MICROTECH INSTITUTE OF BUSINESS AND TECHNOLOGY
DIPLOMA FIRST YEAR IN PRIMARY EDUCATION
EDUCATIONAL MEDIA AND TECHNOLOGY

TOPIC ONE: INTRODUCTION EDUCATIONAL MEDIA AND TECHNOLOGY

Education is the development of the ability of the mind (learning to know). Media is a plural form of medium. Medium is a device that through we share information knowledge and experience. Technology comes from two Greek words, techniques – means an art which is related to skills and dexterity.

TYPES/CATEGORIES OF EDUCATIONAL MEDIA AND TECHNOLOGY

a) Traditional Media. - Prints, Tex books, and chalk board.
b) Modern Educational Media. Technological devices
c) Printed Media. - Graphic prints and picture, text books
d) Non-Printed Media. - Symbols, animations (motion pictures), audio, video

INTRODUCTION TO MEDIA AND TECHNOLOGY

Media and technology have significantly transformed the way we interact, communicate, and access information in the modern world. Both concepts are intertwined and have a profound impact on society, shaping the way we perceive the world around us. Let's explore each of these elements individually:

Media: refers to the various means of communication used to transmit information, ideas, news, and entertainment to a wide audience. It encompasses traditional forms like newspapers, television, radio, and magazines, as well as newer digital platforms like social media, websites, blogs, podcasts, and streaming services. The role of media in society is multifaceted. It serves as a watchdog, providing information and keeping the public informed about current events, politics, and issues affecting communities.
Media also acts as a bridge between individuals and the world, connecting people across borders and cultures, fostering a global exchange of ideas, and promoting cultural diversity.

Moreover, media plays a vital role in shaping public opinion and influencing attitudes and behaviors. It can bring attention to important causes, raise awareness about social issues, and promote positive change. However, it's essential to recognize that media can also be a source of misinformation or biased content, so critical thinking and media literacy are crucial for navigating the vast amount of information available.

Technology: Technology refers to the tools, machines, and systems developed through scientific knowledge to solve problems and enhance human capabilities. From the invention of the wheel

and the printing press to the internet and smartphones, technology has consistently driven progress and innovation in human society.

In the context of media, technology has been a game-changer. The digitization of content and the rise of the internet have revolutionized the way information is produced, consumed, and shared. We can access news, entertainment, and knowledge instantly, breaking down geographical barriers and creating a more interconnected world. The advent of social media platforms and mobile devices has transformed the way people communicate, leading to new forms of social interaction and community-building. Additionally, advancements in technology have given rise to various multimedia formats, such as videos, animations, and virtual reality, enriching the media experience for audiences.

Technology this refer as the application of scientific knowledge to achieve practical purpose. Technology as a process, it refers to creative application of knowledge for purposeful activities Technology as a product, it refers to the application of equipment's which facilitate the application of this knowledge. Impact on Society: The interplay between media and technology has had far-reaching effects on society. On one hand, it has democratized information, giving a voice to previously marginalized individuals and groups.

On the other hand, it has raised concerns about privacy, data security, and the spread of misinformation.

The rapid evolution of media and technology also poses challenges for industries, governments, and individuals. Media organizations must adapt to digital platforms to remain relevant, while policy makers grapple with issues like net neutrality, copyright, and online regulation.

Individuals must develop media literacy skills to discern reliable information from falsehoods and propaganda.

In conclusion, media and technology are integral components of our modern world. They have redefined the way we communicate, learn, and engage with each other and the world at large. Embracing these advancements responsibly and being critical consumers of media will play a crucial role in shaping a positive and inclusive future.

EDUCATIONAL MEDIA AND TECHNOLOGY

Educational media and technology refer to the use of various media tools and technological resources to support and enhance the process of learning and education. These tools and resources can include both traditional and digital platforms, such as audiovisual aids, interactive software, online learning platforms, mobile applications, and more.

The integration of educational media and technology in the classroom and beyond has revolutionized the way students access information, interact with content, and engage in the learning process.

Education media refers to the channels of communication that carry massage with an instructional purpose.

They are usually utilized for purpose of learning and teaching (Webcrawler 2013)

Here are some key aspects and benefits of educational media and technology:

1. Enhanced Learning Experience: Educational media and technology can make learning more engaging and interactive. Visual and multimedia content can help clarify complex concepts, making it easier for students to understand and retain information.

2. Personalized Learning: Technology allows for adaptive learning experiences tailored to individual students' needs and learning styles. This enables students to progress at their own pace, ensuring a deeper understanding of the material.

3. Accessibility: Digital platforms and online resources make educational content accessible to a broader audience, including learners with physical disabilities, those in remote areas, or those who face other barriers to traditional education.

4. Real-world Simulations: Technology offers opportunities for immersive and realistic simulations that can help students practice skills and problem-solving in safe environments. For example, flight simulators for pilot training or virtual medical procedures for aspiring healthcare professionals.

5. Collaborative Learning: Educational technology facilitates collaboration among students and teachers. Online discussion forums, collaborative projects, and virtual classrooms allow for meaningful interactions, irrespective of geographical limitations.

6. Immediate Feedback: Online assessments and learning management systems can provide instant feedback to students, enabling them to identify areas of improvement and track their progress more effectively.

7. Continuous Learning: Technology enables lifelong learning, with access to a vast array of educational content, courses, and resources beyond traditional educational settings.

8. Professional Development for Teachers: Educational technology offers opportunities for teachers to enhance their skills and knowledge through online workshops, webinars, and educational resources.

9. Cost-Effectiveness: While initial investments may be required, integrating technology can lead to long-term cost savings by reducing the need for physical resources and streamlining administrative tasks.

10. Data-driven Insights: Educational technology allows educators to collect and analyze data on student performance, identifying patterns and trends that can inform instructional decisions and interventions.

Despite these benefits, challenges remain in adopting educational media and technology effectively. Ensuring equal access to technology for all students, maintaining data privacy, and addressing concerns about screen time are some of the issues that need attention.

In summary, educational media and technology have transformed the landscape of education, enriching the learning experience and empowering both students and educators. By leveraging these tools thoughtfully, education can become more inclusive, engaging, and effective in preparing to students for the complexities of the modern world.

IMPORTANCE OF STUDYING EDUCATIONAL MEDIA AND TECHNOLOGY

Studying educational media and technology is of paramount importance in today's rapidly evolving educational landscape. As technology continues to shape our world, its integration into education has become essential. Here are some reasons why studying educational media and technology is crucial:

1. Enhancing Teaching Methods: Understanding educational media and technology enables educators to explore new and innovative teaching methods. Integrating technology in the classroom can make lessons more engaging, interactive, and accessible, catering to diverse learning styles and needs.

2. Improving Learning Outcomes: Research shows that educational media and technology can positively impact student learning outcomes. Studying these tools helps educators identify effective strategies and applications that promote better retention and understanding of concepts.

3. Fostering Digital Literacy: As our society becomes increasingly reliant on digital tools, it is crucial to develop digital literacy skills in students. By studying educational media and technology, educators can help students navigate digital spaces responsibly, critically evaluate information, and become informed digital citizens.

4. Adapting to Technological Advancements: Technology is constantly evolving, and its integration in education must keep pace. Studying educational media and technology ensures that educators remain up-to-date with the latest advancements and can leverage relevant tools effectively.

5. Promoting Inclusivity and Accessibility: Educational media and technology offer opportunities to address learning barriers and create a more inclusive environment. Studying these tools helps educators find ways to support learners with disabilities, different learning preferences, or limited access to traditional educational resources.

6. Facilitating Lifelong Learning: As technology enables learning beyond traditional classroom settings, studying educational media and technology helps educators embrace the concept of lifelong learning. By encouraging continuous professional development and exploring new learning opportunities, educators can model the importance of ongoing growth to their students.

7. Preparing Students for the Future: We live in a digitally-driven world, and the workforce of the future will require strong technological skills. By studying educational media and technology, educators can better prepare their students for the challenges and opportunities of the 21stcentury job market.

8. Identifying Potential Challenges: While technology offers numerous benefits, it also presents challenges. By studying educational media and technology, educators can proactively address issues like digital distractions, information overload, and privacy concerns, ensuring a safe and productive learning environment.

9. Supporting Educational Research: Understanding educational media and technology contributes to educational research. Researchers can investigate the effectiveness of various tools, instructional methods, and digital resources to improve overall educational practices.

10. Embracing Innovation: Educational media and technology open doors to creative and innovative approaches to teaching and learning. By studying and embracing these tools, educators can foster a culture of innovation in the classroom and beyond.

In conclusion, studying educational media and technology is essential for educators, administrators, policymakers, and researchers alike. It empowers educators to optimize their teaching practices, promotes digital literacy among students, and prepares individuals to thrive in an increasingly technology-driven world. By harnessing the potential of educational media and technology, we can create more engaging, inclusive, and effective learning experiences for learners of all ages

DIFFERENCE BETWEEN EDUCATIONAL MEDIA AND TECHNOLOGY AND INSTRUCTIONAL MEDIA AND TECHNOLOGY

Educational Media and Technology and Instructional Media and Technology are related concepts, but they have distinct focuses and applications within the field of education. Here's a differentiation between the two:

Educational Media and Technology: Educational media and technology encompass a broader scope, including all types of media tools and technological resources used in educational settings to support teaching, learning, and educational administration. This term encompasses various media tools, digital platforms, and technologies used for educational purposes. Educational media and technology can be utilized at different levels of education, from primary schools to higher education and even professional development for educators.

Examples of educational media and technology include:

1. Media Tools: Textbooks, slides, charts, photographs, videos, animations, audio recordings, and other audiovisual aids used to present information.

2. Digital Platforms: Online learning management systems (LMS), educational websites, ebooks, educational apps, virtual reality (VR), augmented reality (AR), and other digital resources.

3. Educational Software: Software and applications designed specifically for educational purposes, such as math or language learning apps, simulation software, and educational games.

4. Learning Analytics: The use of data analytics to track and analyze student learning progress and performance, allowing educators to make data-informed instructional decisions.

Instructional Media and Technology: Instructional media and technology, on the other hand, have a narrower focus and specifically refer to the use of media tools and technology for instructional purposes in the teaching and learning process. This term concentrates on how media and technology are employed to facilitate the delivery of educational content, engage learners, and enhance the overall instructional experience.

Examples of instructional media and technology include:

1. Interactive Presentations: Using slides, videos, or animations to create interactive presentations that actively engage students during lessons.
2. Educational Videos: Incorporating videos as part of the lesson to provide visual demonstrations, explanations, or real-world examples related to the subject matter.
3. Online Quizzes and Assessments: Using digital tools to administer quizzes and assessments, providing immediate feedback to students and aiding in their understanding of the material.
4. Simulations and Virtual Labs: Integrating virtual simulations or labs to allow students to explore and experiment with concepts in a controlled, digital environment.
5. Blended Learning Approaches: Combining face-to-face instruction with online elements, leveraging digital resources to support and complement in person teaching.
In summary, educational media and technology encompass all media tools and technological resources used in education, while instructional media and technology focus specifically on the application of these tools for instructional purposes. Instructional media and technology play a direct role in the teaching and learning process, while educational media and technology have a more encompassing role in supporting education as a whole, including administration and professional development.

THE PRINCIPLES FOR SELECTION OF APPROPRIATE EDUCATIONAL MEDIA AND TECHNOLOGY

Selecting appropriate educational media and technology is crucial for enhancing the teaching and learning experience. Several principles should be considered when making these selections to ensure that the chosen resources align with educational objectives and meet the needs of both educators and learners. Here are some key principles for selecting educational media and technology:
1. Learning Objectives: The first and most critical principle is aligning the chosen media and technology with the learning objectives. Educators should clearly define the goals they want to achieve and ensure that the selected resources directly support these objectives. Whether it's enhancing student engagement, improving content comprehension, or fostering critical thinking, the chosen media and technology should contribute to achieving the desired learning outcomes.
2. Pedagogical Relevance: Educational media and technology should complement the pedagogical approach used in the learning environment. The resources should align with the instructional methods and strategies employed by educators, enhancing their teaching techniques and facilitating effective knowledge transfer to students.
3. Learner-Centered Approach: It's essential to consider the needs and preferences of learners when selecting educational media and technology. The resources should cater to various learning styles, be accessible to all students (including those with disabilities), and promote engagement and active participation.

4. Quality and Accuracy: Ensure that the selected educational media and technology are of high quality and accuracy. Content should be up-to-date, reliable, and free from errors or biases. Quality resources enhance the learning experience and build trust between learners and educators.

5. Interactivity and Engagement: Interactive media and technology can significantly enhance the learning process. Choose resources that encourage active participation, offer opportunities for self-assessment, and provide immediate feedback to learners. Interactivity helps keep learners engaged and motivated to explore the content further.

6. Flexibility and Adaptability: Educational media and technology should be flexible and adaptable to different learning environments and contexts. Resources that can be used traditional classroom settings, online learning, or blended learning approaches provide more versatility and cater to diverse educational needs.

7. Cost-Effectiveness: Consider the cost implications of the selected media and technology. While some resources may have initial setup costs, they should provide long-term value and contribute positively to the learning experience. Seek a balance between quality and cost effectiveness to ensure sustainable implementation.

8. Integration with Existing Tools: When selecting educational media and technology, consider how well they integrate with existing educational tools and platforms. Seamless integration makes it easier for educators to use the resources effectively and efficiently.

9. Research and Evidence: Base decisions on empirical evidence and research when available. Look for studies, reviews, or evaluations of the media and technology's effectiveness in educational settings. Evidence-based practices ensure that selected resources have a higher likelihood of achieving desired learning outcomes.

10. Professional Development and Support: Consider the availability of training and support for educators in using the selected media and technology. Adequate training and ongoing support are essential to ensure that educators can maximize the potential of these resources in their teaching practices.

By adhering to these principles, educators and educational institutions can select appropriate educational media and technology that enrich the learning experience, promote engagement and understanding, and contribute to the achievement of educational goals.

APPLYING THE PRINCIPLES FOR SELECTING APPROPRIATE EDUCATIONAL MEDIA AND TECHNOLOGY

Let's apply the principles for selecting appropriate educational media and technology to a specific scenario.

Scenario: A high school science teacher wants to incorporate educational media and technology into her classroom to enhance students' understanding of complex scientific concepts. Principles for Selection:

1. Learning Objectives: The teacher's primary goal is to improve students' comprehension of scientific concepts. She will choose educational media and technology that align with specific

learning objectives, such as explaining abstract scientific principles, demonstrating scientific experiments, and visualizing scientific processes.

2. Pedagogical Relevance: The teacher will select resources that complement her teaching style and methods. For example, she might use interactive simulations and animations to help students visualize difficult scientific processes and use online quizzes for formative assessments.

3. Learner-Centered Approach: To cater to different learning styles, the teacher will choose a mix of media and technology, including videos, animations, interactive simulations, and hands on experiments. These resources will cater to both visual and kinesthetic learners.

4. Quality and Accuracy: The teacher will ensure that the selected resources come from reputable sources and are scientifically accurate. She will use content from reputable educational websites, educational publishers, and online platforms with positive reviews.

5. Interactivity and Engagement: To keep students engaged, the teacher will choose interactive resources that allow students to actively participate and explore scientific concepts independently. She might use virtual labs where students can conduct experiments in a safe and controlled environment.

6. Flexibility and Adaptability: The teacher will select resources that can be used in both traditional classroom settings and online learning environments. This flexibility will allow her to adapt the resources to different instructional methods and student needs.

7. Cost-Effectiveness: The teacher will consider the budget available for educational media and technology. She will prioritize resources that offer long-term value and align with the school's financial capabilities.

8. Integration with Existing Tools: To ensure smooth implementation, the teacher will choose resources that integrate well with the school's learning management system or other existing educational tools. Seamless integration will save time and streamline the teaching process.

9. Research and Evidence: The teacher will research the effectiveness of the selected media and technology in enhancing science education. She will look for evidence from studies, reviews, and educational experts' recommendations to make informed decisions.

10. Professional Development and Support: The teacher will seek professional development opportunities to learn how to effectively use the chosen educational media and technology. She will also explore available support resources and online communities for educators using similar tools. By applying these principles, the high school science teacher ensures that the selected educational media and technology align with her teaching objectives, engage students, promote understanding of scientific concepts, and enhance the overall learning experience.

TOPIC TWO: TYPES/CATEGORIES OF EDUCATIONAL MEDIA AND TECHNOLOGY

TRADITIONAL EDUCATIONAL MEDIA

Educational media and technology encompass a wide range of tools and resources used in education to facilitate teaching, learning, and administration. These tools can be categorized into various types based on their characteristics and applications.

Traditional educational media refers to the use of non-digital or analog tools and resources in teaching and learning process within the education setting. These media have been used in classrooms for many years and have played a significant role in facilitating teaching and learning. While digital technology has become prevalent, traditional educational media still holds relevance in certain educational settings.

Traditional educational media includes various physical and printed resources used to support teaching and learning.

Characteristics of traditional education media.

- Low technology
- Less expensive
- Reach is limited (does not reach large number of people)

Some common examples of traditional educational media are:

1. Textbooks: Printed textbooks are one of the most common forms of traditional educational media. They provide structured content and serve as a primary source of information for students and learning materials for various subjects.

2. Blackboards and Chalkboards: These are classic teaching tools used by educators to present and illustrate concepts, write and draw information during classroom instruction.

3. Whiteboards and Dry Erase Markers: Similar to chalkboards, whiteboards offer a reusable writing surface that allows teachers to present information and illustrate concepts, offer a reusable writing surface for teachers to deliver visual presentations.

4. Printed Visual Aids: Charts, graphs, posters, and diagrams are examples of printed visual aids used to supplement classroom instruction and enhance understanding.

5. Maps and Globes: Geography classes often use physical maps and globes to help students learn about different countries, continents, and geographical features.

6. Overhead Projectors: These devices project images, diagrams, and text onto a screen or wall, enabling teachers to deliver visual presentations to the entire class.

7. Flashcards: Physical flashcards, with information on one side and corresponding details on the other, are widely used for drilling and memorization exercises.

8. Real abstract/real object: refers to real-life objects or artifacts used in the classroom to demonstrate or represent specific concepts. For example, using actual fruits to teach about different types of fruits.

9. Audio Resources: Audio recordings, such as educational CDs and cassette tapes, have been used to deliver lectures, music lessons, language learning, and storytelling.

11. Encyclopedias and Reference Books: These printed resources provided comprehensive information on various topics and were commonly found in school libraries.

12. Newspapers and Magazines: Periodicals were often used in social studies and current events classes to discuss news and analyze issues.

While digital technology has expanded educational possibilities, traditional educational media continues to serve as valuable resources, especially in settings where access to digital tools may be limited or where educators prefer hands-on and tangible materials for specific lessons. Both traditional and digital educational media can complement each other, offering a well-rounded and comprehensive learning experience for students.

Traditional Educational Technology:

Traditional educational technology includes non-digital tools and equipment that are used in educational settings to aid teaching and learning.

Some examples of traditional educational technology are:

1. Slide Projectors: Slide projectors were used to display sequential images during lessons, providing visual aids to support learning.

2. Filmstrips and Audio Cassettes: Filmstrips contained a series of images and were accompanied by an audio cassette for delivering educational content.

3. Overhead Projectors: While already mentioned in traditional media, overhead projectors also fall under traditional technology due to their analog nature.

4. Physical Models and Manipulative: These hands-on objects are used in subjects like mathematics and science to help students visualize and understand abstract concepts.

5. Encyclopedias and Reference Books: Printed encyclopedias and reference materials provided comprehensive information on various topics and were commonly found in school libraries.

6. Physical Musical Instruments: Musical instruments used in music classes to teach students how to play and understand music.

While digital technology has expanded educational possibilities, traditional educational media and technology continue to serve as valuable resources, especially in settings where access to digital tools may be limited or where educators prefer hands-on and tangible materials for specific lessons. Both traditional and digital educational resources can complement each other, offering a well-rounded and comprehensive learning experience for students.

Properties of education media and technology

It has been recognized that student grasp ideas better through concrete aids like picture, diagrams, practical work, and demonstration. Here are three properties of educational media and technology which are;

- **Visual media.**

Are channel or equipment's through which information, skills and knowledge are transmitted by way of visualizing**.** This media target our sense of seeing. Visual media commonly used in teaching and learning includes picture, charts, maps, graphs, models, and reals objects etc.

- **Audio media.**

These are all channel of transmitting knowledge, experience, information and skills through the use of sound. These media target our sense of hearing. (Produce only sound). This may encourage the listening function. Example of audio media include tape recorder, radio, and record player. Etc.

- **Audio – visual media.**

Those are media used to facilitate both audio and visual sense and encourage listening and observing function. Those aids involves more than one sense simultaneously and learner is more active. Those type of media are of two categories. Those are;

- **One electronics media**

In this categories we find video, film and television. Gives room to view and listening only but cannot interact by way answering or asking question.

- **Two way electronics media.**

These are media which gives the learners or viewer room to interact with comments, questions or answer posed question. The most of two way electronics media used are teleconferencing.

- **Felt/tested media.**

Are kind of media where by learning is perfumed through felling the taste and touching something. For example you can test filing of sugar or salt.

THE STRENGTH AND WEAKNESS TRADITIONAL EDUCATIONAL MEDIA AND TECHNOLOGY

Traditional Educational Media:

Strengths:

1. Tangibility: Traditional educational media, such as printed textbooks, physical models, and visual aids, offer a tangible and hands-on learning experience. Students can interact directly with these resources, enhancing their understanding of complex concepts.

2. Familiarity: Traditional media has been used in education for a long time, and both educators and students are familiar with these tools. They provide a sense of continuity and stability in the learning process.

3. No Dependency on Technology: Traditional educational media does not rely on digital technology, making it accessible in environments with limited or no access to electronic devices or internet connectivity.

4. Cost-Effectiveness: Compared to modern technology, traditional educational media can be cost-effective, especially when considering onetime purchases of printed resources.

Weaknesses:

1. Limited Interactivity: Traditional media often lacks interactivity, limiting student engagement and active participation in the learning process.

2. Limited Accessibility: Physical resources may have limited accessibility, especially for learners in remote areas or with physical disabilities.

3. Outdated Information: Printed materials may become outdated quickly, requiring manual updates and revisions.

Modern Educational Technology:

Strengths:

1. Interactivity and Engagement: Modern educational technology offers high levels of interactivity, gratification, and multimedia content, promoting student engagement and active learning.

2. Personalization: Technology enables personalized learning experiences, for example tailoring content and pace to individual student needs and preferences.

3. Access to Vast Resources: Digital platforms provide access to a wide range of educational resources, including e-books, online courses, multimedia content, and open educational resources (OER).

4. Real-World Simulations: Technologies like virtual reality (VR) and augmented reality (AR) allow students to experience real-world scenarios and practical applications of knowledge.

5. Data-Driven Insights: Educational technology provides data analytics to track student progress and performance, offering insights to inform instructional decisions.

Weaknesses:

1. Dependency on Technology: The effectiveness of modern educational technology relies on access to digital devices and internet connectivity. In areas with limited technology infrastructure, access to these resources can be a challenge.

2. Cost and Maintenance: Implementing and maintaining technology in educational settings can be costly, requiring investments in hardware, software, training, and technical support.

3. Digital Distractions: Technology can also introduce distractions in the learning environment, potentially impacting focus and attention during lessons.

4. Technological Disparities: Unequal access to technology can create disparities in educational opportunities, with some students having more access to resources than others.

In conclusion, both traditional educational media and modern educational technology have their strengths and weaknesses. Traditional media offers tangibility and familiarity but may lack interactivity and accessibility. On the other hand, modern technology provides interactivity, personalization, and vast resources but requires technology infrastructure and can be costly to implement and maintain. A thoughtful and balanced approach that integrates the strengths of both traditional and modern methods can lead to more effective and comprehensive educational experiences for students.

MODERN EDUCATIONAL MEDIA

THE MEANING OF MODERN EDUCATIONAL MEDIA AND TECHNOLOGY

Modern educational media and technology refers to the use of digital and technologically advanced resources in education to enhance teaching, learning, and educational administration. These media leverage the capabilities of modern technology to provide dynamic, interactive, and personalized learning experiences for students. Modern educational media encompass a wide range of digital tools and platforms that have revolutionized the education landscape.

Here are some examples of modern educational media:

1. Online Learning Platforms: Modern educational media includes online learning management systems (LMS) and educational websites that offer a diverse range of courses, interactive lessons, quizzes, and assessments. These platforms enable remote and self-paced learning, educators to

deliver content, track student progress, and facilitate communication and collaboration among students and teachers.

2. Educational Apps: Mobile applications designed for educational purposes offer interactive and engaging learning experiences on smartphones and tablets. Educational apps cover a wide range of subjects and skills, providing learners with on-the-go access to educational content catering to diverse learning needs.

3. Virtual Reality (VR) and Augmented Reality (AR): Immersive technologies like VR and AR provide students with realistic and interactive experiences. They are used to explore historical sites, conduct virtual science experiments, and simulate real-world scenarios, enhancing understanding and retention of complex concepts.

4. Educational Games and Gamification: Modern educational media incorporates educational games that blend learning and play. Gamification techniques, such as rewards and achievements, motivate students to participate actively and progress in their learning journey making learning enjoyable and effective.

5. Interactive Whiteboards and Smart boards: Digital interactive whiteboards and smart boards have replaced traditional chalkboards and whiteboards. They allow teachers to present multimedia content, annotate, and engage students in interactive activities.

6. Digital Libraries and Open Educational Resources (OER): Digital libraries house vast collections of educational resources, including e-books, articles, videos, and OER, which are freely available for use and adaptation by educators and learners promoting open access to quality education.

7. Online Collaboration Tools: Digital platforms that support collaborative learning, allowing students to work together on projects, share ideas, and engage in group discussions, regardless of their physical locations.

8. Podcasts and Webinars: Educational podcasts and webinars offer audio or video recordings on specific educational topics, providing supplementary content and insights from experts in various fields.

9. Learning Analytics and Adaptive Learning: Learning analytics tools track and analyze student performance and engagement data, providing educators with insights to personalize instruction and identify areas for improvement. Adaptive learning platforms adjust the content and pace of learning to match each student's needs and abilities.

10. Video Conferencing and Web Conferencing: These technologies facilitate real-time communication and collaboration among students, teachers, and experts, enabling distance learning and virtual interactions.

11. Online Assessment Platforms: Modern educational media includes online platforms for creating and administering digital quizzes, tests, and exams with features for automated grading and immediate feedback.

12. Coding and Programming Tools: Educational media that focuses on teaching coding and programming skills, helping students develop digital literacy and computational thinking.

Modern educational media has transformed the way education is delivered, making learning more interactive, accessible, and personalized. By incorporating modern educational media and technology, educators can create dynamic and interactive learning environments that cater to the diverse needs of today's learners. These tools offer new opportunities for personalized learning, real-world simulations, and global collaboration, ultimately transforming education into a more engaging and effective experience.

Characteristics of modern education media.

- Technological in nature
- Flexible but enjoys cultural freedom
- Expensive medium which needs high monetary investment
- Messages can be broadcasted
- Reaches out to a large number of people (television watching, radio listening, computer internet, teleconferencing).

THE ADVANTAGES AND DISADVANTAGES OF MODERN EDUCATIONAL MEDIA AND TECHNOLOGY

Advantages of Modern Educational Media and Technology:

1. Enhanced Engagement: Modern educational media and technology offer interactive and dynamic learning experiences, keeping students engaged and motivated to learn.

2. Personalized Learning: Technology enables personalized learning pathways, adapting content and pacing to individual student needs, strengths, and learning styles.

3. Access to Vast Resources: Digital platforms provide access to a vast array of educational resources, including e-books, online courses, videos, and open educational resources (OER), enriching the learning experience.

4. Real-World Simulations: Technologies like virtual reality (VR) and augmented reality (AR) allow students to experience real-world scenarios and practical applications of knowledge, enhancing understanding and retention.

5. Immediate Feedback: Online assessments and interactive tools provide immediate feedback to students, enabling them to identify areas for improvement and gauge their progress.

6. Data-Driven Insights: Educational technology provides data analytics to track student progress and performance, offering insights to inform instructional decisions and interventions.

7. Collaborative Learning: Digital platforms facilitate collaboration among students, enabling them to work together on projects and share ideas regardless of their physical location.

8. Accessible Learning: Modern educational media and technology make learning accessible to a broader audience, including remote or differently-abled learners, breaking down geographical and physical barriers.

9. Flexibility and Convenience: Online learning platforms allow students to learn at their own pace and convenience, accommodating different schedules and learning preferences.

10. Lifelong Learning: Technology enables continuous learning opportunities, with access to educational resources and courses beyond traditional classroom settings.

Disadvantages of Modern Educational Media and Technology:

1. Digital Distractions: The use of technology in the learning environment can introduce distractions, potentially impacting students' focus and attention during lessons.

2. Technological Disparities: Unequal access to technology can create disparities in educational opportunities, with some students having more access to resources than others.

3. Cost and Maintenance: Implementing and maintaining technology in educational settings can be costly, requiring investments in hardware, software, training, and technical support.

4. Dependency on Technology: The effectiveness of modern educational technology relies on access to digital devices and internet connectivity. In

DIFFERENCE BETWEEN TRADITIONAL EDUCATIONAL MEDIA AND MODERN EDUCATIONAL MEDIA IN TECHNOLOGY

Traditional Educational Media:

1. Format: Traditional educational media typically consists of physical, non-digital resources, such as printed textbooks, chalkboards, flashcards, posters, maps, and physical models.

2. Delivery: Traditional media is often delivered in a face-to-face classroom setting, where teachers present information or use physical aids to support their lessons

3. Interactivity: Interactivity is limited in traditional media, as students usually interact with the materials in a passive manner, such as reading from a textbook or observing a teacher's demonstration.

4. Accessibility: Traditional educational media may have limited accessibility, as physical resources can be restricted by availability, distribution, and transportation.

5. Production and Updates, Creating and updating traditional media can be time-consuming and costly, as it often involves printing, distribution, and manual revisions.

Modern Educational Media in Technology:

1. Format: Modern educational media in technology encompasses digital and technologically advanced resources, including online learning platforms, educational apps, e-books, interactive whiteboards, and virtual reality simulations.

2. Delivery: Modern media is delivered through digital platforms and devices, making it accessible to learners beyond the physical classroom setting, such as in distance learning or self-paced online courses.

3. Interactivity: Modern media is highly interactive, allowing students to actively engage with the content through quizzes, simulations, gamification, and adaptive learning experiences.

4. Accessibility: Modern educational media in technology is more accessible, as learners can access resources from various devices, such as computers, tablets, and smartphones, regardless of their geographical location.

5. Production and Updates: Creating and updating modern media in technology is generally faster and more cost-effective. Digital resources can be easily revised and distributed online, enabling real-time updates and improvements.

In summary, the main difference between traditional educational media and modern educational

media in technology lies in their format, delivery, interactivity, accessibility, and production processes. Traditional media involves physical, non-digital resources, primarily delivered in face-to-face classrooms with limited interactivity and accessibility. In contrast, modern media leverages digital technology, offers interactive experiences, is accessible through various devices, and allows for more efficient production and updates. The integration of modern educational media in technology has significantly transformed the learning landscape, providing learners with dynamic, personalized, and versatile educational experiences.

PRINT EDUCATIONAL MEDIA

Refers to a written, typed or printed version of something such as words a speech or statement on a sheet of paper or hand board or on the cloth.

In other words, those are written works which facilitate teaching and learning process. They appear in form of hardcopy (written or printed on paper).

Print educational media refers to educational materials that are physically printed on paper or other physical formats. These materials are tangible and can be distributed in classrooms, libraries, or other learning environments. Print educational media has been a traditional means of delivering educational content, and while digital technology has become prevalent, printed resources are still widely used in various educational settings.

Examples of print educational media include:

1. Printed Textbooks: Traditional textbooks covering various subjects and topics, used as primary sources of information in classrooms.

2. Workbooks and Worksheets: Exercises and practice materials printed for students to reinforce their learning.

3. Handouts and Study Guides: Printed materials that summarize key concepts or provide additional information to supplement classroom instruction.

4. Posters and Charts: Visual aids displaying information, diagrams, and illustrations to support teaching and learning.

5. Flashcards: Printed cards with questions or information on one side and answers or corresponding details on the other, used for drilling and memorization.

6**. Printed Reading Materials:** Printed books, articles, and reading passages used for literacy development and language learning.

7. Manipulative: Physical objects used in math and science classes to help students understand abstract concepts through hands-on learning.

8. Bulletin Boards: Display boards in classrooms with printed content, showcasing student work, achievements, and important information.

9. Educational Magazines and Journals: Printed periodicals providing educational content and updates on various subjects.

10. Activity Books: Printed books with interactive activities, puzzles, and games to engage students in a fun and educational manner.

Print educational media remains valuable due to its tangible nature and ease of use, especially in environments where access to digital technology may be limited. Combining printed resources with modern educational technology can create a comprehensive and effective learning experience for students.

DEMONSTRATING EFFECTIVE USE OF PRINTED EDUCATIONAL MEDIA IN TEACHING AND LEARNING

Effective use of printed educational media in teaching and learning involves thoughtful planning, creative implementation, and active engagement of students. Here's a step-by-step demonstration of how to use printed educational media effectively in the classroom:

Step 1: Identify Learning Objectives

- Determine the specific learning objectives you want to achieve with the printed educational media. Clarify what concepts or skills you intend to reinforce or introduce through the materials.

Step 2: Select Appropriate Materials

- Choose printed educational media that aligns with the learning objectives and complements the subject matter. Ensure the materials are age-appropriate and engaging for your students.

Step 3: Preparing the Classroom

- Organize the classroom to facilitate the effective use of printed educational media. Create a dedicated space for displaying posters or charts, and ensure easy access to printed resources like textbooks, handouts, and manipulative.

Step 4: Introduce the Media

- Introduce the printed educational media to the students and explain how these materials will enhance their learning experience. Highlight the relevance and importance of the resources in achieving the learning objectives.

Step 5: Interactive Discussions

- Use printed visual aids like posters or charts to initiate interactive discussions. Ask questions related to the content displayed and encourage students to analyze and interpret the information.

Step 6: Hands-On Activities

- Utilize manipulatives and hands-on resources to make abstract concepts more tangible and accessible. For instance, use physical shapes or objects to teach geometry or fractions.

Step 7: Worksheets and Workbooks

- Incorporate printed worksheets and workbooks as practice exercises to reinforce learning. Assign individual or group work to help students apply the concepts they have learned.

Step 8: Flashcards for Drilling

- Utilize flashcards for drilling and memorization exercises. Use them for vocabulary practice, math facts, historical dates, or scientific terms.

Step 9: Reading Materials

- Provide students with printed reading materials, such as books or articles, to encourage independent reading and foster a love for literature.

Step 10: Classroom Decorations

- Use posters and other printed decorations to create an inspiring and visually stimulating learning environment. Feature student work, inspirational quotes, or subject-specific content to engage students.

Step 11: Periodic Review

- Periodically review and refresh the use of printed educational media to reinforce learning and maintain students' interest.

Step 12: Assess Progress

- Assess student progress and understanding through quizzes, tests, or projects that incorporate the printed educational media used in the teaching process.

Step 13: Reflect and Adapt

- Reflect on the effectiveness of using printed educational media in teaching and learning. Gather feedback from students and make necessary adjustments to improve future implementation.

By thoughtfully integrating printed educational media into your teaching practices, you can create a well-rounded and engaging learning experience that caters to diverse learning styles and enhances students' comprehension and retention of the material.

NON-PRINTED EDUCATIONAL MEDIA

Non printed Media refers to means of communicating information that are not written on surfaces in form of words, figures or symbols. With non-printed Media the information is not produced by a machine in form of hard copy.

Non-printed educational media refers to educational materials and resources that are presented in digital or electronic formats, rather than being physically printed on paper. These media leverage digital technology to enhance teaching and learning experiences, offering interactive, dynamic, and multimedia-rich content. Non-printed educational media encompasses a wide range of resources, including online platforms, digital tools, interactive software, and multimedia content. Here are some examples of non-printed educational media:

1. Online Learning Platforms: Web-based platforms that offer a wide range of educational resources, including interactive lessons, quizzes, assessments, and discussion forums. These

platforms facilitate remote and self-paced learning, making education accessible to learners worldwide.

2. Educational Apps: Mobile applications designed for educational purposes, covering various subjects and skills. Educational apps provide interactive learning experiences on smartphones and tablets.

3. Learning Management Systems (LMS): Digital platforms that manage and deliver educational content, track student progress, and facilitate communication between educators and learners. LMS streamline online education and training programs.

4. Virtual Reality (VR) and Augmented Reality (AR): Immersive technologies that provide students with realistic and interactive experiences. VR and AR are used to explore historical sites, conduct virtual science experiments, and simulate real-world scenarios.

5. Gamification: The integration of game elements, such as rewards, badges, and leaderboards, into educational content to motivate students and make learning more enjoyable and engaging.

6. Digital Libraries and Open Educational Resources (OER): Online repositories that provide a vast collection of educational materials, including e-books, articles, videos, and OER, freely available for use and adaptation by educators and learners.

7. Online Collaboration Tools: Digital platforms that support collaborative learning and enable students to work together on projects, share ideas, and engage in group discussions, regardless of their physical location.

8. Interactive Whiteboards and Smart boards: Digital interactive whiteboards and smart boards that allow teachers to deliver multimedia content, annotate, and engage students in interactive activities.

9. Video Conferencing and Web Conferencing: Technologies that enable real-time communication and collaboration among students, teachers, and experts, facilitating distance learning and virtual guest lectures.

10. Educational Videos and Animations: Multimedia content, such as educational videos, animations, and simulations that provide visual and auditory aids to enhance understanding of complex concepts.

Non-printed educational media offers numerous benefits, including interactivity, personalization, accessibility, and the ability to create engaging and immersive learning experiences. By leveraging modern technology and digital resources, educators can provide students with diverse and flexible learning opportunities that cater to their individual needs and learning styles.

GASEOUS MEDIA

Is the kind of media which used in teaching and learning process by use of mixture of different gaseous that is not harmful to human. They are used to facilitate learning process.

DIFFERENCE BETWEEN PRINTED EDUCATIONAL MEDIA AND NON-PRINTED EDUCATIONAL MEDIA

Printed Educational Media:

1. Format: Printed educational media refers to educational materials that are physically printed on paper or other tangible formats. These resources include textbooks, workbooks, handouts, posters, flashcards, and physical models.

2. Delivery: Printed materials are distributed in classrooms, libraries, or other learning environments. They are presented in a non-digital, physical format.

3. Interactivity: Interactivity in printed media is limited. Students usually interact with the materials in a passive manner, such as reading from a textbook or observing visual aids.

4. Accessibility: Printed educational media may have limited accessibility, especially in remote areas or regions with limited access to physical resources.

5. Production and Updates: Producing and updating printed materials can be time-consuming and costly, involving printing, distribution, and manual revisions.

Non-Printed Educational Media:

1. Format: Non-printed educational media refers to educational materials presented in digital or electronic formats. These resources include online learning platforms, educational apps, e-books, videos, and interactive software.

2. Delivery: Non-printed materials are delivered through digital platforms and devices. They are accessible online and can be used remotely or in self-paced learning environments.

3. Interactivity: Non-printed media offers higher interactivity. Students can actively engage with the content through quizzes, simulations, games, and interactive lessons.

4. Accessibility: Non-printed educational media has broader accessibility. It can be accessed from various devices, such as computers, tablets, and smartphones, and can reach a wider audience regardless of geographical location.

5. Production and Updates: Producing and updating non-printed materials can be more efficient. Digital resources can be easily revised and distributed online, enabling real-time updates and improvements.

In summary, the main difference between printed educational media and non-printed educational media lies in their format, delivery, interactivity, accessibility, and production processes. Printed media involves physical, non-digital resources, delivered in traditional classrooms, with limited interactivity and accessibility. In contrast, non-printed media leverages digital technology, offers interactive experiences, is accessible online from various devices, and allows for more efficient production and updates. Both types of educational media play important roles in the learning process, and a combination of both can provide a comprehensive and effective educational experience for students.

PREPARE SIMPLE NON-PRINTED EDUCATIONAL MEDIA FOR USE

Creating simple non-printed educational media can be a fun and effective way to engage learners in various subjects. Here's a step-by-step guide to preparing a simple non-printed educational media resource:

Title: DIY Science Experiment Video

Subject: Science (Chemistry)

Objective: To demonstrate a simple chemical reaction and explain the concepts of chemical changes and gas production.

Materials Needed

:- Clear plastic bottle (empty and clean)

- Baking soda

- Vinegar

- Funnel

- Balloon

Steps to Prepare the Non-Printed Educational Media:

Step 1: Gather Materials

- Collect all the materials required for the science experiment. Make sure they are readily available during the video recording.

Step 2: Plan the Demonstration

- Create a script or outline for the video demonstration. Include clear and simple instructions for each step of the experiment.

Step 3: Set Up the Filming Area

- Choose a well-lit and clutter-free area for recording the video. Position the camera or smartphone on a stable surface to capture the experiment clearly.

Step 4: Record the Experiment

- Begin recording the video. Walk through each step of the experiment while explaining the chemical reactions and gas production. Be engaging and use simple language to make it easy for learners to understand.

Step 5: Perform the Experiment

- Follow the script and demonstrate the experiment in real-time. Use the funnel to add baking soda to the plastic bottle, then pour vinegar into the bottle. Quickly place the balloon over the bottle's mouth to capture the gas produced.

Step 6: Explanation

- After the experiment, take a moment to explain the science behind the chemical reaction. Describe how the baking soda (sodium bicarbonate) reacts with the vinegar (acetic acid) to produce carbon dioxide gas, causing the balloon to inflate.

Step 7: Edit the Video (Optional)

- If necessary, edit the video to trim any unnecessary footage or add simple text overlays to highlight key points.

Step 8: Share the Video

- Once the video is ready, upload it to an online platform or educational website. You can also share it with your students through a learning management system or via email.

Step 9: Encourage Exploration

- Encourage students to try the experiment themselves at home or in the classroom using the video as a guide. Ask them to record their observations and share their findings with the class.

By creating a simple non-printed educational media resource like this DIY science experiment video, you can provide an interactive and engaging learning experience for students. This type of hands-on activity can stimulate curiosity, promote active learning, and deepen students' understanding of scientific concepts.

The strength and weakness of printed education media.

Strength

- Print/text provide relative permanent instructional material that can be processed whenever one wants to. Books provided permanent record.
- Print is least restrictive media ie. Scheduling time to read is not like the one who wait certain period in Tv or radio program.
- Print allows the learners to learn at their own pace and in a style best suited to them because it gives them more options for selecting a better learning strategy or even initially trying out many strategies and choosing the most effective one.
- Print is the cheapest Educational medium to use even today. (Lowest cost)
- More accessible.
- Facilitate interaction between the text readers.
- They help the teacher to facilitate lesson understanding through handouts or guiding notes.
- Print media has the advantage of making a longer impact on the minds of the reader, with more in depth reporting and analysis.

Weakness of printed Media.

- Print is effective only when the reader possess well developed cognitive skills for comprehending the text and evaluating it's thought content.
- Reading printed material is much More Time consuming than viewing the same content through images. Eg. A TV program.
- The language of the printed lesson is chosen according to the writer's assumption about average readers. Once written, the language of a printed lesson is fixed.
- Reading is unsuited for developing skills. Only theoretical information are given
- Suitable for person who knows to read only.

THE ROLE OF EDUCATIONAL MEDIA AND TECHNOLOGY IN TEACHING AND LEARNING PROCESS

Educational media and technology play a significant role in the teaching and learning process, transforming the traditional educational landscape and enhancing the overall educational experience. Here are some ways in which educational media and technology are used in the teaching and learning process:

- **Enhanced Content Delivery:** Educational media and technology enable educators to deliver content in dynamic and interactive ways. Teachers can use multimedia presentations, videos, animations, and interactive software to explain complex concepts and engage students effectively.
- **Personalized Learning:** Technology allows for personalized learning experiences tailored to individual student needs, interests, and learning styles. Adaptive learning platforms can adjust the pace and difficulty of content based on students' performance and progress.
- **Access to Vast Resources:** Digital technology provides access to a wealth of educational resources beyond traditional textbooks. Online libraries, open educational resources (OER), and educational websites offer a wide range of materials for diverse subjects and topics.
- **Active Engagement:** Educational media and technology encourage active learning. Gamification elements, quizzes, simulations, and interactive activities promote student engagement and participation in the learning process.

- **Real-World Simulations:** Virtual reality (VR) and augmented reality (AR) technologies offer immersive simulations, allowing students to explore historical places, conduct scientific experiments, or experience real-world scenarios.
- **Collaborative Learning:** Technology facilitates collaboration among students, allowing them to work together on projects, share ideas, and engage in discussions even outside the classroom.
- **Instant Feedback and Assessment:** Digital tools provide immediate feedback on quizzes, tests, and assignments, helping students identify areas for improvement and providing timely support and intervention.
- **Distance Learning and Remote Education**: Educational media and technology enable remote learning, making education accessible to students who cannot attend traditional classrooms due to geographical or other constraints.
- **Teacher Professional Development:** Technology offers opportunities for teachers to engage in professional development through online courses, webinars, and learning communities.
- **Data-Driven Instruction:** Educational technology provides data analytics to track student progress and performance, assisting educators in making data-driven decisions to improve instructional practices.
- **Differentiation and Inclusion:** Technology allows for differentiated instruction, enabling teachers to accommodate diverse learning needs and support students with learning challenges.
- **Lifelong Learning Opportunities:** Educational media and technology promote lifelong learning by offering continuous access to educational resources and courses beyond formal education.

Overall, educational media and technology have revolutionized the teaching and learning process, fostering innovation, improving student engagement, and supporting educators in creating effective and learner-centered educational experiences. It is crucial for educators to thoughtfully integrate technology into their teaching practices to harness its full potential and address the diverse needs of today's learners.

TOPIC THREE: EDUCATIONAL MEDIA AND TECHNOLOGY IN TEACHING AND LEARNING PROCESS

Qualities and functions of educational media and technology.

Qualities of Educational Media and Technology:

- ✓ **Accessibility:** Educational media and technology should be easily accessible to learners regardless of their location, allowing for remote learning and flexibility in accessing educational resources.
- ✓ **Interactivity:** Interactive features in educational media and technology engage learners actively, promoting participation and enhancing the learning experience.
- ✓ **Relevance:** Educational media and technology should be relevant to the learning objectives and curriculum, ensuring that the content aligns with the educational goals.
- ✓ **Adaptability:** The ability to adapt to individual learner needs and learning styles is crucial, providing personalized learning pathways and accommodating diverse student abilities.
- ✓ **Engaging Content:** High-quality and engaging content in educational media and technology captures learners' attention, motivating them to explore and learn.
- ✓ **Accuracy and Credibility:** Educational media and technology should provide accurate and reliable information from reputable sources to ensure the content's credibility.
- ✓ **Flexibility:** Educational media and technology should be flexible enough to accommodate different subjects, age groups, and teaching methodologies.
- ✓ **Compatibility:** Educational media and technology should be compatible with various devices and platforms to ensure ease of use and access for learners and educators.

Characteristics of Educational Media

- ✓ **Enhance Interactivity:** Educational media often allows for user interaction, facilitating engagement and active learning.
- ✓ **Promote Accessibility:** It provides various formats (text, audio, video) to cater to different learning styles and needs, making content accessible to a diverse audience.

- ✓ **Promote Adaptability:** Educational media can be modified or tailored to suit specific educational contexts, learners, and objectives.
- ✓ **Simplify Multimedia Integration:** Combines different forms of media (images, text, sound, video) to enhance understanding and retention.
- ✓ **Support User-Friendly:** Effective educational media is designed to be intuitive and easy to navigate, ensuring that learners can use it without extensive training.
- ✓ **Provide Feedback Mechanism:** Many educational media tools incorporate ways to provide immediate feedback, helping learners understand their progress.
- ✓ **Timely Updates:** Digital resources can be updated quickly and efficiently to reflect the latest developments in a subject area, ensuring that the content remains current and relevant.
- ✓ **Collaboration and Communication:** Educational technology facilitates communication and collaboration among learners, teachers, and experts through discussion forums, video conferencing, and online collaboration tools.
- ✓ **Cost-Effectiveness:** Digital resources can reduce costs associated with printing, physical distribution, and classroom materials, making education more accessible and affordable

Functions of Educational Media and Technology in the Teaching and Learning Process

- ❖ **Enhancing Understanding:** Educational media clarifies complex concepts through visual aids, simulations, and examples, making learning more comprehensible.
- ❖ **Facilitating Communication:** Technology provides platforms for collaboration and communication between students and teachers, fostering a community of learning.
- ❖ **Supporting Differentiation:** Media and technology allow educators to customize content and assessments to meet diverse learner needs, promoting inclusivity.
- ❖ **Encouraging Engagement:** Interactive tools and multimedia content captivate students' attention, promoting active participation and motivation.
- ❖ **Providing Resources:** Educational media offers a wealth of information and resources that can enrich the curriculum and broaden students' perspectives.
- ❖ **Assessing Learning:** Technology enables efficient assessment through quizzes, online tests, and analytics, allowing for real-time tracking of student progress.

- **Fostering Critical Thinking:** Many educational technologies challenge students to analyze, evaluate, and create, thereby enhancing critical thinking skills.
- **Lifelong Learning Opportunities:** They support continuous learning beyond formal education, enabling learners to access educational resources and courses throughout their lives.
- **Integration with Pedagogy:** Educational media and technology are designed to complement teaching methodologies and support pedagogical goals, enriching the overall learning experience.
- **Content Delivery:** Educational media and technology are used to deliver educational content in various formats, such as videos, e-books, and interactive lessons.
- **Encouraging Active Learning and engagement:** Interactive features in educational media and technology promote active learning by encouraging learners to participate and engage with the content actively.
- **Facilitate Collaboration and Communication:** Educational media and technology facilitate communication and collaboration among learners, teachers, and experts through discussion forums, video conferencing, and online collaboration tools.
- Assessment and Feedback: Technology allows for online assessments, quizzes, and assignments, providing immediate feedback to learners and supporting formative assessment practices.
- **Access to Resources:** Online libraries, open educational resources (OER), and educational websites offer vast resources and materials to support teaching and learning.
- **Teacher Professional Development:** Educational media and technology provide opportunities for teachers' professional development through online courses, webinars, and learning communities.

By recognizing and leveraging these characteristics, educators can effectively integrate educational media and technology into their teaching practices, creating engaging and learner-centered educational environments that foster deeper understanding, critical thinking, and lifelong learning skills.

TOPIC FOUR: IMPROVISATION OF EDUCATIONAL MEDIA AND TECHNOLOGY

The concept of improvisation.

Improvisation, refers to the act of using materials or equipment's obtained from the local environment and designed by either the teacher or with the help of local personnel to aid instruction (Olagunju, 2004).

Using whatever is available because one does not have what is really needed

Using alternative materials and resources to facilitate learning whenever there is lack or shortage of some firsthand teaching aids

Is a process of using local materials found in the environment to make instructional materials to substitute for the unavailable standard materials

Furthermore, improvisation is associated with the locally made items that is a substitute for a commercially made product that is not available because of the high cost associated with it.

Thus, improvisation is an act of designing a standard equipment to play the role it is designated for. Or it is an act of using alternative resources to facilitate instructions for teaching wherever there is lack of specific fist-hand teaching aid or Educational media. Therefore, improvisation is the skills that every teacher should be engaged in.

Why improvisation?

• Inadequate commercially prepared teaching and learning materials

• Lack and mismanagement of financial resources.

Who is involved in improvisation?

• Teachers, learners, parents and all stakeholders in education.

NB: The locally made materials are usually modified to meet the local challenges at affordable or no cost at all

Tips for Improvisation

- Teachers prepare and develop alternative materials using locally available resources.
- It involves collection, preparation and use of T/L materials from locally available materials.

NB: The environment is fully of materials that can be used in classroom as improvised instructional materials (plastic materials, glass a, irons craps, textiles, woods, wires, ceramic and even growing plants).

- Recycling these for improvising teaching materials will be an advantage to the society and also increase students' creativity as they are involved in the improvisation process.
- The use of teaching and learning materials in various lessons is inevitable because they enhance understanding of concepts as well as making facilitation practical rather than theoretical

- Improvisation is good but if learners are excluded in the improvisation process its aim may not be fully achieved.
- Benefits of Learner participating in improvisation:
  ¬Creativity,
  ¬Innovation
  ¬ Curiosity.
- The process depends on the immediate available resources in teacher or learner environment
- Your media must interact with technology, content and pedagogical approach in teaching where by student should learn through hearing, seen and doing.
  Proverb: "I hear and Forget, I see and remember and I do and understand"

Types of improvisation in education

1. **Improvisation by substitution.**

This means using improvise material in place of real or original material. For example, using clean cloth in place of filter paper. Is a form of improvisation by substitution.

2. **Improvisation by construction.**

This means constructing improvised material to operate just as the origin one to perform the same function as the original one.

The principles of improvisation of educational media and technology

Improvisation in educational media and technology is essential for adapting to dynamic classroom environments and enhancing learning experiences. Here are key principles:

1. Flexibility: Educators must be willing to adapt their methods and tools based on student needs and feedback. This involves being open to modifying lesson plans or utilizing different technologies on the fly.

2. Creativity: Encouraging innovative uses of available resources fosters engagement. Educators can experiment with various media, integrating them in unexpected ways to enhance understanding.

3. Student-Centric Approach: Prioritizing student input and interests can lead to more relevant and impactful learning experiences. Involving students in decision-making about the media and technologies used can increase their investment in the learning process.

4. Collaboration: Working with colleagues to share resources and ideas can lead to richer educational experiences. Collaborative improvisation allows for a pooling of skills and knowledge, leading to more effective solutions.

5. Resourcefulness: Making the most of available tools, even those not originally intended for educational purposes, encourages problem-solving and adaptability. This can include using everyday technology creatively.

6. Assessment and Reflection: Continuous assessment of the effectiveness of media and technology is crucial. Reflecting on what works and what doesn't allows for ongoing improvement and adaptation.

7. Inclusivity: Considering diverse learning styles and backgrounds is vital. Improvisation should aim to make educational experiences accessible to all students, utilizing different media to meet varied needs.

8. Accessibility: Ensure that the improvised educational media and technology are accessible to all learners, regardless of their abilities, background, or access to technology.

9. Integrating Pedagogy: Align the improvised educational media and technology with pedagogical approaches that promote active learning, critical thinking, and problem-solving.

10. Continuous Improvement: Reflect on the effectiveness of the improvised educational media and technology and continuously improve the approach based on student feedback and outcomes.

11. Ethical Considerations: Be mindful of ethical considerations when improvising educational media and technology. Ensure that the resources used are accurate, credible, and respectful of students' diverse backgrounds.

By embracing these principles, educators can create a more responsive and engaging learning environment that leverages technology effectively.

Importance of improvisation of educational media and technology

- Sustainable alternative, where some equipment are not locally available.
- Reduce cost where some teaching materials can be obtained within the environment.
- Meet the high demands of coping with the large Student populace in class.
- Promotes technological development or develop creative and technical skills of teachers, Students, local craftsman and technicians.
- Conserve our foreign exchange earnings through maximal utilization of local resources instead of imported.
- It make learning to be interesting and engaged by Students.

Note, It is a good idea if the teacher and students are all involved in making an improvised item. This project can contribute to the developing your skills and a sense of ownership and better understanding what is can lead to the improvement of the item.

Compare and contrast the usefulness of improvised and non-improvised materials.

Improvised and non-improvised materials in educational media and technology both serve essential roles in the teaching and learning process. While they have distinct advantages and applications, their usefulness varies depending on the context and specific educational objectives. Let's compare and contrast the two:

Usefulness of Improvised Materials in Educational Media and Technology:

Advantages:

1. Flexibility: Improvised materials can be quickly adapted and tailored to address specific learning needs and engage students in real-time situations.
2. Relevance: Since improvised materials are created on the spot, they can be linked to current events, students' interests, or immediate classroom discussions, making the content more relevant and relatable.
3. Active Engagement: Improvised materials often include interactive elements and activities, promoting active engagement and participation among students.
4. Student-Centered: Creating improvised materials based on students' questions and interests allows for a more student-centered and personalized learning experience.
5. Creativity: The process of improvisation encourages educators to be creative, experiment with new ideas, and explore various media formats, fostering a dynamic and innovative learning environment.
6. Timeliness: Improvised materials can be generated quickly, allowing educators to address specific learning gaps or student inquiries promptly.
Disadvantages:
1. Time Constraints: The on-the-spot creation of improvised materials may require additional time and effort from educators, especially during live teaching sessions.
2. Lack of Refinement: Due to their spontaneous nature, improvised materials may lack the polish and completeness of pre-planned resources.
3. Limited Resources: Educators may face challenges in improvising certain complex or advanced educational media and technology due to the availability of resources or technical constraints.

Usefulness of Non-Improvised Materials in Educational Media and Technology:
Advantages:

1. Thoroughness: Non-improvised materials are often carefully planned and developed, ensuring that they cover comprehensive content and follow a structured learning path.

2. Professional Quality: Non-improvised materials are usually created by experts or professional instructional designers, ensuring their accuracy and high-quality presentation.

3. Accessibility: Pre-planned materials can be made available to learners anytime and anywhere, providing consistent access to educational content.

4. Learning Progression: Non-improvised materials are designed with clear learning objectives and a progression of content, facilitating systematic learning.

5. Scalability: These materials can be replicated and used across multiple classrooms, courses, or educational settings, making them suitable for large-scale implementation.

Disadvantages:

1. Limited Flexibility: Non-improvised materials may not be easily adaptable to address specific student needs or dynamic classroom situations.

2. Lack of Timeliness: Non-improvised materials may not be up-to-date with the latest developments or events, potentially making the content less relevant.

3. Reduced Student Engagement: Without interactive elements, non-improvised materials may be less engaging for some students compared to improvised resources.

In conclusion, both improvised and non-improvised materials have their unique strengths and limitations. While improvised materials offer flexibility, relevance, and student-centeredness, non-improvised materials provide thoroughness, professional quality, and scalability. A balanced approach, integrating both types of resources, can optimize the educational media and technology experience, fostering effective teaching and engaging learning environments. Educators can leverage the benefits of both improvised and non-improvised materials to meet diverse learning needs and enhance the overall educational experience.

TOPIC FIVE: PLANNING AND MANAGING A RESOURCE ROOM

Planning is the process of organizing ideas into actionable steps. Within planning, there are four major categories: strategic, tactical, operational, and contingency planning. Strategic planning is a process that organizations use to determine their goals and objectives.

What is resources?

Is a assets or materials that used to produce goods and services. It may be financial resources, human resources and natural resources.

But in education resources it include resource persons and non-resource person.

Resource persons include subject's expert's teacher, coordinator, technicians, researchers and program developer. A person become a resource only if she/he is flexible to assist learners in learning difficulties.

Non-resource, comprise of aids technology and other media and they are used by teacher, educators and students to facilitate learning process activities.

What is resources room?

The resource room is place where students and teachers can get extra help in variety of subject where they might be having difficulty.

Resource management is the practice of planning, scheduling, and allocating people, money, and technology to a project or program. In essence, it is the process of allocating resources to achieve the greatest organizational value.

The principles for planning a standard resource room

Planning a standard resource room involves several key principles:

1. Define Purpose and Goals: Clearly define the purpose of the resource room. Identify the specific needs it will address and set achievable goals.

2. User Needs: Understand the needs and preferences of the users who will utilize the resource room. Consider students, educators, professionals, or community members.

3. Resources and Equipment: Determine the types of resources and equipment required in the room. This could include books, computers, multimedia tools, seating, and interactive displays.

4. Equipment Maintenance: Follow maintenance guidelines provided by equipment manufacturers. Perform routine checks, cleaning, and servicing as recommended.

5. Accessibility: Ensure the room is easily accessible for all students, including those with disabilities and by looking the physical access, ensure the room is wheelchair accessible, with clear

pathways and adaptable furniture and resource availability, materials should be easily reachable for all students, including those with mobility challenges.

6. Flexible Space: Design the room to accommodate various activities individual work, small group instruction, or larger group sessions. Movable furniture can enhance flexibility by creating adaptable Layout, use movable furniture to accommodate different activities, such as individual work, group projects, or quiet study areas and zone creation by designate specific areas for various tasks, like reading, technology use, or collaborative work.

7. Resource Organization: Organize materials and resources logically and clearly, making them easy to locate. Use labeled bins, shelves, and digital resources if applicable and Logical Arrangement, Organize materials by subject or type, ensuring that everything is stored systematically for quick access.

8. Technology Integration: Incorporate technology to support diverse learning needs, such as computers, tablets, and assistive devices and Ensure that internet access and digital learning tools are available to support diverse learning styles.

9. Learning Environment: Create a welcoming and supportive atmosphere with appropriate lighting, colors, and comfortable seating that promotes engagement and focus and personalization by allowing for student input in decorating or organizing the space to foster a sense of ownership.

10. Collaboration Areas: Include spaces for collaboration between teachers, support staff, and students, fostering teamwork and resource sharing and area for staff collaboration design spaces for educators to plan and discuss strategies for student support.

11. Safety and Security: Ensure the room meets safety standards and is secure, with attention to potential hazards or sensitive materials by ensuring the room with safety regulations and includes emergency exits, first aid kits, and clear protocols.

12. Adaptability: Design the space to evolve with changing educational practices and the needs of students and regularly seek input from students and staff to adjust the layout and resources as necessary.

13. Professional Development: Train staff members responsible for managing the resource room on maintenance practices and user support. Keep them updated with relevant skills.

By focusing on these principles, a resource room can effectively support diverse learners and enhance their educational experience.

Condition for using the resources

The importance of observing the condition required in using the resources

Observing the conditions required when planning an educational room is essential for several reasons:

1. Optimized Learning Environment, Proper planning ensures that the space is conducive to learning, promoting focus and engagement. Factors like layout, lighting, and acoustics significantly impact student performance.

2. It provide Resource Accessibility, Ensuring that educational resources are easily accessible helps facilitate effective teaching and learning. This includes considering the placement of materials and technology within the room.

3. Ensure safety and compliance, Meeting safety standards and regulations is critical. Properly planned rooms minimize hazards and ensure that resources are used safely and effectively.

4. Develop flexibility and adaptability, Designing a space with specific conditions in mind allows for flexibility in teaching methods. A well-planned room can accommodate various activities, from group work to individual study.

5. Create a sense of inclusivity, Observing conditions for planning helps create an inclusive environment that meets the diverse needs of all students, including those with disabilities. This includes considering furniture arrangements and accessibility features.

6**. It Encouraging Collaboration,** The layout and resources in a room can foster collaboration among students. Thoughtful planning can create spaces that encourage interaction and teamwork.

7. Help in Resource Management, Proper planning allows for effective management of resources, ensuring they are utilized efficiently and sustainably, reducing waste and costs.

8. Technology advancement, the integrations of technology in planning resource room to support diverse learning needs, such as computers, tablets, and assistive devices led to the development of technology more easily.

9. It promote professional development: Train staff members responsible for managing the resource room on maintenance practices and user support. Keep them updated with relevant skills.

In summary, observing the conditions in planning an educational room is vital for creating an effective, safe, and inclusive learning environment that maximizes the use of available resources.

TOPIC SIX: DESIGN AND COSTRUCTION OF EDUCATIONAL MEDIA AND TECHNOLOGY

Design, construction and use of educational media and technology

Meaning of construction in educational media

Design is that area of human experience, skill and knowledge which is concerned with man's ability to mould his environment to suit his material and spiritual needs

Construction refers to designing, making and creating tools or the building of something, in teaching and learning, Construction refers to designing, making and creating or building tools that can be used to facilitate teaching and learning.

The construction Involves making visual educational media teaching aid.

Construction Involves making or creating of teaching aids, and objects that learners can interact to facilitate acquisition of knowledge and skills.

In educational media and technology, construction refers to the process through which learners actively create, build, or synthesize their understanding by engaging with digital tools, media, and technology. This concept is grounded in constructivist learning theory, which posits that knowledge is not passively received but rather actively constructed by individuals as they interact with content and context.

During construction the teacher can make equipment or educational media by using local materials,

In this aspect attention is drawn to the use of simple, cheap, indigenous (local materials.

Characteristics of Good design and Constructed T/L Materials

- Suitable and relevant to the task/content/topic.
- Should relate with the level of the learners
- Should be interesting and challenging
- Should save time.
- Should be big enough to be seen to the class.
- If color used, they must be relevant to the object intended.

Principles of designing and construction of Educational media and technology.

- ❖ Should reflect the reality of the concept. It should not mislead all important concept.
- ❖ Should be clear and attractive.
- ❖ The constructed teaching aid and should match the learner understand.
- ❖ The material used should be cost effective
- ❖ Use locally available materials skillful

- ❖ Must be Content Quality and Relevance. Accuracy and Credibility, Educational content should be fact-checked, up-to-date, and derived from credible sources. Learners should trust that the information is reliable.
- ❖ Usability and Accessibility, User-Friendly Design, Educational technology and media should be intuitive and easy to navigate. The interface design should not distract or overwhelm the learner.
- ❖ Scalability and Flexibility. Adaptability to Different Learning Environments. Educational media should be scalable to suit various learning environments.
- ❖ Technological Integration. Cross-Platform Compatibility, Media and technology should be designed to work across various platforms (desktop, mobile, tablets) and operating systems, ensuring accessibility to a wide range of learners.

To demonstrate the procedure of designing and construction of educational media and technology

- Think of how you construct any attractive teaching aid for classroom teaching.

Since commercially produced materials and equipment are limited and often non-existent teachers need to construct educational media that could facilitate teaching and learning.

However, sometime a teacher may need local techniques for making things.

He/she may ask carpenters, potters, craft workers, laboratory technicians and others for help and advice before constructing.

The teacher may need to ask them to help to find suitable wood, clay or other materials or to give him/her advice if things do not work out as you had planned.

Constructing rain gauge

Materials

• Transparent plastic bottle

• Scissors or sharp knife

• Ruler marked in millimeters

• White paper

• Cello tape

Instructions

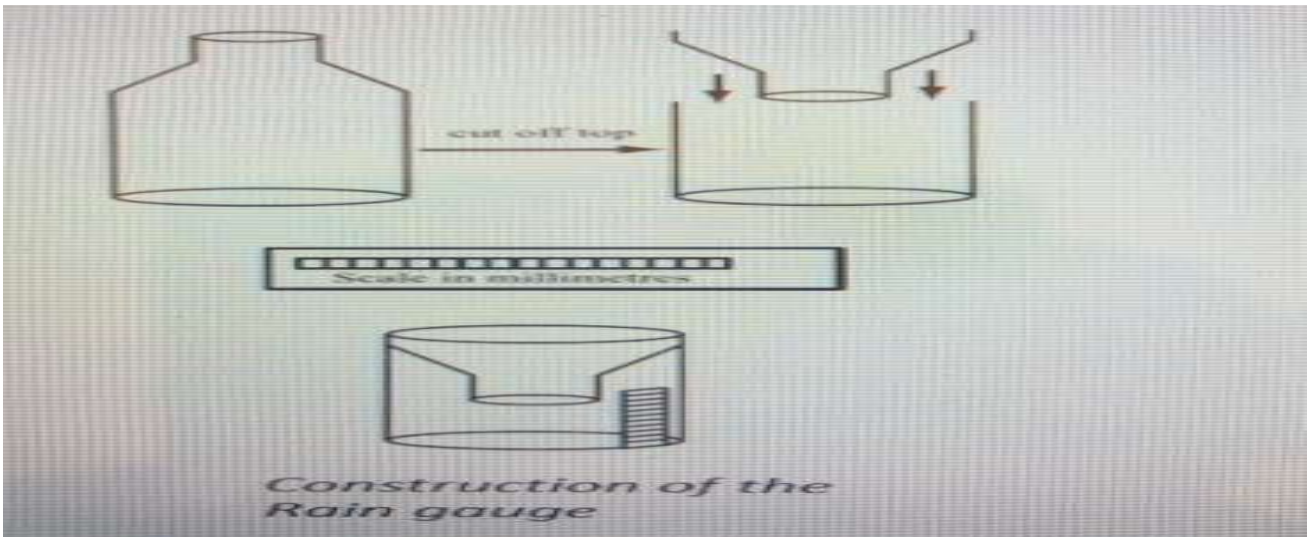
1.Cut off the top part of the bottle so that you have a funnel and a cylinder.

(The funnel must have the same rain catching area as the surface area of the container).

2. Measure the height of the collecting container and make a scale in millimeters on a strip of white paper

3. Cut out the strip of white paper and secure it to the side of the container with cello tape.

4. Place the rain gauge away from buildings and plants at about 1 meter above ground level.



Important Note

- Sometime when you Improvise Educational media you need to construct in order to work appropriately. (to meet the desired objectives).
- Construction of education media and involves also some cost. In one way or another you incur some cost when constructing teaching aid/ Educational media.

PRINCIPLES FOR EFFECTIVE USE OF EDUCATIONAL MEDIA AND TECHNOLOGY

Using educational media and technology effectively involves adhering to certain principles to ensure that these tools enhance learning outcomes and engage learners. Here are some key principles to consider:

1. **Pedagogical Integration:** Integrate educational media and technology seamlessly into the instructional design. These tools should enhance the learning experience, not replace it. Technology should serve as a tool to facilitate deeper understanding, critical thinking, and engagement.
2. **Active Engagement**: Encourage active participation and engagement by incorporating interactive elements. This could include simulations, quizzes, discussions, group projects, and problem-solving activities that require learners to actively apply what they're learning.

3. Accessibility and Inclusivity: Ensure that the educational media and technology are accessible to all learners, including those with disabilities. Provide alternative formats, captions, screen reader compatibility, and adaptable user interfaces.

4. Real-World Relevance: Connect educational media and technology to real-world scenarios and applications. Show how the concepts being learned can be applied in practical situations, increasing the relevance of the content.

5. Flexibility and Adaptability: Use technology that allows for customization and adaptation to different learning contexts. This accommodates varying paces, learning preferences, and levels of understanding.

6. Collaboration and Communication: Leverage technology to promote collaboration among learners. Use discussion boards, group projects, and communication tools to facilitate peer learning and interaction.

7. Engagement and Motivation: Effective use of technology should make learning more engaging and motivating. Gamification, multimedia presentations, and interactive activities can increase student interest and participation.

8. Appropriate Content and Quality: The content provided via educational technology should be accurate, reliable, and relevant. It's essential to evaluate resources for credibility, age-appropriateness, and alignment with curriculum standards.

9. Clear Learning Objectives: Technology should align with specific learning goals. Media and tools must support the intended educational outcomes, whether it's to enhance understanding, promote engagement, or develop skills.

10. Student-Centered Learning: Technology should be used to support student-centered approaches, where students are empowered to take responsibility for their learning. This includes opportunities for self-directed learning, exploration, and problem-solving.

11. Assessment and Feedback: Educational media should offer timely and constructive feedback, enabling students to track progress and understand areas for improvement. Formative assessments and quizzes can help gauge understanding.

12. Teacher Support and Professional Development: Teachers should be equipped with the necessary training, tools, and ongoing support to integrate technology effectively. Continuous professional development ensures that educators can stay current with emerging tools and best practices. Provide educators with training and professional development opportunities to effectively integrate and use educational media and technology. Teachers' familiarity and comfort with these tools are crucial for successful implementation.

By adhering to these principles, educators can harness the power of educational media and technology to create dynamic and engaging learning experiences that promote deeper understanding, critical thinking, and lifelong learning skills.

TOPIC SEVEN: LIBRARY AND ICT IN EDUCATIONAL MEDIA AND TECHNOLOGY

Library and ICT materials

Concept of ICT in education

Stand for "Information and Communication Technology" ICT refers to technologies that provide access to information through telecommunications. It is similar to Information Technology (IT), but focuses primary on communication technologies. These include Internet, wireless network, cell phone and other communication mediums.

This option of what acronym ICT could stand:

a. Information- (or data) in paper or electronic format

b. Communication in person or electronically (electronic communications) in writing or voice, telecommunication and broadcasting.

C. Communication technology-including protocols, software and hardware.

Uses of ICT In education

- Store Information
- Source of communication
- Teaching resource
- Source of providing announcement
- Planning student's assessment. Example grade and GPA.

Hints concern about approaches for integrating ICT as teaching and learning resources.

1. ICT skills development approach:

- Importance is given to provide training in the use of lCT.
- Students and teachers are expected to be able to use ICT for daily activities.
- In this teachers develop knowledge about hardware, software and their use in educational teaching-learning process.

2. ICT Pedagogy approach:

- In this emphasis is given to integrate ICT skills in respective subjects.
- ICT is used by teachers prepare lesson plan and activities which foster on learning outcomes.
- This approach is based in constructivism and helps in enhancing ICT literacy skills.

3. Subject specific approach:

- In this approach ICT is used in specific subject area.
- Here teaches gives an exposer of new and innovative ways of learning to the students.
- Emphasis is also given to practical understanding of concept by ICT tools.

By this approach ICT is not an extra but integral part of learning across wide range of curricula.

4. Practice driven approach:

- This approach emphasizes on providing ICT on practical aspect of teaching learning process.
- Focus is given on developing lessons and assignments.

By this approach students assess the facilities available at the school and effectively use their own skills.

Different ways of using ICT as a teaching and learning resources

Information and Communication Technology (ICT) can be used in many ways to enhance teaching and learning. Here are some examples of how ICT can be used:

Using Information and Communication Technology (ICT) as teaching and learning resources can enhance both the teaching process and student engagement. Here are several ways to demonstrate this:

- **Interactive Whiteboards.** Teachers can use interactive whiteboards (e.g., SMART Boards) to display lessons, videos, and educational games. This allows teachers to write, draw, and interact with content in real time, keeping students engaged. In a math class, a teacher can illustrate solving equations by writing on the interactive board, while students come up to the board to solve problems interactively.
- **Online Learning Platforms.** Teachers can leverage platforms like Google Classroom, Moodle, or Canvas to organize and share course materials, assignments, quizzes, and discussions. Example: Assigning weekly quizzes or tasks that students can submit online. Teachers can provide immediate feedback or conduct peer review activities.
- **Educational Apps and Software.** Use apps and software to facilitate learning outside the classroom.
- **Virtual Field Trips.** Use online resources like Google Earth or virtual museum tours to take students on "field trips" to places they may not have the opportunity to visit physically. Example: A history class could take a virtual tour of ancient ruins or a museum to study artifacts without leaving the classroom.
- **Videos and Multimedia Resources.** Integrate videos, podcasts, and educational animations into lessons to make complex concepts easier to understand. Example: For science lessons on human anatomy, teachers can use 3D animation videos to show how the circulatory system works.

- **Discussion Forums and Online Collaboration.** Use platforms like discussion forums or collaborative tools such as Google Docs, where students can work together on projects, share resources, and give feedback. Example: In a social studies class, students can collaborate on a research project using a shared Google Doc to compile information.
- **E-books and Digital Libraries.** Provide students with access to e-books and online journals to facilitate independent learning and research. Example: Students in an English literature class can read e-books or access academic papers through databases like Google Scholar to enhance their research skills.
- **Record and play stories**. Students can record stories on their phones at home and then play them in class. Teachers can then design activities around the stories.
- **Take photos.** Students can take photos of performances or objects with their phones or digital cameras. Teachers can then project the photos or print them out and use them to develop activities.
- **Use educational videos**. Teachers can use educational videos to help students learn about their subject.
- **Use online systems.** Teachers can use online systems to evaluate students' knowledge, skills, and competencies.

SECOND YEAR DIPLOMA IN PRIMARY EDUCATION

TOPIC ONE: EDUCATIONAL MEDIA AND TECHNOLOGY

Teaching and learning resources

The 'teaching and learning resources' referred to in the guidelines include any spoken, written or visual text and graphical content or activity used or conducted by schools, for example:

DEFINITION OF TERMS

Teaching, is the practice implementation by a teacher aimed at transmitting skills and knowledge to a learner, a student or any other audience in the context of an education institution.

Learning; is the process of acquiring new knowledge, behavior, skills, values, attitudes, and preferences.

Learning resources are those devices and procedures that help to make teaching and learning more interesting, more stimulating, more reinforcing and more effective. Teaching Learning resources are those resources that teachers use to assist learners to meet the expectations for learning defined by curriculum.

We can also define these resources as materials used by a teacher to supplement classroom instruction or to stimulate the interest of learners.

Purpose of using learning resources.

1. **Student motivation**: Students' motivation towards learning can be enhanced through the use of teaching-learning resources so that they can learn better. For example, a teacher has her/his period in the last hours of the class timetable. The students are feeling tired at that time. What will the teacher do to motivate the students? In this case, the teacher can use TLRs for motivating the students because it will stimulate their senses towards learning.

2. **Developing creativity:** Creativity is referred to the originality, fluency, flexibility and elaboration of an idea. The use of learning resources greatly helps in the development of creativity as it enhances students' ability of breaking and broadening boundaries in learning processes.

3**. Assessing prior knowledge:** The previous knowledge on or about any concept to be learnt by students, is necessarily needed to be assessed. With the use of learning resources, this prior

knowledge can be assessed. For example, if a teacher wishes to discourage cramming and dullness among students, TLRs can be a better option because these will make the students to visualize their previous knowledge on the concept.

4. Encouraging understanding: The purpose of using TLRs is to make the classrooms live and active. This would help the students to have direct experiences during learning processes, thus encouraging their understanding.

5. Contributing to students' development: The TLRs contributes in the development of students by clarifying the subject matter more easily and increasing the students' vocabulary more effectively

Types of Teaching-Learning Resources

To make the teaching-learning process effectual, so many resources are available. These resources are also known as teaching aids. We can categories these resources in different way as; traditional teaching-learning resources and modern teaching-learning resources or audio teaching-learning resources/aids, visual teaching-learning resources/aids & audio-visual teaching-learning resources/aids

The brief classification of these resources is as follows:

1. **Visual resources**

Among all the teaching- learning resources, the visual resources are more predominant type of resources because empirically, it has been proven that visual information is retained for much longer time than the information transmitted through audio-route. The visual teaching- learning resources can be classified into two types of resources;

a. **Written resources.**

The written resources include textual materials. Textual materials act as the prominent teaching-learning resources. The examples for textual materials include books (textbooks, reference books, etc.), manuals, documents, curricula, legal regulations and acts, printed scientific works, fictions and so on.

- **Textbook**

Textbook is a book used for the study of a subject. It is designed on the basis of specific syllabus. Thus, it is a teaching-learning resource that presents the subject matter defined by the curriculum. Some of the characteristics possessed by a textbook include: It should be designed in a way that it meets the psychological needs of the students and on the other side, it should serve the purpose of the teacher of providing knowledge among the students in an appropriate manner.

A textbook should incorporate the aims and objectives of the subject matter so that it can serve the purpose of a prominent tool for teaching-learning process. A textbook should be designed age appropriately. The texts should accompany with good quality and appropriate pictures the size of the book should be handy.

- **Reference books**

These are books which a person can refer for information other than the content in a textbook. The information is intended to be found quickly whenever needed and are usually referred to for particular pieces of information, rather than reading from beginning to end. The reference books can be classified into different types such as dictionaries, directories, bibliographies, handbooks, manuals, maps, newspapers.

b. Pictorial resources.

This includes pictorial and graphical representations that may include drawings, paintings, maps, diagrams, tables, chart sand so on. It is a well- known fact that the students learn better through pictures or graphics.

- **Charts**

Charts are combination of graphic and pictorial media designed for the orderly and logical visualizing of relationship between key facts or ideas. There are different types like tree chart, flow chart, time chart, tabular chart, organizational chart, and sequence chart.

- **Maps and globes**

Maps are known for their symbolic representation of space relationships specifically associated with the surface of the Earth. On the other hand, a globe is a model or three- dimensional representation of the surface of the Earth on a very small scale.

- **Diagrams**

A diagram is a symbolic representation of text explanation to any concept.

- **Graphs**

Graphs are pictorial figures that represent pair wise relationships between objects. Posters

They help to foster learning among students by accompanying with textbook, lecture, and homework.

- **Projected visual aids**

They are aids in which text and still/motion pictures are enlarged and displayed on an illuminated screen. The commonly used projected visual aids are transparencies, PowerPoint and slides.

2. Auditory

Resources These may include audio recordings, testimonies, musical compositions, radio shows, and so on. Most commonly used auditory teaching and learning resources include;

- **Audio CDs**

These are the audio compact discs in which speeches, lectures, debates, music compositions, rhymes, etc. Can be recorded. These audio recordings can then be used during teaching- learning process as per the relevance of subject matter. These audio recordings have always been an important resource for educational institutions related to distance education and open schooling.

- **Radio**

Radio is the technology of sign and communicating using radio waves. This is available with us in the form of an equipment that is used for receiving and/or sending radio messages or programme. We can listen to different kinds of audio programs including news, speeches, lectures, stories, musical and drama programs, and varied kinds of information related to health, education, etc.

- **Podcasts**

A podcast is a "digital recording of a radio broadcast or similar program, made available on the internet for downloading to a personal audio player." It is a digital audio file that is typically available as a series on internet available for downloading and new instalments of which can be automatically received only by its subscribers. Many distance-learning institutions provide audio links and materials on their websites for students' learning

2. **Audio-visual resources**

These are learning resources which use both the vision and auditory senses of the learners to make the teaching-learning process more effective. They are frequently used because they have the ability to communicate in a better and effective way. Some of the A-V resources include;

- **Television**

Television can be an effective Audio-visual resource because most of the students like watching television programs. Television can be used for the purpose of educational and motivational movies. Educational programs telecasted by many educational agencies like KICD have been captured on televisions and made it easier to communicate specific contents. Example like EDU TV has been outstanding of bringing educational matter.

- **Computers**

The computers may act as visual or auditory or both audio-visual medium of teaching and learning. These can act as an individual medium of learning for individual students. They allow students to learn at their own pace. Computers can be combined with projectors to make an interactive white board. This boards when they receive an electronic signal, they become Smart Interactive White board.

Identification and selection of learning resources

The following are important points to note while identifying the teaching-learning resources.

a. Teaching objectives and tasks: This is the foremost condition while selecting the learning resources because they are the foundation of teaching-learning process.

b. Individual differences: Every student is unique in his or her physical and psychological qualities, intellectual capabilities, social skills, interests, attitudes, and preferred styles of learning such as visual, auditory or kinesthetic. Therefore, we must consider these individual differences before the selection of learning resources.

c. Level of teacher's education and abilities: You all must agree on the fact that a teacher is someone who leads, directs, and monitors the teaching process. Therefore, the role of a teacher will become insignificant in her/his class if s/he has no required knowledge and skills in order to realize the potential of teaching and learning resources.

d. Level of school's material and technical equipment: The school should be equipped with adequate and latest teaching aids so that the teaching-learning resources can be used effectively and efficiently, otherwise the presentation of learning resources will get limited.

e. Characteristics of teaching and learning resources: In a teaching-learning process the resources should be thought-provoking and educational. Moreover, these should also easily accessible and should contribute to clarity and quality of teaching and learning.

In summary, teaching and learning process needs to be very effective for the production and construction of knowledge among learners. This process, therefore, can be made effective and interesting with the help of teaching and learning resources. the purpose of utilizing TLRs in class is to support the teacher with the presentation and transmission of educational content and the achievement of educational objectives, along with aiding motivation among students, developing creativity in them, assessing their previous knowledge, encouraging their understanding, and contributing in their overall development.

TOPIC TWO: EDUCATIONAL MEDIA AND TECHNOLOGY AND RECYCLING.

What is recycling?

Recycling is the processing of used or waste material so that it can be used again, instead of being wasted (Encarta Dictionary, 2007).

It is converting (waste) into reusable material. In other words,

Recycling is the process of making or manufacturing new products from a product that has originally served it's purpose.

Recycling means taking material from old discarded materials and making other new products from them.

What material can be recycled?

Think of all used material around you, what material can be recycled to make Educational media or teaching aids?

Materials that can be Recycled

In our environment a lot of material can be recycles when disposed properly. For example cane, plastic material, and Newspaper.

Steps of Recycling.

- Collect waste products from different sources.
- Reprocess waste products into clean.
- Manufacturing waste materials into new materials.
- Selling or apply new products in the teaching and learning.

The importance of Recycling.

The benefits of Recycling are more than helping the environment.

- ❖ Recycling help extend the life and usefulness of something that has already severed its initial purpose by producing something that is useable.
- ❖ Reduce financial expenditure in the economy. Making products from raw materials coast much more than if they were made from recycled products.
- ❖ Preserve natural resources for future generations. Recycling reduce the need for raw materials.
- ❖ Huge amount of energy are used when making products from raw materials. Recycling requires much less energy and therefore helps to preserve natural resources.
- ❖ Reduce disposal Coast.
- ❖ Waste reduction in the environment.
- ❖ Improved working safety.
- ❖ Reduce long-term liability/danger/ problem.
- ❖ Increased efficiency of school operations.
- ❖ Decreased associated purchasing coast.
- ❖ Recycling is essential to cities around the world and to the people living in them.

Importance of recycling in relation to Educational media and technology.

- ❖ It improve teaching and learning process.
- ❖ It make lesson to be attractive for learners.
- ❖ Help to enhance the good participating and collaboration between teachers and students themselves.
- ❖ Create deeper thinking and critical thinking for students
- ❖ It creates good medium of communication during learning process.
- ❖ Help in understanding and acquiring knowledge and skills.
- ❖ Minimize the cost in terms of purchasing aids.
- ❖ Develop teachers knowledge and skills
- ❖ Promote arts and creativity for both learner and teachers
- ❖ Help in preventing and conserve Educational resources.
- ❖ Provide and development of improvisation knowledge for teachers.

What is Environmental Conservation?

Environmental Conservation is the practice of preserving the natural world to prevent it from collapsing as a result of human activities, such as unsustainable agriculture, deforestation and burning fossil fuels.

Side effects of these practices include toxic air, plastic pollution, destruction of natural habitats and most urgently, climate change. Scientists warn that if we don't act soon, this will lead to an even further increase in natural disasters, rising sea levels and extreme weather, resulting in collapsed ecosystems, mass extinction of wildlife, food scarcity and global displacement of people.

Importance of Environmental Conservation.

It has become inherently important to work towards environmental conservation in contemporary times. The following pointers elucidate this crucial need to save the environment from further degradation:

- To reduce air, water and land pollution
- To facilitate the conservation of natural resources for our future generations
- To ensure the protection of biodiversity
- To implement sustainable development
- To restore the ecological balance
- To save our planet from harmful repercussions of global warming

Procedure for environmental conserving in relation to educational media and technology

1. **Choose reusable over single-use material.** When you choose material from your surrounding environment make sure that your product gives you a chance to re- use again, for doing that you have play a role to conserve our environment and enhancing learning effectively.

All of the above items (and more) have more environmentally responsible counterparts. Switch to reusable items and make a commitment to use them as often as possible. You'll have less trash piling up at your curb, and you'll be helping to protect the environment in a major way.

2. **Recycle properly.** Educate yourself on what can and cannot be recycled in your environment. Throwing the wrong items in the recycle bin can result in an entire load being rejected, which means. Back to the landfill.

   You can also easily find out how to recycle special items such as electronics, batteries and appliances. Check with your local municipality for drop-off sites, and make an effort to get your items to the proper disposal sites.

3. Up cycle more. Get creative with your useless or unwanted items by up cycling—basically, turning trash into treasure. Creating something new such as art work, models is both satisfying teaching and learning process and it could be one of the best ways to protect the environment. Not only does it keep items out of the trash, it can prevent having to purchase new items, which require lots of resources to produce.

4. Shop secondhand, Instead to buy new materials or resources to full fill your teaching lessons, consider looking first to buy the material that available that gives you chance to recycle it.

Shopping secondhand also applies for many positive impact to protect our environment for best generation future.

5. Use fewer chemicals. Want to protect the environment? Use fewer harmful chemicals and you'll be on the right track. It's hard to be sure about the long-term negative effects chemicals can have, both on our bodies and on the planet, so it's best to avoid them if possible. We can use the little amount of chemical to facilitate the learning and teaching process that led our environment to be protected well.

6. Buy local materials. It's important to think about the path your stuff takes just to get to you. All that Check and buy the safely material resources that help you to teach your lesson well, since they not produce harm full products after be used. This directly goes to conserve our environment.

7. Use of Conserve power energy. As you can guess, we're quite fond of this method of protecting the environment. Anytime you can use less and safe electricity, it's a win for the planet. For examples the use of hydroelectric power for producing energy around your schools setting to facilitate teaching and learning process. This directly help to preserve our environment.

8. Emphasize the use of safe Technology for environment. Here we emphasize the use of Technological equipment that are free for our environment within school setting in the process of teaching and learning. This directly go to conserve our planet for our future generation.

TOPIC THREE: IMPROVISING EDUCATIONAL MEDIA AND TECHNOLOGY

According to Ojo, (2010) the use of local resources in our immediate environment to build, construct, make instructional teaching and learning materials that can assist in the smooth dissemination and transfer of knowledge from teachers knowledge from teachers to students, or coaches to athletes, this is improvisation.

The aims of this topic is to understand and discuss the concept of materials improvisation as professional Skills for teacher educator.

The concept of improvisation.

Improvisation, refers to the act of using materials or equipment's obtained from the local environment and designed by either the teacher or with the help of local personnel to aid instruction (Olagunju, 2004).

Furthermore, improvisation is associated with the locally made items that is a substitute for a commercially made product that is not available because of the high cost associated with it.

Thus, improvisation is an act of designing a standard equipment to play the role it is designated for.

Or it is an act of using alternative resources to facilitate instructions for teaching wherever there is lack of specific fist-hand teaching aid or Educational media.

Therefore, improvisation is the skills that every teacher should be engaged in.

Types of improvisation in education

1. Improvisation by substitution.

This means using improvise material in place of real or original material. For example, using clean cloth in place of filter paper. is a form of improvisation by substitution.

2. Improvisation by construction.

This means constructing improvised material to operate just as the origin one to perform the same function as the original one.

Importance of improvisation.

- Sustainable alternative, where some equipment are not locally available.
- Reduce cost where some teaching materials can be obtained within the environment.
- Meet the high demands of coping with the large Student populace in class.
- Promotes technological development or develop creative and technical skills of teachers, Students, local craftsman and technicians.
- Conserve our foreign exchange earnings through maximal utilization of local resources instead of imported.
- It make learning to be interesting and engaged by Students.

Note, It is a good idea if the teacher and students are all involved in making an improvised item. This project can contribute to the developing your skills and a sense of ownership and better understanding what is can lead to the improvement of the item.

Steps in improvisation.

- ✓ Making a careful study of the conventional apparatus or equipment's.
- ✓ Thinking of some low cost substitute that may be available in the local environment.
- ✓ Collection of materials required for improvisation.

Designed and construction of educational media and technology.

Design is the area of human experience, skills and knowledge which is concerned with man's ability to mould his environment to suit his material and spiritual needs.

Construction refers to designing, making and creating tools or the building of something.

In teaching and learning construction refers to designing, making and creating or building tools that can be used to facilitate teaching and learning process.

The construction involves making visual Educational media/teaching aid.

Construction involves making or creating of teaching aids, and objects that learners can interact to facilitate acquisition of knowledge and skills.

During construction the teacher can make equipment's or educational media by using local materials. In this aspect attention is drawn to use of simple, cheap, indigenous (local) materials.

Guidelines for design and construction.

- ✓ It should reflect the reality of the concept, means should not mislead all important concept.
- ✓ Use locally available material skillful.
- ✓ It should be clear and attractive.
- ✓ The constructed teaching aid should match the learner understanding (ability)
- ✓ The material used should be cost effective.

Characteristics of good design and constructed teaching and learning materials.

- ✓ Suitable and relevant to the task/content/topic.
- ✓ Should relate with the level of the learner.
- ✓ Should be interesting and challenging
- ✓ Should save time
- ✓ Should be big enough to be seen to the class.
- ✓ If color used, they must be relevant to the object intended.
- ✓ Should have tittle name.

Advantage of constructing education media and technology.

- ✓ It is less expensive than buying read made visual aids even if they are available or employing an artist to make them.
- ✓ Enable choosing education media which are directly relevant and appropriate to your local environment community.
- ✓ Enable designing visual aid specifically to suit your resources, your purposes and your students or learners needs.
- ✓ Planning to construct the educational media will help the teacher to define his/ her teaching or training objectives and to clarify in his/her own mind what he/she is trying to communicate to Students.
- ✓ Students or learners can work with you in planning, designing and making the teaching aids. Provide reality behind words and ideas trough construction of real object/things.

- ✓ Learners become interested on what they are learning.
- ✓ Provide firsthand experience.
- ✓ It create confidence in the use of such Education media.

Difference between constructed and improvised material.

Improvised materials.

- ✓ Low cost to obtain
- ✓ Low quality.
- ✓ Does not need experts.

Constructed materials.

- ✓ Expensive
- ✓ Higher quality
- ✓ Complicated, sometime expert is needed to help construction.
- ✓ Need experts.

TOPIC FOUR: PLANNING AND MANAGING RESOURCES CENTER AND RESOURCE ROOM.

Cleaning is the condition of being free from contaminants, absence of dirty such as dust, strains, bad smell and garbage. It is keeping a place or an object free from dirty.

Educational media and technology cleanliness, is the habit of keeping teaching and learning materials free from dirty or superficial infections.

In other words, is the process of removing superficial dirty, stains, dust or bad smell in order to maintain its health or it's beauty. Cleanliness of educational media is done depending on the materials they were made.

The importance of cleaning, storing and maintenance of resources

Cleaning, storing, and maintaining teacher-learning resources are essential for several reasons:

1. Longevity of Materials, Regular cleaning prevents damage from dust, dirt, and moisture, ensuring resources last longer. Proper maintenance identifies wear and tear early, allowing for timely repairs or replacements.

2. Enhanced Learning Experience, A clean and organized environment fosters better focus and engagement among students. Well-maintained resources are more likely to be effective in conveying lessons, supporting diverse learning styles.

3. Safety and Hygiene, Regular cleaning reduces allergens and contaminants, promoting a healthier classroom environment. Proper storage minimizes hazards, such as tripping over clutter or accessing unsafe materials.

4. Accessibility and Efficiency, Organized storage systems make it easier for teachers and students to find and utilize resources, enhancing teaching efficiency. Ensuring resources are in good condition facilitates smoother lesson planning and delivery.

5. Resource Management, Effective maintenance practices help track the usage and effectiveness of materials, guiding future resource decisions. Keeping an inventory of resources prevents unnecessary duplication and aids in budgeting.

6. Professional Development, Caring for educational resources reflects a teacher's professionalism and commitment to quality education. It also serves as a model for students, instilling values of responsibility and care for shared resources.

7. To keep quality of education Media/teaching aids. Work efficiencies of the equipment or Educational media.

8. To minimize or reduce cost of repairing equipment

9. for keeping good health of the user

10. To keep the educational media in good working conditions.

11. for good appearance of educational media (good look).

Conclusion, in summary, the cleaning, storing, and maintenance of teacher-learning resources are vital for preserving their integrity, enhancing the learning environment, ensuring safety, and fostering efficient educational practices. Prioritizing these aspects contributes to a more effective teaching and learning experience.

Methods of cleaning (cleanliness) Educational media and technology.

i. Rubbing (dust and stain cleanliness)

ii. Washing (water cleanliness)

iii. Blowing (dust cleanliness)

iv. Spray cleanliness (stain and dust cleanliness)

Cleaning educational media and technology is essential for maintaining their functionality and longevity. Here are proper methods for cleaning different types of devices:

1. General Guidelines

Turn Off and Unplug: Always power down and unplug devices before cleaning.

Use Appropriate Materials: Use microfiber cloths, soft brushes, and non-abrasive cleaners.

Avoid Excess Moisture: Use damp, not wet, cloths to prevent liquid damage.

2. Computers and Laptops

Screens: Use a microfiber cloth with a screen-safe cleaner. Wipe gently in circular motions.

Keyboards: Turn the keyboard upside down and shake out debris. Use compressed air to remove dust. Wipe keys with a damp cloth.

Casing: Wipe the exterior with a damp cloth and mild cleaner.

3. Tablets and Smartphones

Screens: Use a microfiber cloth with water or a dedicated screen cleaner. Avoid harsh chemicals.

Cases: Remove cases and clean with soap and water, if applicable.

4. Projectors

Lens: Use a lens cleaner and microfiber cloth specifically designed for optical surfaces.

Filter: Check and clean or replace air filters according to the manufacturer's instructions.

5. Whiteboards and Interactive Displays

Whiteboards: Use a whiteboard cleaner or a mixture of water and mild detergent. Wipe with a microfiber cloth.

Interactive Displays: Follow screen cleaning guidelines, avoiding harsh cleaners.

6. Audio/Visual Equipment

Microphones: Wipe the exterior with a disinfectant wipe, avoiding moisture in the mic input.

Speakers: Dust regularly with a microfiber cloth and clean the grills carefully.

7. Document Cameras and Scanners

Lenses: Clean with a microfiber cloth and appropriate lens cleaner.

Surfaces: Wipe down with a damp cloth, avoiding moisture in openings.

8. Storage and Maintenance

Store Properly: Keep devices in a dust-free environment when not in use.

Regular Maintenance: Schedule regular cleaning and checks for optimal performance.

Conclusion, Always refer to the manufacturer's guidelines for specific cleaning instructions. Regular cleaning not only maintains device performance but also ensures a hygienic environment for users.

The proper methods storing media materials appropriately.

Storing is the process keeping materials in safe place.

Storing Educational media is the process of keeping teaching and learning materials in safe place for the future use.

Storing educational media materials properly is crucial for preserving their integrity and ensuring they remain accessible for future use. Storing of educational media consider types of materials they were made from

1. Digital Media (Videos, E-books, PDFs)

Backup Regularly: Use external hard drives and cloud storage for backups.

Organized File Structure: Maintain a clear folder hierarchy for easy retrieval.

File Naming: Use descriptive file names that include dates and subjects for easier identification.

2. Physical Media (CDs, DVDs, USBs)

Protective Cases: Store in original cases or high-quality protective sleeves to prevent scratches and damage.

Controlled Environment: Keep in a cool, dry location away from direct sunlight and extreme temperatures.

Vertical Storage: Store discs vertically to avoid warping.

3. **Printed educational media Materials (Books, Worksheets)**

Shelving: Store upright on shelves to prevent bending or warping. Use bookends if necessary.

Acid-Free Storage: Use acid-free boxes or sleeves to prevent deterioration over time.

Avoid Humidity: Store in a dry place to prevent mold and paper damage.

4. Audio Materials (Cassettes, CDs)

Temperature Control: Keep in a cool, dry environment to prevent degradation.

Handle with Care: Always handle by the edges to avoid fingerprints and dirt.

Avoid Magnetism: Store away from speakers and electronic devices that can emit magnetic fields.

5. **Visual Media (Posters, Charts)**

Rolled or Flat Storage: For large posters, consider rolling them in acid-free tubes or storing flat in large folders.

Protection: Use protective sleeves or folders to prevent scratches and creases.

Avoid Light Exposure: Keep out of direct sunlight to prevent fading.

6. Hardware (Projectors, Recorders)

Safe Storage: Store in original packaging or padded cases to protect from damage.

Avoid Dust and Moisture: Keep in a clean, dry environment, and cover when not in use.

Regular Maintenance: Perform routine checks to ensure functionality.

General Tips:

Labeling: Clearly label all materials for easy identification.

Inventory Management: Maintain a catalog or inventory list of all educational media materials.

Periodic Reviews: Regularly assess the condition of materials and replace or repair as necessary.

By following these methods, you can help ensure that educational media materials remain in excellent condition and are readily available for teaching and learning.

Demonstrate the proper methods of maintaining media materials appropriate

Maintaining educational media materials is essential for ensuring their longevity and usability. Here are some effective methods for proper maintenance:

1. Digital Media Maintenance

Regular Backups: Implement a routine backup schedule using external hard drives and cloud services.

Software Updates: Keep software updated to ensure compatibility with new file formats.

Virus Scanning: Use antivirus software to protect against malware and viruses that can corrupt files.

2. Physical Media Maintenance,

Cleaning: Regularly clean surfaces of CDs, DVDs, and other physical media using appropriate cleaning solutions and cloths. Avoid harsh chemicals.

Storage Conditions: Maintain a stable environment with controlled temperature and humidity. Ideal conditions are around 60-70°F and 30-50% humidity.

Avoid Direct Light: Store physical media away from direct sunlight to prevent fading and damage.

3. Print Materials Maintenance

Proper Handling: Always handle books and printed materials with clean hands or gloves to prevent oil and dirt transfer.

Environment: Store in a dry, cool place with stable temperatures to avoid warping and mold.

Regular Inspection: Periodically check for signs of wear, mold, or pests, and take action as necessary.

4. Audio Materials Maintenance

Humidity Control: Store cassettes and tapes in a low-humidity environment to prevent deterioration.

Playback Caution: Avoid playing materials too frequently to reduce wear.

Proper Storage: Keep cassettes and CDs in their cases to prevent scratches and dust accumulation.

5. Visual Media Maintenance,

Avoid Folding: Store posters and charts flat or rolled in acid-free tubes to prevent creasing.

Protective Sleeves: Use protective sleeves for fragile visual materials to prevent tears and

Fading.

Light Control: Use UV-filtering glass when framing and display materials to minimize exposure to light.

6. Hardware Maintenance

Regular Cleaning: Clean projectors, recorders, and other devices according to manufacturer instructions to prevent dust build-up.

Functionality Checks: Regularly test equipment to ensure it's functioning correctly and perform repairs as needed.

Proper Storage: Store hardware in original packaging or padded cases when not in use to protect from physical damage.

General Maintenance Tips

- Inventory Management: Keep an updated inventory of all media materials, noting condition and location.
- Labeling: Clearly label all materials for easy identification, using durable labels.
- Training: Provide training for staff and students on the proper handling and maintenance of educational materials to ensure consistent care.

By following these methods, you can effectively maintain educational media materials, ensuring they remain in good condition and accessible for future use.

TOPIC FIVE: CONSTRUCTING EDUCATIONAL MEDIA AND TECHNOLOGY

Modern media

Modern Educational media refers to the recent and advanced means of communicating information for teaching and learning.

The modern form of educational media meant to facilitate educational activities. They are used to make learning sessions interactive and motivating.

Thus, all the recent AND SOPHISCATED or contemporary developed devices/equipment that are used to facilitate teaching and learning process are called Modern Educational media.

Many subject topics can be taught better and in more depth with modern educational media as they communicate information quickly and efficiently.

They stimulate application of knowledge and changes of behavior.

Characteristics of Modern Education Media

- Technological in nature.
- flexible but enjoys cultural freedom.
- Expensive medium which needs high monetary investment.
- Messages can be broadcasted.
- Reaches out to a large number of people (television watching, radio listening, computer internet, teleconferencing).

COMPUTERS IN EDUCATION

Computer, this is machine that performs tasks, such as calculations or electronic communication, under the control of a set of instructions called a program.

• Is an electronic device that stores, retrieves, and processes data.

• Can be programmed with instructions.

• The use of computers is inevitable to cope with:

- Dynamics of educational processes
- The rapid technological innovations
- Communication

It fall in the group of **Multimedia**.

Multimedia, **is the presentation of information by using the combination of text, sound, pictures, animation and video.**

It perform a wide variety of activities reliably, accurately and quickly.

Computer aids instruction through; **Video**, **Texts**, **Internet**, **animations**, **Simulations,,** and **Graphics.**

Video - these are moving images. In computer the video are used to express various observable fact/visible in any subject.

Internet - global computer network: a network that links computer networks all over the world by satellite and telephone, connecting users with service networks.

- **The internet** enable communication through e- mails, chat rooms, forums and blogs to share various discussions on educational issues.

- **Internet** allows accessing various learning materials, texts (e-journals, articles and Books) , video, animations, simulations, graphics. All these can be downloaded and be used for teaching various concepts relating to certain topic.

Animation is the process of displaying still images in a rapid sequence to create the illusion of movement.

In other word;

It is a sequence of slightly varying drawings or models so that they appear to move and change when the sequence is shown

Simulation. It is mimicking or acting out an actual or probable real life condition, event, or situation.

In other words;

A simulation is a computer model that mimics the operation of a real or proposed system, such as the day-to-day operation of a bank, the running of an assembly line in a factory, or the staff assignment of a hospital or tournament games or war games

Uses of Computers in general

• To transmitting the culture, values and lessons of the past to the current generation;

• To prepare the young generation for the world in which they live.

- Study life style from one culture to another
- Diffusion of technology from different parts that changes the ways people used to think and act,
- Is a new way of learning and leaving in our society

There are several uses of computers in education but few will be discussed as a reflection of what is taking place in the world we live in.

- **Storage of information:**

Huge information about students, teachers, administrative activities and other

Related duties can easily be stored and retrieved when in need.

Quick data processing as compared to the primitive ways of hard file record keeping.

- **Computers allow access to the internet:**

Easier for getting different resources or information from internet sources.

Students results' information, parents to make follow up of different schools

Online applications, payments, registrations, education.

Sharing ideas with fellow students who are geographically separated.

Social networks like Facebook, twitter, whatsapp and others have even widened the incidence, though the consequences cannot be ignored as well.

- **Testing and evaluation**

Set exams-typed and printed.

Computerized marking (e.g. OMR) in which evaluation is affected.

Games or puzzles which also provide useful role of testing learner's cognitive abilities.

- **Computers are used for audio-visual display of information:**

The use of audio CD using computer application.

Classroom presentation, video-conferencing, project supervision

- **The use of computers in education has facilitated an inclusive education**

Students with learning disabilities such as visual or auditory impairments.

Computers with programs specific to visual impaired students who can record information as the teacher is teaching and make follow up at their own.

Those with auditory problems can enjoy the video supported with text

Advantages of computer use in Education

- ✓ Computer programs e.g. Ginger help to edit grammatical errors in research reports.
- ✓ The program scans the text and highlights the points which need editing by providing alternative means of how the statement can be restructured to make it more meaningful.
- ✓ Plagiarism checker can also be used to check the ownership of the student's
- ✓ Students' support in registration, material delivery and record keeping e.g UDOM Students' Registration System
- ✓ The use of internet
- ✓ Huge data can be easily managed through computer analysis
- ✓ Reports from different schools, research findings, administrative decisions and other related activities can all be reduced from their complexities into a manageable form. Student's GPA calculation

Precautions when using computers in education.

- o Computers can lead to cultural deterioration: Students have access to get different information from various internet sources. Schools which have access to internet can control this by blocking the sources (e.g) pornographic online source.
- o Hackers can easily get an access of one's academic work:
- o Widely use of computers in education can promote plagiarism for students who do not want to work on their own
- o Social networks, if not properly handled some of the education institutes might to lose branding, students spending too much time for chatting, updating status, posting and sending pictures rather than doing academics
- o The advancement in cybercrimes calls attention for handling students to limit exposing their information through the internet, meeting with strangers, exchanging or sharing information to strangers whom they do not know their background specifically proving personal particulars like names, contacts, family history and others just to mention few

Projector.

Digital projector/video projector is a device that receives a video signal and projects the corresponding image on a projection screen using a lens system.

- The Digital projector/video projector use a very bright light to project the image.
- These Projectors are widely used in schools, colleges and other educational settings for presentation.
- They are also used in presentation such as conference room presentations, Presentations in meetings, symposiums, training sessions, school reports, home theatre and concerts.

Instructions for the use of digital projector and laptop

1.Plug the power strip into the wall outlet.

2. Then, plug the projector power cord into the projector.

3. Take the lens cap off the projector

4. Press the Power button. If there is no light coming from the lens after a few seconds, push the Power button again. Repeat until desired result is achieved.

5. Attach the computer/projector interface cord to the projector and the laptop. This is crucial. The projector must be running and computer/projector interface cord attached to both devices before the laptop is turned on.

6. Plug the computer power cord into the A/V power strip and the computer power slot, located in the back of the laptop.

7. Push the Power button on the laptop. After a few seconds you should see the desktop of the laptop projected onto the wall.

Advantage of using Digital Projector for teaching and learning

- ✓ **Generate better color saturation/dispersion of the projected image**. It provides an image that is more rich and sharper.
- ✓ Helps students to view the reality of the image displayed.
- ✓ The displayed image or text can be viewed by many audience.
- ✓ Helps to show program that facilitates the viewing of three-dimensional (3D), interactive, full-motion audio-visual files on a personal computer.
- ✓ **Largest possible graphic. The** projectors help generate the biggest possible image size that can be viewed clearly. (picture, graphs, drawings etc).
- ✓ **Saves times for presentation**, as the teacher brings to the class already prepared materials.
- ✓ Efficiency in displaying information.
- ✓ **Provide means of showing moving pictures**. In conjunction with a TV, video or internet source, a digital projector provides a means of presenting video to students.
- ✓ The use of digital projectors enables presenters to face the audience.

Disadvantage of using Digital Projector

- **Need power**. Where there is no supply of power it cannot work.
- **Dark room often required.** The digital projectors look their best in a darkened room, just like a movie theater. When you view in a dark room you get maximum contrast and sparkle in the picture.
- **Maintenance required.** They require maintenance attention. All projectors operate on lamps that need to be replaced periodically.

- They have air filters that need to be cleaned or replaced every couple of months. Failure to keep filters clean can reduce lamp life and increase the chances of dust getting into the unit and creating fuzzy spots on the projected image.

- **It cannot work alone**. Digital projector work in conjunction with other device such computer or Television which is the source of image.
- Works in the presence of power
- Projected image may not seen properly in the bright room.

Overhead projectors (OHP)

An overhead projector is a machine that displays images onto a screen or white board with a light and mirror system.

Depending on its design, some consists of a large box containing a cooling fan and an extremely bright light, with a long arm extended above it.

At the end of the arm is a mirror that catches and redirects the light towards the screen

An **overhead projector** enlarge images onto the screen or wall for audiences to view.

it uses transparencies of which you can write or draw on with erasable or non-erasable marker pens and a **special** type of transparency on which a text or image can be photocopied or printed.

How to use OHP

- Put the OHP on the table
- Insert the Plug on the power source
- Switch on the main to allow power
- Adjust the OHT to allow the right on the targeted screen.
- Think about where you're standing
- Be aware of orientation of the Transparency and how to focus.
- Use the tip of the pen to isolate or emphasize points.
- Cut the transparencies into strips to produce movable pictures and sequence to form a story.

Advantage of Overhead projector

- Projected images can be enlarged, making images visible to large groups.

- Transparencies can be handwritten or computer-generated.
- Color can be used on transparencies, for emphasis.
- Transparencies can be reused and changed easily.
- The OHP minimizes the time the teacher could spend on writing on the board.
- Controls presentation of a text/image by masking or revealing parts of it.

- Use of transparencies enables presenters to face the audience. (keep eye contact when teaching).
- Pre-prepared transparencies can be used as handouts.
- An assistant can change pre-made transparencies, enabling the presenter to focus on the presentation and the audience.
- You can use a lot of materials that can be used for expressive speaking activities, such as photos, cartoons, maps, charts and diagrams.

Disadvantage of Overhead projector (OHP)

- Handwritten material can look sloppy (lacking order) if not pre-prepared.
- Overhead projector and screen are needed.
- Lamps can burn out and interrupt a presentation.
- Presenter and audience can be distracted by the light's glare / unpleasantly bright.
- If not well kept transparency can scratch to erase text or part of image.

The difference between digital projector and overhead projector

Digital Projector

- ✓ Gets image from a Digital Source (Computer, DVD player or TV)
- ✓ They produce very clear image.
- ✓ The displayed information comes from softcopy, the digital source.

Overhead Projector

- ✓ They are totally manual and require you to put a transparent image onto glass to project the image.
- ✓ The image is not so clear compared to digital projector
- ✓ The displayed information comes from hard copy material, transparencies.

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- The displayed information comes from hard copy material transparences

Television.

Television ls an electronic device for receiving and reproducing image (the still and motion image) accompanied with audio (sound).

The system uses equipment that converts radio waves in visible light rays and audible sound.

It communicates information very quickly and efficiently. As an audio-visual educational media, bring about meaningful experience during learning.

Consider the following when preparing TV broadcast lesson

- Study special vocabulary to be used in the program and explain it to the pupils;
- Spend reasonable time in preparing discussion and readiness resources such as diagram etc.
- Prepare discussion questions and learning resources to use before, during and after the program.
- Provide comfortable viewing conditions, for example, no glare in the room and a noiseless environment;
- Explaining the objective of watching the TV broadcast to the learners;
- Need to have an elementary knowledge of the control of the TV set so as to be able to adjust It when in use;

- Prepare follow-up activities

Advantage of Using Television for Teaching and learning

- Communicate Information very quickly and efficiently to large numbers of people.
- Helps to teach easily skills requiring to recognize or copy movement such as psychomotor skills.
- It helps to improve knowledge and help earners to learn something completely new. (Watch documentary).
- Provides realty and concreteness of the situation.
- Television motivates the learners by attracting him/her and increases the Interest in the learning process.
- The TV programs help the learners to get the direction about how the courses should be dealt with and also explanations of the difficult concepts In the courses (Distance Education)
- TV can communicate message to distance learners in a more natural and effective way than radio instructions.
- Reach many people at once.
- TV may be used to show recorded programs from video tape/deck or CD and DVD deck

Limitation of Television for teaching and learning

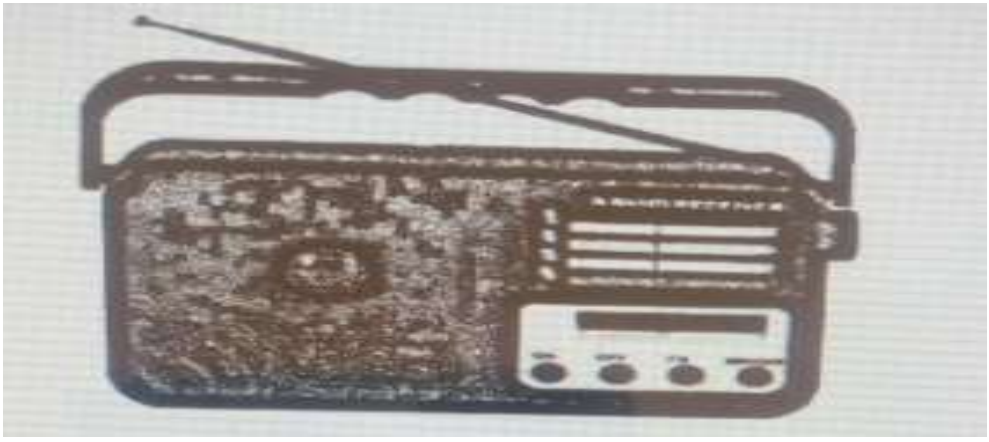
- Television offers one way communication. It does not stop to answer questions.
- It encourages passive form of learning. It is neither allows the audience to participate in activity nor perform live laboratory experiments.
- Need power. Where there is no electricity cannot work
- Time scheduling. Live television broadcast requires people to be around. If you don't have time at the time of the program broadcast or record it the Information is lost.
- Does not allow pausing the broadcasted Information only recorded information can be paused.

Radio.

Radio is an electronic device for receiving sound broadcasts that are transmitted via radio waves /signals.

As a modern educational media, radio is a device that can allow many people to access transmitted educational issues.

People can learn a lot from transmitted or recorded radio programs that are played back from storage devices like cassette tapes, memory cards and flash disks.



Radio program can provide;

Direct teaching- aimed at teaching lessons for a specific syllabus.

Core materials aimed at stimulating further study on there.

Enrichment broadcasts aimed at supplying additional learning material not necessarily linked to ant syllabus.

Factor to consider for a radio Program to be Successful during teaching.

- ✓ Language: The right language to the listener to easy understanding. The language used should be simple and formal.
- ✓ Take an account of the listener's background education and interest.
- ✓ Availability of the radio with speakers that can produce heard able sound Listeners need to get too many facts and figures.
- ✓ Scripts must be presented in an interesting manner. i.e the subject matter must be presented logically.

Advantages of using radio for teaching and leaning

- ✓ The student or the teacher may repeat listening on the recorded video tapes played in the radio.
- ✓ Recorded speech can be used for distance learning educational programs.
- ✓ Radio Support shaping attitude.
- ✓ Overcomes space and time, Le. The same program can be heard throughout the country at the same time.
- ✓ Helps learners to develop with listening skills and how to pronounce words.
- ✓ Supports learners with visual impairment

Limitations of Radio in teaching and learning

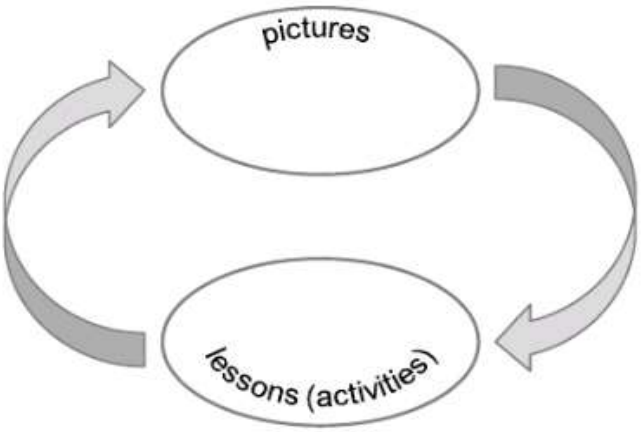
- Targets only one sense organ, auditory organ.
- Time scheduling for radio broadcast. School timetable may not correspond with broadcasting time
- Does not provide any visual experience**.**

Traditional media

Photography is picture obtained by using a camera. Sometimes taken by satellite or radar to produce a satellite image.

When you prepared photography for lesson try to consider things like; important considerations when using photography in teaching:

- **Image quality and relevance.** Ensure photographs are high-resolution, clear, and directly related to the topic being taught.
- **Copyright and permissions.** Be mindful of copyright restrictions when using images from external sources.
- **Accessibility.** Consider providing alternative descriptions for visually impaired students.
- **Scenario (from photographs to lessons-activity**): in this case images play a critical role, without them the lesson could not take place. It implies that the teacher spends time to their accurate selection or self-production. Images are the starting point of one or more activities, individual or in group. The pupil does not just play a role as a passive recipient, but they are explicitly called to act on images;
- **Scenario (from lessons-activities to photographs):** the teacher imagines a lesson and, once designed, realizes that inserting some pictures may be somewhat useful, interesting, stimulating, clarifying



Various ways of making photographs for teaching and learning process

Photography can be used in the teaching and learning process in a variety of ways, including: documenting real-world examples, illustrating complex concepts, creating visual narratives, facilitating student-led investigations, capturing field observations, using photo analysis activities, incorporating photography as a learning tool in different subjects, and even having students take their own photographs to deepen understanding and engagement; all of which can be effectively integrated into a PDF document for easy reference and sharing.

- **Visual Documentation.** Teachers can use photography to document processes, experiments, or field trips. Visual records can help students remember details, encourage reflection, and allow them to revisit concepts.

- **Creating Visual Aids.** Photos can be used in creating educational posters, info graphics, or presentations to break down complex topics visually. For example, a photo of a plant's lifecycle can make biological concepts more tangible.
- **Photography Projects.** Assigning students photography projects encourages them to explore and document subjects related to their learning, whether it's capturing historical landmarks or observing science phenomena.
- **Photo Analysis.** Teachers can use historical, cultural, or scientific photos as primary sources for analysis, helping students develop critical thinking and interpretive skills. This method can work well in subjects like history, literature, or art.
- **Learning through Observation**. Photography helps students develop observational skills. For instance, taking photos of nature or architectural details can sharpen attention to detail and foster curiosity in subjects like biology or art.
- **Storytelling and Narrative.** Students can use photos to create stories or present information in a narrative form. This works well in subjects like language arts, where students can combine photography with written content to deepen their storytelling abilities.
- **Interactive Learning.** Teachers can set up scavenger hunts or photo challenges where students take pictures related to a topic. This hands-on approach encourages engagement and learning through active participation.
- **Cultural Exploration.** In social studies, photography can be used to explore different cultures, traditions, and historical moments. Images of different lifestyles or historical events help bring lessons to life and create empathy.
- **Assessment Tool.** Photography can be used as a way to assess student learning. For example, a student might take photos to document a scientific experiment or create a visual portfolio of their work over time.
- **Incorporating Digital Tools.** Using digital photography apps or editing software can enhance learning in subjects like art and media studies, giving students the opportunity to experiment with composition, lighting, and digital editing techniques.

Photography in the classroom enriches the learning environment by making lessons more interactive, visual, and memorable. The key is to incorporate it in ways that align with the learning goals and encourage students to engage with content creatively.

ACTIVITY. Make simple traditional educational media and technology for use in teaching and learning