THE UNITED REPUBLIC OF TANZANIA

NATIONAL EXAMINATIONS COUNCIL OF TANZANIA

DIPLOMA IN SECONDARY EDUCATION EXAMINATION

750 EDUCATIONAL MEDIA AND TECHNOLOGY

Time: 3 Hours **ANSWERS** **Year: 2018**

Instructions

1. This paper consists of section A and B.

2. Answer all questions in section A and four questions from section B.

1. Mention four functions of educational media and technology

Instruction: One function is instruction, delivering content to enhance learning. In Tanzania, projectors in secondary schools display science diagrams, aiding student understanding and supporting effective teaching processes.

Communication: Educational media facilitates communication between teachers and students. In Tanzania, audio recordings for Swahili literature enable clear explanations, improving interaction and engagement in classrooms.

Motivation: It motivates students by making learning engaging and interactive. In Tanzania, videos on history topics inspire secondary students, increasing interest and participation, boosting educational outcomes.

Assessment: Media and technology support assessment, evaluating learning progress. In Tanzania, online quizzes on tablets assess math skills, providing immediate feedback and enhancing teaching strategies for student improvement.

2. (a) Define the following terms as used in educational media and technology:

(i) Recycling: Recycling refers to the process of collecting, processing, and reusing materials, like paper or plastic, to create new educational media, promoting sustainability in Tanzania's schools.

(ii) Environmental conservation: Environmental conservation involves protecting natural resources and ecosystems, ensuring sustainable use of materials in media production, supporting eco-friendly education in Tanzania.

2. (b) Explain three stages of recycling materials

Collection: One stage is collecting used materials, like old textbooks or plastic, from schools. In Tanzania, students gather discarded paper and bottles, sorting them for recycling, initiating sustainable media production and environmental education.

Processing: Processing transforms sorted materials into reusable forms, such as shredding paper. In Tanzania, recycled paper is processed into new charts, providing affordable media for lessons, promoting sustainability and cost savings in education.

Reuse: The final stage is reusing processed materials in new products, like models or posters. In Tanzania, recycled plastic bottles become science models, reducing waste and maintaining educational resources, supporting long-term teaching sustainability.

3. Briefly describe four basic teaching aids which are readily available for every teacher at all the time

Chalkboard: One aid is the chalkboard, a simple, cost-effective tool for writing lessons. In Tanzania, rural and urban teachers use it daily for math and science, ensuring immediate, accessible instruction for all students.

Textbooks: Textbooks are readily available printed resources for teaching content. In Tanzania, secondary schools use Swahili and English books for history, providing structured learning materials accessible to every teacher consistently.

Charts: Charts, like posters or diagrams, are basic visual aids for lessons. In Tanzania, geography teachers use maps on walls, offering quick reference and engagement, available in most classrooms for effective teaching.

Models: Physical models, such as science specimens, are common aids. In Tanzania, biology teachers use plant models, readily available for hands-on learning, supporting instruction across schools with minimal cost.

4. Outline four qualities of an educational media which can be used to motivate student to learn in the teaching and learning process

Interactivity: One quality is interactivity, engaging students through hands-on or digital features. In Tanzania, interactive whiteboards for science stimulate curiosity, motivating secondary students and enhancing participation in lessons.

Relevance: Relevance to students' lives makes media motivating, connecting to interests. In Tanzania, history charts on Nyerere's leadership resonate with students, inspiring learning by linking content to cultural identity and boosting engagement.

Visual Appeal: Visual appeal, with colors and graphics, attracts attention. In Tanzania, colorful posters for math problems captivate students, making lessons enjoyable and encouraging active participation, driving motivation to learn.

Clarity: Clarity, with simple language and visuals, ensures understanding, motivating learners. In Tanzania, clear audio scripts for Swahili literature avoid confusion, inspiring students to engage and excel, enhancing the learning process.

5. Explain four factors to be considered when designing educational media

Relevance: One factor is relevance to the curriculum, ensuring media aligns with learning goals. In Tanzania, teachers design science videos covering biology topics, enhancing lesson effectiveness and student engagement with national standards.

Clarity: Clarity, with simple language and visuals, ensures comprehension. In Tanzania, Swahili audio scripts for literature avoid jargon, making media clear and effective for diverse learners in secondary schools, improving design quality.

Engagement: Engagement potential, through interactivity or visuals, improves learning. In Tanzania, teachers design interactive charts for history, captivating students and boosting retention, making media impactful for teaching and motivation.

Accessibility: Accessibility, considering cost and availability, is crucial for design. In Tanzania, rural schools prioritize affordable printed charts over tech, ensuring all students access media, supporting inclusive education and effective teaching.

6. Give the meaning of the following terms as used in educational media and technology:

(a) Maintenance: Maintenance refers to the regular upkeep and repair of media and technology, like cleaning projectors, ensuring functionality for teaching in Tanzania's schools.

(b) Storing: Storing involves keeping media and equipment, like textbooks or computers, in organized, safe spaces to prevent damage, supporting long-term use in Tanzania's classrooms.

(c) Cleanliness: Cleanliness means keeping media and tools free from dirt or germs, like wiping chalkboards, maintaining a hygienic learning environment in Tanzania's secondary schools.

(d) Care: Care involves proper handling and protection of media, such as storing models safely, ensuring durability and effectiveness for teaching and learning in Tanzania.

7. Identify four characteristics of a manual in educational media and technology

Clarity: One characteristic is clarity, with simple, precise instructions for users. In Tanzania, projector manuals use straightforward Swahili, ensuring teachers understand operations, enhancing media use in classrooms.

Comprehensiveness: Manuals are comprehensive, covering all usage aspects. In Tanzania, computer guides include setup and troubleshooting, aiding teachers in secondary schools for effective technology integration in lessons.

Accessibility: They are accessible, available in multiple formats or languages. In Tanzania, manuals for audio equipment are printed in English and Swahili, ensuring rural teachers can access and use media efficiently.

Specificity: Manuals are specific, targeting particular equipment or media. In Tanzania, a manual for whiteboards details cleaning and maintenance, ensuring precise guidance for teachers, improving teaching effectiveness.

8. What do the following terms mean in the context of educational media and technology?

(a) Technology with education: Technology with education refers to tools, like computers, integrated into teaching to enhance learning. In Tanzania, laptops in secondary schools support e-learning, improving student outcomes and instructional efficiency.

(b) Technology of education: Technology of education means the design and application of systems, like curricula software, for educational purposes. In Tanzania, educational apps for math are developed to align with syllabi, advancing teaching methods and student performance.

9. List four reasons for using models as instructional aid

Visual Understanding: One reason is enhanced visual understanding, as models provide tangible representations. In Tanzania, biology teachers use human anatomy models, helping students grasp organ functions, improving comprehension and retention effectively.

Engagement: Models increase engagement through hands-on interaction, making lessons interactive. In Tanzania, geography teachers use terrain models for landforms, captivating students and fostering active participation, boosting learning outcomes.

Clarity: They offer clarity, simplifying complex concepts through physical examples. In Tanzania, math teachers use geometric models, clarifying shapes and angles, reducing confusion and enhancing teaching precision in secondary schools.

Retention: Models improve retention by reinforcing memory through physical engagement. In Tanzania, history teachers use timeline models, aiding students in recalling events, supporting long-term memory and exam performance effectively.

10. Explain any four strengths of using non printed educational media for teaching and learning process

Cost-Effectiveness: One strength is cost-effectiveness, as non-printed media like audio uses fewer resources. In Tanzania, rural schools use radio broadcasts for Swahili, saving on textbook costs and ensuring affordable education for all students.

Accessibility: Non-printed media is accessible in low-tech settings, requiring no electricity. In Tanzania, remote schools use models and audio, reaching students without power, enhancing teaching and learning inclusivity effectively.

Engagement: It increases engagement through dynamic formats, like videos, captivating learners. In Tanzania, secondary schools use science animations, making lessons interactive and memorable, improving student participation and retention.

Durability: Non-printed media, such as models, is durable, withstanding frequent use. In Tanzania, wooden or plastic models for geography last longer than paper, supporting consistent education in resource-limited environments.

11. Using five points, analyze the characteristics of real objects which can be used in the teaching and learning process

Tangibility: One characteristic is tangibility, allowing physical handling for hands-on learning. In Tanzania, biology teachers use plant specimens, enabling students to touch and examine, enhancing understanding and engagement effectively.

Relevance: Real objects are relevant, directly relating to lesson content. In Tanzania, geography teachers use soil samples for landform studies, aligning with curriculum goals, making lessons meaningful and impactful for students.

Durability: They are durable, withstanding classroom use if cared for properly. In Tanzania, robust models like animal skulls for science endure handling, supporting long-term use and consistent teaching across secondary schools.

Accessibility: Real objects are accessible, often sourced locally at low cost. In Tanzania, rural schools use rocks for geology, requiring minimal resources, ensuring inclusive education and practical learning for all students.

Engagement: They increase engagement through interactive exploration, captivating learners. In Tanzania, history teachers use artifacts like spears, sparking curiosity and participation, boosting retention and educational outcomes in classrooms.

12. Explain five qualities of pictures as resources in teaching and learning

Clarity: One quality is clarity, with sharp, detailed images for understanding. In Tanzania, geography teachers use clear maps in classrooms, helping students identify regions, enhancing comprehension and teaching effectiveness.

Relevance: Pictures are relevant, aligning with curriculum goals. In Tanzania, history charts on Nyerere's era connect to lessons, making content meaningful and engaging, supporting student learning and retention.

Visual Appeal: They have visual appeal, using colors and composition to attract attention. In Tanzania, colorful science diagrams for biology captivate secondary students, increasing interest and participation in lessons.

Durability: Pictures are durable when laminated or printed on quality paper, ensuring long use. In Tanzania, laminated posters for math withstand classroom wear, maintaining resources for consistent teaching and learning.

Simplicity: Simplicity, avoiding clutter, ensures focus on key points. In Tanzania, plain Swahili literature illustrations focus on themes, reducing confusion and aiding student understanding, enhancing educational outcomes.

13. Examine five limitations of using modern media and technology in Tanzania Secondary Schools

Cost: One limitation is high cost, making modern media like computers expensive. In Tanzania, rural secondary schools struggle to afford laptops, preferring cheaper traditional aids, limiting technology adoption and equitable education.

Infrastructure: Inadequate infrastructure, like electricity or internet, restricts use. In Tanzania, many rural schools lack power, hindering projector use, forcing reliance on books and reducing modern media's effectiveness in teaching.

Technical Skills: Teachers lack technical skills, impeding media use. In Tanzania, secondary educators in Dodoma may not know how to operate smartboards, slowing lessons and reducing teaching efficiency, challenging technology integration.

Maintenance: Modern media requires regular maintenance, adding costs and complexity. In Tanzania, broken tablets in schools need repairs, straining budgets and disrupting lessons, limiting consistent use for learning.

Access Inequality: Unequal access creates disparities, favoring urban schools. In Tanzania, urban secondary schools use digital tools, while rural areas lack them, widening educational gaps and hindering nationwide technology adoption.

14. "Printed media in varied forms will continue to be fundamental for effective teaching and learning in Secondary Schools". Write five points to support this statement

Cost-Effectiveness: One point is cost-effectiveness, as printed media like textbooks is affordable. In Tanzania, secondary schools use cheap books for Swahili, saving funds for other needs, ensuring accessible, effective teaching for all students.

Accessibility: Printed media is accessible in low-tech settings, requiring no power. In Tanzania, rural schools rely on textbooks for history, reaching students without electricity, supporting inclusive education and learning continuity.

Durability: It is durable, withstanding frequent use when cared for. In Tanzania, laminated charts for math endure classroom wear, maintaining quality for long-term teaching, supporting consistent educational resources in secondary schools.

Familiarity: Teachers and students are familiar with printed media, ensuring ease of use. In Tanzania, secondary educators use textbooks intuitively, enhancing lesson delivery and student comprehension, making it fundamental for effective learning.

Reliability: Printed media is reliable, unaffected by technical failures. In Tanzania, books for science lessons remain usable during power outages, providing stable resources, reinforcing its importance for consistent, effective teaching in secondary schools.

15. "One of the teachers' responsibilities is to construct educational media and technology". Explain five steps to be followed in performing this task

Needs Assessment: One step is assessing learning needs, identifying curriculum gaps. In Tanzania, a teacher surveys secondary students for science challenges, ensuring media, like models, addresses specific goals, starting construction effectively.

Design Planning: Planning the design, sketching media layout, is crucial. In Tanzania, a teacher drafts a history chart on Nyerere, outlining visuals and text, ensuring clarity and relevance for student engagement in construction.

Material Selection: Selecting appropriate materials, like paper or plastic, supports construction. In Tanzania, a teacher chooses durable cardboard for geography maps, ensuring affordability and sustainability, enhancing media quality for teaching.

Construction Process: Building the media, assembling components, follows planning. In Tanzania, a teacher creates a science model from recycled bottles, testing functionality, ensuring it aids learning effectively in secondary classrooms.

Evaluation and Adjustment: Evaluating and adjusting the media ensures effectiveness. In Tanzania, a teacher tests a Swahili poster with students, refining clarity based on feedback, completing construction for optimal teaching and learning outcomes.

16. Describe five importance of caring and maintaining educational media and technology

Durability: One importance is ensuring durability, extending media lifespan. In Tanzania, cleaning projectors and repairing models prevent wear, maintaining functionality for long-term use, supporting consistent education and cost savings in schools.

Efficiency: Maintenance improves efficiency, ensuring smooth operation. In Tanzania, servicing computers removes viruses, enhancing lesson delivery and student access, boosting teaching effectiveness and learning outcomes in secondary schools.

Safety: It ensures safety, reducing hazards from faulty equipment. In Tanzania, inspecting cables on whiteboards prevents shocks, protecting students and teachers, creating a secure learning environment for optimal education.

Cost Savings: Caring and maintaining media saves costs by avoiding replacements. In Tanzania, repairing textbooks or flash disks reduces expenses, allowing schools to allocate funds to other resources, sustaining educational quality affordably.

Performance: It enhances performance, keeping media effective for teaching. In Tanzania, regular updates to software and cleaning of charts ensure reliable tools, improving student engagement and comprehension, supporting educational progress in classrooms.