to Information, the internet has become a vast repository of information, providing students and educators with unprecedented access to a wealth of knowledge. Online resources, educational websites, and digital libraries have expanded the scope of learning beyond the confines of textbooks.

The integration of technology has made learning more interactive and engaging. Virtual simulations, educational games, and multimedia presentations captivate students' attention, making complex concepts more accessible and enjoyable.

The integration of technology in education prepares students with essential skills for the digital age. They develop digital literacy, critical thinking, problem solving, and collaboration skills that are increasingly crucial in today's workforce.

Online education platforms and digital resources provide flexibility in learning. Students can work through materials at their own pace and from various locations if needed, accommodating diverse schedules and learning preferences.

Technology has introduced innovative assessment methods. Digital quizzes, online assignments, and real -time feedback mechanisms offer a more dynamic and varied approach to evaluating students' understanding and progress.
As technology continues to evolve, its role in education is likely to expand, offering even more opportunities for transformative change and improvement in the learning experience.
Technology also expands access to information and resources. The internet provides a vast repository of knowledge, allowing students to explore subjects beyond the confines of textbooks. Online educational resources, virtual field trips, and educational games enrich the curriculum, offering a more comprehensive and diverse educational experience.

Moreover, educational technology facilitates personalized instruction. Through adaptive learning platforms and online resources (just two examples of technologies that improve student learning), customization helps each student receive targeted support and opportunities for enrichment, promoting a more inclusive and effective learning environment.

Collaborative learning is another significant impact of educational technology in K-12 education. Online platforms and tools enable students to collaborate on projects and participate in virtual discussions, whether they are fully online students, hybrid learners, or are simply not present in their brick-and-mortar schools for one reason or another.

Technology opens up new avenues for exploration and self-directed learning. The internet serves as a vast repository of information, allowing students to delve into subjects beyond the confines of traditional textbooks. Educational apps, games, and simulations make learning more interactive and enjoyable, encouraging students to explore and experiment with concepts in a hands-on manner.

Additionally, technology promotes digital literacy and 21st-century skills. As students interact with digital tools, they develop the skills necessary to navigate the digital landscape, critically evaluate information, and communicate effectively online. These skills are increasingly essential in the modern world and are transferable to various aspects of students' academic and professional lives.

We can therefore, conclude to say technology really plays an important role in understanding complex Computer Science and ICT concepts in Secondary and Tertiary Institutions.

TEACHING INFORMATION AND COMMUNICATION TECHNOLGY IN REMOTE/RURAL AREAS OF ZAMBIA.

By Simukoko Derrick

The teaching of Information and Communication Technology (ICT) is more practical than theoretical, requiring hands-on experience for learners to acquire essential skills. ICT equips students with computation skills that can serve as a foundation for self-employment, especially for those unable to pursue tertiary education.

However, in many remote areas of Zambia, learners have limited access to these critical skills. Practical exposure is often restricted to group work during School-Based Assessments (SBA) due to several challenges:

1. Lack of Electricity Infrastructure

Many rural schools are not connected to the national electricity grid, making it difficult to conduct full computer lessons. Some schools rely on fuel-powered generators, but the high cost of fuel limits ICT sessions. Due to power constraints, some school administrators treat ICT as an optional subject. While solar power could be a viable solution, school administrators often do not prioritize it in budgets.

2. Shortage of Qualified ICT Teachers

In rural schools without electricity, ICT teachers are underutilized due to fuel shortages, limiting computer lab usage to a few minutes. Unqualified teachers, with limited ICT knowledge, are often assigned to teach the subject, disadvantaging learners. Frequent transfers of qualified ICT teachers from rural to urban areas further weaken ICT education in remote regions.

3. Lack of Administrative Support

Many school administrators provide minimal support for ICT due to its high operational costs, particularly fuel expenses. In some schools, ICT is considered an optional subject, reducing its perceived importance and funding allocation.

4. Inadequate Computer Resources

Many rural schools have few or no computers for learners to use. Some schools own computers but store them unused due to lack of electricity, exposing them to damage or theft.

The Need for Equal Access to ICT Education

Despite these challenges, ICT should be taken seriously as a subject across both rural and urban areas in Zambia. Learners nationwide follow the same curriculum, syllabus, and national examinations. The government must ensure equal access to ICT resources in all regions so that a child in Mafinga at Mpharai Primary School, where no vehicle has ever passed, can access the same ICT facilities as a student at Matero Boys in Lusaka.

Education can only be an equalizer if all learners, regardless of location, receive the same opportunities and resources.

About the Author

Simukoko Derrick is a teacher at Shiwang'andu Secondary School in Shiwang'andu District, Muchinga Province. He also serves as the NEC Logistics and Procurement Officer.

BREAKING BARRIERS: EMPOWERING WOMEN AND GIRLS IN ICT

By Alice Mercy Zulu

As a firm believer in the power of resilience and determination. In this article, I'll share my personal story of overcoming adversity and achieving success, with the hope of inspiring you to do the same.

As an ICT officer / ICT security engineer, I've had the privilege of working in a field that's both exciting and challenging. However, I've also noticed that the ICT industry is predominantly male dominated. It's time for us to change this narrative and encourage more women and girls to take up ICT courses.

My Journey

Growing up, I was fascinated by technology and its endless possibilities. Despite the odds, I pursued my passion for ICT and never looked back. Today, I'm honored to be an ICT officer and ICT security engineer, making a difference in my community.

Why ICT Matters for Women and Girls

ICT is not just a field for tech enthusiasts; it's an industry that can drive innovation, economic growth, and social change. Women and girls have the potential to make a significant impact in this field, bringing unique perspectives and ideas to the table.

Benefits of Pursuing ICT Careers

- **Endless job opportunities:** The demand for ICT professionals is skyrocketing, with various job roles available in fields like cybersecurity, data science, artificial intelligence, and more.
- **Opportunities for innovation:** ICT enables you to create innovative solutions that can transform lives and communities.
- **Personal growth**: Pursuing an ICT career can help you develop valuable skills, such as problem-solving, critical thinking, and collaboration.
- **Improved access to information:** ICT training can provide women with the skills to access and utilize online resources, improving their access to information and knowledge.
- **Boosted confidence:** Acquiring ICT skills can enhance women's confidence and self-esteem, enabling them to participate more fully in their communities.
- **Expanded networking opportunities:** ICT training can provide women with opportunities to connect with others in the field, expanding their professional and personal networks.
- **Improved work-life balance:** With ICT skills, women can work remotely or flexibly, improving their work-life balance and enabling them to care for their families.
- **Bridging the digital divide:** Increasing the number of women with ICT skills can help bridge the digital divide, promoting greater digital inclusion and equality.
- **Driving economic growth**: Women with ICT skills can contribute to economic growth and development, driving innovation and entrepreneurship in their communities.

Overcoming Barriers

I understand that pursuing an ICT career can seem daunting, especially for women and girls who may face societal stereotypes or biases. However, I urge you to push beyond these barriers and explore the vast opportunities available in ICT.

Call to Action

To all the women and girls out there, I encourage you to consider a career in ICT. Don't be afraid to take the first step, whether it's enrolling in an ICT course, attending workshops or conferences, or seeking mentorship from ICT professionals.

Conclusion

As women and girls, we have the power to break barriers and shatter glass ceilings in the ICT industry. Let's work together to create a more inclusive and diverse tech community. Join me in embracing the possibilities of ICT and inspiring others to do the same.

"As an ICT officer / ICT security engineer, I've had the privilege of working in a field that's both exciting and challenging"

About the Author

Eng. Alice Mercy Zulu is an ICT officer / ICT Security Engineer at Smart Zambia and one of the founder of COSTAZ

TRADITIONAL LEADERS AND DIGITAL TRANSFORMATION

By Silomba Ernest M

COSTAZ President and Vice President at Chief MUKUNI palace

The Computer Science Teachers Association of Zambia (COSTAZ) leadership recognizes traditional leaders as vital partners in promoting digital transformation and cyber security awareness. During the 2022 COSTAZ National Conference, the National Executive Committee (NEC) paid a courtesy visit to Senior Chief Mukuni's Palace to appreciate this partnership and discuss ongoing efforts in cyber-attack awareness.

In response, Senior Chief Mukuni advisor commended the COSTAZ team for their dedication to transforming the lives of children and parents through ICT education. He emphasized that when children acquire strong knowledge in ICT and computer science, they not only benefit individually but also share their knowledge with their parents, helping them use technology responsibly. He further noted that equipping children with digital skills directly contributes to community-wide digital transformation.

The COSTAZ Vice President reassured traditional leaders that ICT and computer science teachers would continue working closely with communities, acknowledging traditional leaders as key stakeholders in information dissemination. Given their respected positions, traditional leaders play a crucial role in ensuring that important messages reach their communities effectively.

COSTAZ vice president greeting senior chief mukuni advisor during 2021 national conference, when COSTAZ NEC paid a Courtesy Call at Senior chief Mukuni palace

The Vice President also highlighted various cyber threats, such as scammers sending fraudulent messages requesting money, creating fake advertisements for prize winnings, and promoting false employment opportunities to deceive people.

In conclusion, he stressed the importance of empowering traditional leaders with information about cyber-related risks. By equipping them with the necessary knowledge, communities can be better protected from cyber threats, fostering a safer and more digitally aware society.

WASH IN SCHOOLS: BUILDING A FOUNDATION FOR HEALTHY FUTURES

By Kachusha Nkosha

Hygiene Officer.

Water, Sanitation, and Hygiene (WASH) in schools is essential for fostering a safe, healthy, and inclusive learning environment. Schools are more than centers of education—they shape habits, instill values, and influence the well-being of communities. By ensuring access to clean water, functional sanitation facilities, and proper Hygiene Behaviour Change, schools can significantly improve the health and academic performance of students.

Inadequate WASH facilities are a barrier to learning, particularly for girls, who often miss school during menstruation due to lack of privacy and appropriate menstrual health management resources. Proper handwashing facilities reduce the spread of diseases such as diarrhea and respiratory infections, leading to fewer absences and improved concentration.

The Government and NGOs that are involved in WASH programs need to collaborate and integrate WASH into educational policies and infrastructure. This includes building child-friendly sanitation facilities, ensuring access to clean water, and providing hygiene behaviour change interventions. Beyond infrastructure, these programs empower learners to become hygiene champions, spreading vital knowledge to their families and communities.

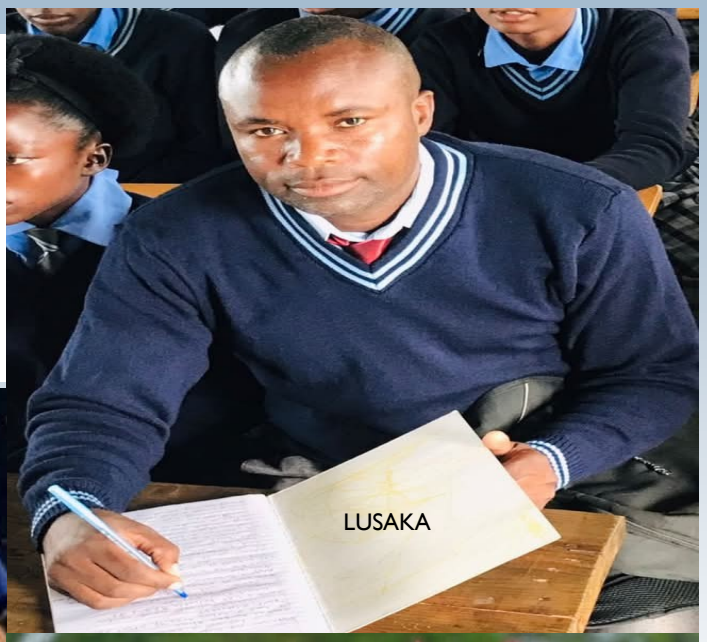
Investing in WASH in schools is an investment in a healthier, more equitable future. It equips learners and duty bearers, with the tools to thrive academically, socially, and physically, creating a ripple effect of positive change in society.

About the Author

Kachusha Nkosha is an Hygiene Officer for WaterAid. A passionate Water, Sanitation and Hygiene/Health champion, she is committed to creating sustainable solutions for better health in schools and beyond.

ZAMBIA CELEBRATES UNIFORM DAY

The government of the Republic of Zambia through the Ministry of Education declared 31st January as Uniform Day for all teachers and also encouraged from other ministries to replicate the gesture. Below are some of the captured memories.



UNIFORM DAY IN PICTURES

BACK TO THE ROOTS

UNIFORM DAY IN PICTURES CONT.....

TECHNIQUES FOR TEACHING ICT TO LARGE CLASSES.

Sometimes as an ICT teacher, you can be found in a situation where you have to teach a class with learners who are more than a standard class of about 40 learners. The following are some of the methods that you can use.

Blended Learning: Combine traditional teaching methods with online learning to engage students and promote self-paced learning. At one time, recently I was presenting a lesson on how computers were used in industry, health and social aspects, I explained in the traditional way of giving instructions. but I later used my own phone to introduce meta AI and asked a few of them to check for content on the social media. I later gave an assignment for them to go and use WhatsApp at home and the brought answers that were amazing. This can also be referred to as a flipped Classroom: Reverse the traditional lecture-homework format by delivering instruction at home and working on activities in class.

Peer Instruction: Encourage students to teach and learn from each other, fostering a collaborative learning environment. I used this method when introducing typing skills as introduction of the computer practical. As a teacher, don't take for granted that because learners use phones then the know how to effectively use a standard keyboard, no. I carefully mixed those who were very conversant with those who were not, and asked them to discuss how to use the alphabetical part of the keyboard. Go round and see how interesting it is to see young learners teaching each other. Dividing students into groups to work on projects, promote collaboration, communication, and develop problem-solving skills

Gamification: Incorporate game design elements and mechanics to increase student engagement and motivation. Sometimes I used educational games that would make the learners take turns and compete, which helped improve personal skills. One of the games I used was an installed offline, mavis beacon teaches typing.

Real-World Applications: Connect ICT concepts to real-world scenarios, making learning relevant and applicable. To make things easier to understand, make arrangements with school management to allow the learners to visit companies that can demonstrate to them the ICT in real life situation. These institutions can be internet service providers, banks, universities, hospitals, etc. Or even asking experts from industry to come and talk to the learners.

Think-Pair-Share: Pair students to work on tasks, then share their findings with the class, promoting critical thinking and communication. I used this method when I taught web design. Concepts were introduced in class, but tasks were given to the learners to go and explore in groups. For example, at one time, I taught them how to use an ordinary notepad to do the codes for a website, rather than traditional applications such as note pad ++, or eclipse. When learners later gave reports to the class, it was amazing.

Technology-Enhanced Instruction: Leverage technology to facilitate instruction, such as interactive whiteboards, online quizzes, and multimedia resources. For me, if the school administration asks for just one thing to buy for you as an ICT teacher to enhance teaching, please choose a projector. This piece of equipment will enable you teach large classes. You simply connect it even to your only laptop, online content, images and videos will be displayed. My lessons were always interesting with these combinations.

Sometimes you will have a combination of lengthy topics and large classes, this type of teaching can be very difficult to handle. Teach different parts of lengthy topics in other lessons. For example, when doing drawing tool in word processing, let learners take time to draw flowcharts, they will do it for fun, but when you introduce them in programming, they would have already been familiar! Or even let some typing practices be based on programming codes, when you introduce programming later in senior classes, learners would have been "familiar" already.

These techniques can help you manage large classes, promote engagement, and make ICT learning more effective and enjoyable.

BY HENRY MUTATI

EXAMINATIONS COUNCIL OF ZAMBIA

COSTAZ AND DMI ST. EUGENE UNIVERSITY PARTNERSHIP

COSTAZ believes in working with institution that offer and appreciate ICT as a subject tool for skill development. This was seen during the 2022 and 2023 COSTAZ national conferences, which saw the DMI St. Eugene University respond to the invitation. And during the presentation DMI appreciated the computer science Teachers association of Zambia (COSTAZ) for recognizing them in upskilling the society in digital technology.

DMI St. Eugene representative talked about the ICT education courses offered at DMI which are beneficial to the teachers. They also gave a presentation on the reasons to promote ICTs in Training education. The University has graduated over 4000 teachers across Zambia and is operating in different countries around the world offering a variety of courses. The University helped pupils acquire new qualifications, upgrade to new qualification or migrate to a whole new career as they emphasize the importance of e-learning.

With its great vision which says, “The Vision for the Computer Science Teachers’ Association of Zambia is: "Inclusive, innovative, relevant and quality lifelong competence enhancement through CPDs by Computer Science Teachers and any other organization/ persons with interest in ICT”. COSTAZ will always recognize potential institutions that promote the teaching of ICT as an Important subject to help learners in the country.

Narrated by

Mr. Silomba E

Vice President (COSTAZ)

TEACHERS IN SPORTS: A CASE OF VALENTINE ZIBA

By Valentine Ziba

A Hockey Visionary and Leader Valentine Ziba is a name synonymous with hockey excellence in Zambia. As the founder of D.E Stars Hockey Club, former General Secretary of the Zambia Hockey Association, and a trained Level 2 hockey coach, Ziba has left an indelible mark on the sport.

Ziba's contributions to hockey extend beyond Zambia's borders. As an Africa Hockey Federation (AfHF) Technical Official, he has officiated at numerous high-profile tournaments, including the Central and Southern African Hockey Cup in Harare, the Under 21 Africa Cup in Windhoek, Namibia, and the Africa Cup of Nations in Accra, Ghana. His expertise has also been tapped for the Hockey Road to Paris Olympic qualifiers in Pretoria, South Africa.

Ziba's leadership acumen is evident in his various roles within the hockey fraternity. He serves as a board member for the Africa Hockey Umpires Committee, Technical Director of the Zambia Hockey Association, and Vice President of the Zambia Hockey Association. These positions demonstrate his commitment to the development and growth of hockey in Zambia and beyond.

Currently, Ziba is pursuing an Advanced Sports Management course under the auspices of the National Olympic Committee of Zambia, sponsored by Olympic Solidarity. This undertaking underscores his dedication to continuous learning and self-improvement.

Ziba's passion for hockey is matched only by his love for sports. He believes that schools are incubators for talent and that investing in school sports is essential for the development of the sport.

In recognition of his tireless efforts, Valentine Ziba has earned a reputation as a hockey visionary and leader. His contributions to the sport have inspired countless young players, coaches, and officials, and his legacy will undoubtedly continue to shape the future of hockey in Zambia and Africa.

As Ziba continues to serve the hockey community, his commitment, expertise, and passion will undoubtedly inspire future generations of hockey enthusiasts.

2025 COSTAZ NATIONAL CONFERENCE

The 2025 National Conference preparation are under way as discussions have started with higher office. With the coming of the new syllabus and Curriculum and more changes anticipated there in, it is very important that educational gatherings like conferences be prepared.

It is in this vein that the National Executive Committee working together with lower branches have started preparations for the national conference.

During the planning, the proposed provincial and district venues are luapula and Samfya district respectively and is expected to occur in the first 2025 school holiday of the first term with **Tentative dates:** 27/04/25 – 01/05/25 (**Arrival** – 27/04/25, **Departure** – 01/05/25)

CONFERENCE MAJOR EXPECTATIONS

Capacity Building of members in various areas.

Intensive discussion on the Competence Based Curriculum.

Discussions on Syllabi, Schemes of Work and Lesson Plan.

EXPECTATIONS FROM MEMBERS

- COSTAZ members with research papers needs to come forward and submit to the secretariat.
- Delegates to the conference needs to start registering in their respective district.

The National Executive Committee has put up a number of activities within the duration of the conference, a number of COSTAZ materials like Lab Coats, Golf T shirts, Cooperate Shirts and Caps will be on sale during the conference.

However, the materials are available for orders on 0977880099, 0973105776, 0977830840 and 0950249575

PROPOSED THEME

TEACHER PROFESSIONAL GROWTH IN COMPETENCE-BASED EDUCATION FOR ADVANCED EFFECTIVE COMPETENCE- BASED LEARNING.

COSTAZ MATERIALS FOR SALE

T. Shirts, Shirts, Caps, Lab Coats are available for sale order one can get in touch with NEC on 0977880099, 0973105776, 0977830840 and 0950249575

Exploring **SAFYA DISTRICT** a proposed venue for the 2025 COSTAZ National Conference

For any enquiries and contributions send to;
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