THE UNITED REPUBLIC OF TANZANIA

NATIONAL EXAMINATION COUNCIL OF TANZANIA

DIPLOMA IN SECONDARY EDUCATION EXAMINATION

750 **EDUCATIONAL MEDIA AND TECHNOLOGY**

Time: 3 Hour. **ANSWERS** **Year: 2005**

Instructions

1. This paper consists of sections **A** and **B.**
2. Answer all questions in sections **A** and **four (4)** questions from section **B.**
3. Read each question carefully before you start answering it.
4. Cellular phones and other unauthorized materials are **not** allowed in the examination room.
5. Write your **Examination Number** on every page of your answer booklet(s).

1. Outline four reasons why the integration of educational media is vital in competence-based education.

Educational media promotes hands-on learning. Competence-based education focuses on practical skills, and media such as models, simulations, or charts help students apply knowledge in realistic contexts.

It enhances learner autonomy. Through media like digital platforms or project work, students can explore, research, and construct knowledge independently, which is central to competency-based learning.

Media caters to diverse learning styles. Visual, auditory, and kinesthetic learners benefit from varied instructional materials, ensuring that each student can develop competencies through methods that suit them best.

It supports active assessment. Tools such as presentations, portfolios, or video analysis allow learners to demonstrate skills and understanding, which aligns with the performance-based nature of this approach.

2. Describe four precautions that should be taken when using real objects (realia) as teaching aids in science subjects.

Ensure safety of materials. Teachers must confirm that the realia used, such as chemicals, biological specimens, or sharp instruments, are non-toxic and safely handled to prevent accidents.

Objects should be relevant and appropriate. The selected realia must clearly represent the concept being taught to avoid confusing or misleading students.

Prepare learners beforehand. Teachers should explain the purpose and correct handling of the realia to ensure students understand what to observe and how to interact with the items.

Clean and store properly after use. Especially for biological or chemical materials, proper cleaning, disposal, or storage prevents contamination or spoilage for future use.

3. Give four disadvantages of overusing multimedia presentations such as PowerPoint in lesson delivery.

Overuse can reduce student interaction. If lessons rely solely on slides, learners may become passive and disengaged due to lack of discussion or activity.

Presentations may become monotonous. Without variation or interaction, repeated use of slides can bore learners, especially when heavily text-based or poorly designed.

Technology dependence is risky. If electricity fails or equipment malfunctions, the teacher may be unprepared to continue without the presentation.

It may oversimplify complex topics. Teachers may compress detailed information into brief bullet points, which may reduce depth of explanation and understanding.

4. Explain four reasons why a teacher must align instructional media with specific lesson objectives.

Aligned media ensures relevance. Materials must directly support the goal of the lesson to reinforce key concepts and prevent wasted time.

It helps measure outcomes. When media is selected based on objectives, it becomes easier to assess whether learners have achieved the intended understanding or skill.

It guides the choice of activity. Lesson objectives determine whether to use a chart, model, video, or demonstration, ensuring the media suits the teaching task.

It supports lesson flow. Proper alignment ensures that media fits within the structure of the lesson, maintaining coherence and focus.

5. Highlight four situations in which printed media may be preferred over digital media in Tanzanian secondary schools.

In schools without electricity, printed materials such as textbooks and posters ensure that learning continues without disruption.

For exam revision, printed past papers and booklets are often more accessible and practical than screen-based materials.

When teaching in classrooms with limited devices, printed charts or handouts allow group participation without the need for computers or projectors.

Printed media may be preferred when teaching in rural areas with limited internet access, ensuring that learners can study independently and consistently.

6. State four limitations of using audio-only materials in the teaching of practical subjects.

Lack of visual reference makes it difficult to explain processes that require demonstration, such as lab experiments or machine operations.

It can cause misunderstandings. Learners may interpret instructions differently without seeing actions or visual cues.

Student engagement may drop. Without images or movement, audio content alone may fail to capture and retain learners' attention.

It's difficult to assess performance. Teachers cannot observe how well students are following or applying the instructions based only on listening.

7. Mention four principles that should guide the teacher when designing improvised instructional materials.

The materials must be relevant. They should directly represent or illustrate the topic being taught to ensure effectiveness.

They should be simple. Improvised aids must be easy to construct, use, and understand, especially in time-constrained classrooms.

Durability is key. Since materials may be reused, teachers should construct them in a way that withstands multiple lessons.

Safety must be considered. Materials should be non-hazardous and suitable for handling by both teacher and students.

8. Identify four differences between teaching using media and teaching without media.

Teaching with media involves visual or audio aids that support content delivery, while teaching without media relies solely on spoken instruction or written notes.

Media-assisted lessons tend to be more interactive and engaging, while traditional lessons may be more teacher-centred and lecture-based.

Media use allows demonstration of complex ideas through models or simulations, whereas teaching without media may rely heavily on imagination or verbal explanation.

Media improves retention through multisensory exposure, whereas teaching without media may limit how learners process and remember content.

9. Describe four ways in which the school administration can support the effective use of educational media.

They can allocate funds for purchasing media tools such as projectors, science models, or printed charts to equip classrooms.

Administration can organize training workshops to improve teachers' skills in media production and integration.

They can establish a resource room or media centre with proper storage and access systems, promoting organized media usage.

They should support innovation by encouraging teachers to improvise, share resources, and experiment with new teaching approaches using available media.

10. Explain four roles of mobile technology in promoting collaborative learning among students.

Mobile devices allow students to communicate instantly through messaging apps, enhancing group discussions and assignment coordination.

They enable shared access to content such as documents, videos, and slides, supporting teamwork and information exchange.

Students can use collaborative apps like Google Docs or Padlet to co-create content, brainstorm ideas, or peer-review each other's work in real time.

Mobile technology supports learning beyond the classroom. Students can continue working on group tasks after school hours, maintaining collaboration across time and distance.

11. Discuss five benefits of integrating educational media into continuous assessment practices.

Educational media allows real-time feedback. Digital quizzes and interactive tools can immediately show learners their performance, helping them to recognize and correct mistakes quickly.

It accommodates various assessment formats. Through audio recordings, presentations, or video responses, learners can demonstrate knowledge beyond written tests.

It supports self-assessment. Learners can use media tools to reflect on their work—such as reviewing a recorded presentation—to evaluate their own progress.

Media facilitates documentation. Teachers can store students' assessments digitally (e.g., photos of projects, recorded answers), allowing better tracking over time.

It promotes creativity and critical thinking. When learners use media to present knowledge, they are encouraged to think more deeply and organize their ideas clearly.

12. Explain five challenges associated with the use of printed instructional materials in schools and suggest practical solutions.

Printed materials may become outdated. Curriculum changes can render textbooks or charts obsolete. A solution is supplementing them with updated content from verified online sources.

They are expensive to replace. Budget constraints make it hard for schools to regularly purchase new materials. Schools can photocopy key sections or use communal books.

Storage is often poor. Improper handling can lead to damage or loss. Schools should invest in shelves and locked storage for preservation.

Students may not handle them properly. Writing in or tearing pages is common. Teachers should enforce care rules and educate students on responsible usage.

Printed materials may be too text-heavy. Some learners struggle with long texts. Teachers can simplify content through summaries, charts, or discussions.

13. Analyse five ways in which educational media can be used to enhance environmental education in secondary schools.

Posters and charts can display messages on conservation, pollution, or climate change, reinforcing daily awareness of environmental responsibility.

Documentaries or short films help learners visualize global and local environmental challenges, making the issues more real and urgent.

Field photography or video projects allow students to capture local environmental problems, promoting community awareness and advocacy.

Digital mapping tools (e.g., Google Earth) can be used in geography lessons to study forests, rivers, or urban sprawl, linking classroom content to real-world changes.

Simulation games or models teach cause-and-effect relationships in ecosystems, helping learners understand long-term consequences of environmental actions.

14. Evaluate five reasons why it is necessary to localize instructional media in Tanzanian classrooms.

Local media reflects familiar environments. Students learn better when examples, settings, and visuals represent their daily lives.

It respects culture and identity. Using local stories, languages, or attire in media fosters pride and connection to content.

Localization makes media more understandable. Students comprehend better when examples are in Kiswahili or use local names and symbols.

It encourages participation. Learners are more likely to contribute and engage when the content resonates with their own context.

Localized media is easier and cheaper to produce. Teachers can use local materials and community knowledge to design cost-effective and relevant media.

15. Describe five key qualities of an effective educational illustration used in textbooks or teaching charts.

The illustration must be accurate. It should reflect the correct structure, proportion, and labeling, especially in science or geography topics.

It should be simple and focused. Overly complex images can confuse learners. Good illustrations highlight only the key features of the concept.

The layout must be clear. The position of elements should follow a logical sequence, helping students understand the relationship between parts.

It must be visible. Line thickness, font size, and color contrast should allow learners to easily read and interpret the image even from a distance.

It should be relevant. Every illustration must directly support the lesson objective and not distract from the main idea.

16. With examples, explain five strategies that a teacher can apply to evaluate the effectiveness of media used in classroom instruction.

Observe learner engagement. If students are attentive, asking questions, and participating actively during media use, it indicates effectiveness.

Conduct short assessments. Quizzes, oral questions, or reflection activities after media use help gauge student understanding.

Ask for learner feedback. Students can share what they found helpful or confusing, guiding future media selection and improvement.

Compare learning outcomes. Teachers can review student performance in lessons with and without media to determine impact on achievement.

Reflect on lesson flow. If the media integrated smoothly and supported the objective without causing delays or confusion, it was likely effective.

17. Identify five ways that educational technology can support inclusive education for learners with special needs.

Screen readers and text-to-speech tools help visually impaired learners access written content and instructions.

Subtitled videos and visual cues support hearing-impaired learners, allowing them to follow audio-based content visually.

Adaptive learning software allows learners with cognitive difficulties to learn at their own pace, with customized feedback and support.

Touch-screen devices and voice-command apps assist learners with physical disabilities in navigating and engaging with content independently.

Digital storytelling allows learners with communication challenges to express understanding through images and narration rather than traditional writing.

18. Propose five practical strategies that schools can adopt to promote the culture of improvisation among teachers.

Organize regular workshops on low-cost media production, where teachers learn how to create effective aids using local materials.

Allocate a small annual budget specifically for improvised materials, encouraging innovation without relying on expensive purchases.

Create an exhibition space where teachers can display and share their improvised media, inspiring others to replicate or improve the designs.

Encourage collaboration across departments so teachers can co-develop media that serve multiple subjects or topics.

Include improvisation in teacher evaluation or recognition programs to reward creativity and practical teaching innovation.