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: 2019**

Instructions

1. This paper consists of section A and B.

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

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1. Briefly explain four properties of instructional media which are suitable for teaching students with visual impairment

Tactile Features: One property is tactile features, allowing touch-based interaction, like Braille or raised diagrams. In Tanzania, schools for visually impaired students use Braille textbooks, enabling reading and understanding, enhancing inclusive education effectively.

Auditory Support: Instructional media with auditory elements, like audio descriptions, suit visual impairments. In Tanzania, narrated science podcasts for blind students provide content access, compensating for visual limitations and supporting learning through sound.

High Contrast: High-contrast materials, with bold colors or textures, improve visibility for partial sight. In Tanzania, black-and-white charts with large text or raised lines help partially sighted students in mainstream schools, ensuring engagement and comprehension.

Simplified Design: Simplified designs, avoiding complex visuals, ensure clarity for visual impairments. In Tanzania, plain, labeled models or audio scripts for history lessons reduce confusion, making media accessible and effective for visually impaired learners.

2. In four points, describe the weaknesses of using still picture in providing instructions in the classroom settings

Limited Interactivity: One weakness is limited interactivity, as still pictures offer static content, reducing engagement. In Tanzania, classrooms using photos for geography may bore students, lacking dynamic elements compared to videos, hindering active learning.

Lack of Detail: Still pictures often lack detailed information, confusing learners. In Tanzania, a single image of a plant in science lessons may omit growth stages, requiring additional explanation, reducing instructional effectiveness and comprehension.

Accessibility Challenges: They pose accessibility challenges for visually impaired students, limiting inclusivity. In Tanzania, rural schools without Braille labels on pictures struggle to include blind students, restricting equitable education and learning outcomes.

Time Constraints: Using still pictures can be time-consuming, requiring extensive explanation. In Tanzania, teachers spend extra time describing images in history, slowing lessons and reducing coverage, impacting curriculum delivery and student progress.

3. Briefly explain four advantages of using non-projected aids in teaching and learning process

Cost-Effectiveness: One advantage is cost-effectiveness, as non-projected aids like chalkboards use inexpensive materials. In Tanzania, rural schools rely on blackboards and charts, saving funds for other resources, ensuring affordable education for all students.

Accessibility: Non-projected aids are accessible in low-tech settings, requiring no electricity. In Tanzania, remote schools use models and flashcards, reaching students without power, enhancing teaching and learning inclusivity effectively.

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Durability: They are durable, withstanding frequent use without damage. In Tanzania, wooden models for biology or laminated posters for math last longer than digital tools, supporting consistent education in resource-limited environments.

Ease of Use: Non-projected aids are easy to use, needing minimal training. In Tanzania, teachers handle chalkboards or charts intuitively, improving lesson delivery and student understanding, maintaining simplicity in teaching processes.

4. Briefly explain four strengths of using educational media in facilitating effective teaching and learning process

Engagement: One strength is enhanced engagement, as media like videos captivate students. In Tanzania, secondary schools use animations for science, making lessons interactive, improving focus and retention, and boosting learning outcomes effectively.

Clarity: Educational media provides clarity through visuals and audio, simplifying complex concepts. In Tanzania, charts and audio scripts for Swahili literature clarify themes, helping students grasp ideas, enhancing comprehension and teaching efficiency.

Accessibility: It increases accessibility, reaching diverse learners through varied formats. In Tanzania, rural schools use radio broadcasts for history, ensuring students without textbooks access content, supporting inclusive education and learning progress.

Flexibility: Media offers flexibility, adapting to different teaching styles. In Tanzania, teachers use projectors or models for geography, tailoring lessons to student needs, improving adaptability and effectiveness in the teaching and learning process.

5. List four challenges which are likely to face the teacher who is ignorant of characteristics of educational media and technology

Ineffective Instruction: One challenge is ineffective instruction, as ignorance leads to poor media use. In Tanzania, a teacher unaware of projector features may misuse it, confusing students and reducing lesson quality, hindering educational outcomes.

Resource Wastage: Ignorance causes resource wastage, damaging or misusing media. In Tanzania, a teacher not understanding flash disk storage might delete files, wasting school funds and disrupting lessons, impacting teaching efficiency.

Student Disengagement: It results in student disengagement, as unsuitable media fails to engage. In Tanzania, using complex videos without explanation bores students, lowering participation and retention, challenging classroom management and learning.

Technical Difficulties: Teachers face technical difficulties without media knowledge, slowing lessons. In Tanzania, ignorance of computer basics may delay science simulations, frustrating students and reducing teaching effectiveness in technology-reliant schools.

6. Identify five ways in which the internet can be used as a source of information in teaching and learning

Research Materials: One way is accessing research materials, like academic articles, for lessons. In Tanzania, teachers in Dar es Salaam use the internet for history data, enriching content and supporting student projects, enhancing learning depth.

Online Courses: The internet offers online courses, expanding educational content. In Tanzania, secondary students access free math tutorials on platforms like Khan Academy, improving understanding and supplementing classroom teaching effectively.

Interactive Tools: It provides interactive tools, like quizzes and simulations, for engagement. In Tanzania, science teachers use virtual labs online, helping students explore biology concepts, boosting retention and active learning in classrooms.

Collaboration Platforms: The internet enables collaboration, connecting students globally. In Tanzania, schools use Google Classroom for group projects, fostering teamwork and sharing resources, enhancing educational outcomes and global awareness.

Current Events: It offers current events for real-world context in teaching. In Tanzania, geography teachers access news on climate change, updating lessons with timely information, making learning relevant and engaging for students.

7. Define the following terms as used in educational media and technology:

(a) Designing: Designing refers to the process of creating or planning instructional media, like charts or videos, to meet educational goals. In Tanzania, teachers design posters for Swahili, ensuring clarity and engagement for effective teaching.

(b) Construction: Construction involves building or assembling media, such as models or slides, for classroom use. In Tanzania, schools construct science models from local materials, enhancing hands-on learning and supporting curriculum delivery.

(c) Manual: A manual is a guide or handbook providing instructions for using media or technology. In Tanzania, teachers use projector manuals to operate equipment, ensuring proper use and maintenance for efficient lessons.

(d) Equipment: Equipment refers to tools or devices, like projectors or computers, used in educational media. In Tanzania, secondary schools use laptops for e-learning, facilitating interactive teaching and improving student outcomes.

8. Briefly describe the first three steps of recycling process of materials

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

Sorting: Sorting involves separating materials by type for processing. In Tanzania, schools categorize paper from plastic in media workshops, ensuring efficient recycling and reducing waste, supporting eco-friendly teaching practices.

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

9. What will happen if educational media and technology will not be stored properly? Give four points

Damage: One outcome is damage to media, like scratched DVDs or broken models, reducing usability. In Tanzania, improperly stored projectors in damp classrooms malfunction, disrupting lessons and requiring costly repairs, affecting teaching quality.

Loss: Improper storage leads to loss of materials, such as misplaced flash disks. In Tanzania, unorganized cabinets cause missing resources, hindering lesson planning and wasting school funds, impacting educational continuity.

Health Hazards: It creates health hazards, like mold on books or dust on devices. In Tanzania, poorly stored media in humid areas harms students and teachers, reducing attendance and learning efficiency, necessitating better storage practices.

Inefficiency: It causes inefficiency, slowing access to media during lessons. In Tanzania, cluttered storage delays retrieving charts or computers, frustrating teachers and students, lowering productivity and effectiveness in teaching and learning.

10. Briefly examine four reasons of maintaining educational media and technology

Durability: One reason is ensuring durability, extending media lifespan. In Tanzania, regular cleaning of projectors prevents 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.

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: Maintaining media saves costs by avoiding replacements. In Tanzania, repairing textbooks or models reduces expenses, allowing schools to allocate funds to other resources, sustaining educational quality affordably.

11. Why teachers use audio visual media during teaching and learning process? Explain by giving five points

Engagement: One reason is enhanced engagement, as audio-visual media captivates students with videos and sounds. In Tanzania, secondary teachers use documentaries for history, making lessons interactive and memorable, improving retention and participation.

Clarity: It provides clarity, simplifying complex concepts through visuals and audio. In Tanzania, science teachers use animations for biology, clarifying processes like photosynthesis, enhancing student comprehension and teaching effectiveness.

Inclusivity: Audio-visual media supports inclusivity, aiding diverse learners, including visually impaired. In Tanzania, narrated videos with subtitles assist students in rural schools, ensuring equitable access and understanding, boosting learning outcomes.

Motivation: It motivates students by making learning enjoyable and relevant. In Tanzania, geography teachers use maps with sound effects, inspiring interest and curiosity, increasing effort and performance in classroom activities.

Retention: It improves retention through multisensory learning, combining sight and sound. In Tanzania, Swahili literature audio clips with visuals help students remember stories, reinforcing knowledge and supporting long-term educational progress.

12. Analyse five strengths of teaching a lesson by using models in a classroom

Visual Understanding: One strength 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.

Inclusivity: They support inclusivity, benefiting diverse learners, including visual learners. In Tanzania, models for chemistry reactions assist students with learning disabilities, ensuring equitable education and understanding, enhancing classroom progress.

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13. “Most teachers in Secondary Schools do not prefer to use camera as teaching and learning tool”. Justify this statement by giving five points

Cost: One reason is cost, as cameras are expensive to purchase and maintain. In Tanzania, secondary schools, especially rural ones, lack funds for cameras, preferring cheaper tools like chalkboards, justifying reluctance and limiting camera use in teaching.

Technical Skills: Teachers lack technical skills to operate cameras effectively, reducing preference. In Tanzania, many educators in Dodoma are untrained in video editing or photography, finding cameras complex compared to traditional media, supporting the statement.

Infrastructure: Insufficient infrastructure, like electricity or internet, hinders camera use. In Tanzania, rural schools without power struggle to charge or connect cameras, preferring reliable non-digital tools, explaining teachers’ avoidance in secondary education.

Time Constraints: Using cameras is time-consuming, requiring preparation and editing. In Tanzania, teachers prioritize quick lessons with textbooks, finding cameras slow for daily use, justifying their reluctance and maintaining traditional methods in classrooms.

Relevance: Cameras may seem less relevant for certain subjects, reducing preference. In Tanzania, math or history teachers find charts more direct than video recording, supporting the statement as cameras appear less practical for core curriculum delivery.

14. Examine five factors to be considered in designing educational media and technology suitable for teaching and learning in Secondary Schools

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

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

Engagement: Engagement potential, through interactivity or visuals, improves learning. In Tanzania, teachers design interactive whiteboards for history, captivating students and boosting retention, making media suitable and impactful for secondary schools.

Clarity: Clarity, with simple language and visuals, ensures comprehension. In Tanzania, Swahili audio scripts for literature avoid jargon, ensuring secondary students understand, enhancing media design for effective teaching and learning.

Durability: Durability ensures long-term use, reducing replacement costs. In Tanzania, laminated posters or robust models for geography withstand classroom wear, maintaining quality and accessibility for consistent secondary education.

15. In five points, demonstrate the application of recycling in construction of educational media

Reusing Paper: One application is reusing paper for charts or worksheets, reducing waste. In Tanzania, schools recycle old textbooks into new posters for history, saving costs and promoting sustainability in media construction for teaching.

Repurposing Plastics: Repurposing plastic bottles into models supports recycling. In Tanzania, science teachers use plastic for biology models, like cell structures, creating durable media, enhancing learning while minimizing environmental impact in classrooms.

Recycling Cardboard: Using recycled cardboard for displays conserves resources. In Tanzania, geography teachers craft maps from cardboard, reinforcing lessons on landforms, supporting eco-friendly media construction and student engagement sustainably.

Reclaiming Metal: Reclaiming metal for frames or stands aids recycling. In Tanzania, schools use old metal for model stands in physics, creating sturdy educational tools, reducing waste and maintaining cost-effective media for teaching.

Composting Organic Waste: Composting organic waste from media production, like wood scraps, supports sustainability. In Tanzania, schools use compost for school gardens, indirectly aiding media projects with natural materials, promoting environmental education and resource use.

16. In five points, explain factors to be considered in production and use of traditional media and technology

Cost: One factor is cost, ensuring affordable materials like chalkboards or paper. In Tanzania, schools prioritize inexpensive traditional media, like storyboards, minimizing expenses and ensuring accessibility for rural education, supporting effective teaching.

Availability: Availability of materials, such as local resources, is critical. In Tanzania, schools use sticks and leaves for models, ensuring media production aligns with rural settings, enhancing usability and learning outcomes in traditional contexts.

Durability: Durability ensures long-term use, reducing replacement needs. In Tanzania, laminated charts or wooden models withstand classroom wear, maintaining quality for repeated lessons, supporting consistent traditional media use in education.

Cultural Relevance: Cultural relevance makes media meaningful, reflecting local values. In Tanzania, Swahili proverbs on posters or oral storytelling align with community norms, engaging students and improving teaching effectiveness in traditional settings.

Simplicity: Simplicity in design and use ensures ease for teachers and students. In Tanzania, straightforward chalkboard lessons or printed handouts avoid complexity, enhancing comprehension and participation, maintaining traditional media's effectiveness in learning.