



**Botswana Open
University**

BOTSWANA OPEN UNIVERSITY

BACHELOR OF EDUCATION – SPECIAL AND INCLUSIVE EDUCATION

TECHNOLOGIES FOR TEACHING AND LEARNING

TT 212

SESSIONAL EXAMINATION

MARKS: 100

DURATION: 3HOURS

Instructions to students:

1. The examination consist of **Five Sections**: A, B, C, D, and E
2. Begin each answer to a new question on a new page
3. Answer all the questions according to instructions given in each section
4. Write answers in the answer booklet provided
5. Write in grammatical English

SECTION A - MULTIPLE- CHOICE (20)

Answer ALL questions in this section. Circle the correct answer

1. It is a field of study, which is concerned, with the practice of using educational methods and resources for the ultimate goal of facilitating the learning process.

- A. Technology
- B. Technology of Education
- C. Education and Technology
- D. Educational Technology

2. Mr. Thomas dreams to organize a seminar with a known novelist from other country but he cannot afford to spend for the transportation of the said novelist. Which of the following can he use so he won't need to spend much?

- A. Instant messaging
- B. Video conferencing
- C. Distant communication
- D. Facebook

3. Students use educational technology for _____.

- A. Traditional classes
- B. Running
- C. Interactive learning
- D. Drawing

4. In educational technology, teacher should have to?

- A. Acquire not only computer literacy, but competency as well
- B. Competence only

- C. Acquire computer literacy only
- D. None of the above

5. How can educational technology be integrated into the teaching and learning processes?

- A. Playing computer games
- B. Visiting your Facebook
- C. Ignore it
- D. Introduce, reinforce, supplement and extend skills

6. What is the main objective of educational technology?

- A. Orient
- B. Facilitate
- C. Integrate
- D. Evaluate

7. Educational technology course has truly paved the way for learner to become?

- A. Aware, appreciative, equipped
- B. Honest, wise, aware
- C. Effective, honest, wise
- D. Creative, wise, honest

8. Self-instructional strategies promote

- A. Group learning
- B. Peer group learning
- C. Individual learning
- D. Focus group learning

9. Which of the following is not an example of Learning Management System?
- A. Moodle
 - B. Mooc
 - C. Chalkboard
 - D. Edmod
10. _____ is a design approach whereby both face-to-face and online learning are made better by the presence of the other.
- A. Blended learning
 - B. E-learning
 - C. Traditional Learning
 - D. Online learning
11. Mrs. Susan would like to integrate technology in writing a friendly letter. Which of the following is the most effective way of doing it?
- A. Let the pupils surf a friendly letter from the internet.
 - B. Have the pupils write a friendly letter and send it through an email.
 - C. Have the pupils forward a downloaded friendly letter to the others via email.
 - D. Let the pupils write a friendly letter using word processing and have it critiqued by their peers.
12. Which of the following is not true about the course objectives of Educational Technology?
- A. To impart learning experiences in instructional technology supported instructional planning.

- B. To learn to use and evaluate computer-based educational resources.
- C. To acquaint students on IT related learning theories with the computer as a tutor.
- D. To not allow the learners engaging on practical integration issues.
13. _____ is a worldwide computer network that connects hundreds of thousands of smaller networks.
- A. Network
- B. Wireless
- C. Internet
- D. Local area network
14. Text to speech (TTS) system is used to
- A. Convert text on the computer screen into spoken language.
- B. Convert audio into text
- C. Convert text into video
- D. Convert speech into text
15. It uses an electric pen with which you can control the computer, write or draw on the board directly.
- A. Blackboard
- B. Visual board
- C. Interactive whiteboard
- D. Braille
16. A device which is designed to support or enhance the speaking capability of a person.
- A. Alternative device
- B. Output device
- C. Audio device

D. Augmentative device

17. The following are technologies used by students with severe physical disabilities except

A. Basic Adaptive Keyboards

B. Hub

C. Switches

D. Touch Sensitive Screens

18. Which device would you use to place print materials on a scanner and have the text interpreted and read using digital speech?

A. Braille

B. Optical Character Recognition

C. Scanner

D. Printer

19. Knowledge about certain ways of thinking about, and working with technology, tools and resources.

A. Pedagogical Content Knowledge

B. Technology Knowledge

C. Educational Knowledge

D. Technological Content Knowledge

20. _____ refers to instruction or remediation presented on a computer

A. Computer assisted instruction

B. Instructional Television

C. Technology

D. Computer

SECTION B – MATCHING (10)

Answer ALL questions in this section

1. _____ is a systematic way of designing, developing, and evaluating the total process of learning and teaching in terms of specific goals and objectives, based on research in human learning and communication, and employing a combination of human and non-human resources.

2. _____ attempts to capture some of the essential qualities of knowledge required by teachers for technology integration in their teaching.

3. _____ is an application used for creating a presentation.

4. _____ is an example of a social network

5. _____ is a useful tool that enlarges part or your entire screen.

6. _____ is teachers' knowledge about the subject matter to be learned or taught.

7. _____ is a medium used to record information

8. _____ is instruction where particular attention is paid to the audio and visual presentation of the material with the goal of improving comprehension and retention.

9. _____ is any collection of interrelated parts that together constitutes a larger whole.

10. _____ the ability of devices to respond to spoken commands.

WORDS/PHRASE

A-System

B-WhatsApp

C- TPACK

D-Audio Video Foundation

E-CD

F-Speech recognition

G-PowerPoint

H-Instructional Technology

I-Content knowledge

J-Magnifier

SECTION C – STRUCTURED (20)
Answer ALL questions in this section

1. Define the following terms
 - a) Assistive technology
 - b) Educational technology

[3 marks]
2. Explain three types of technology you will use to increase student engagement in your lessons?

[3 marks]
3. Identify two technologies for students with mild learning and behavioral disorders

[3 marks]
4. List and explain any two instructional tools which can be used in integrating technology with teaching and learning process.

[4 marks]
5. Describe any two challenges of using technology in classroom

[3 marks]
6. What is the importance of computer as constructive tool?

[4 marks]

SECTION D: CASE STUDY (10)**Answer ALL questions in this section**

Read the following summary of a research article titled ‘BARRIERS TO ADOPTION OF TECHNOLOGY IN TEACHING AND LEARNING; and answer the following questions.

The use of computers in education started in the 1960s. With the advent of convenient microcomputers in the 1970s, computer use in schools has become widespread from primary education through the university level and even in some preschool programs. Instructional computers are basically used in one of two ways: either they provide a straightforward presentation of data or they fill a tutorial role in which the student is tested on comprehension

Many authors have written about barriers to adopting technologies for teaching and learning. Brickner (1995) proposed first- and second-order barriers to change, based on teachers’ use of computers in teaching of mathematics. First-order barriers are external to the individual and may involve, for example, lack of access to training or resources. Second-order barriers are intrinsic to the individual and include the teacher’s beliefs about their own current teaching practices and abilities. Ertmer (1999) points out that even when first-order barriers are removed, teachers will not automatically use technology, and second-order barriers are likely to surface. Reid (2014) gives a review of the literature and suggests five categories for barriers: technology, process, administration, environment and faculty. He concludes that culture and norms around using technology for teaching and learning are still being formed, and that acceptance of use is still developing.

Reid’s (2014) second category of barriers to adoption speaks to the focus and effectiveness of professional development opportunities. There is often a gap between educational technology training, which focuses on the technology, and how a teacher

can incorporate technology into teaching and learning activities. Reid's final category, faculty, consists of second-order barriers to change and includes factors internal to an instructor such as resistance to change, beliefs about their own teaching approach or technical ability, and perceptions about the effectiveness of educational technology.

Wheeler (2012) takes Rodger's model of innovation diffusion and applies it to adoption of new technologies by teachers, identifying five adoption types. Techno-romantics tend to see technology as 'the answer'. Technophiles are those who embrace technology as a means to enhance or extend their practice. Techno-realists wait until a technology is no longer a gimmick and has shown itself to be a desirable tool. Techno-sceptics are the late majority, waiting for a solid body of evidence before adoption. Techno-luddites may be threatened by new tools and may take some form of negative action.

Finally, Ertmer (1999) suggests that, in order to achieve meaningful use of technology in teaching, teachers need opportunities to observe models of technology use, to reflect on their own evolving ideas with mentors and peers, and to collaborate on projects to integrate technology use as they try out their ideas.

Reference: Flynn, S. (2018). A module on Learning Technologies for teachers in Higher Education. *Italian Journal of Educational Technology*, 26(1), 119-129. doi: 10.17471/2499-4324/995

1. What is the aim of the article?

[2 Marks]

2. List three obstructions of adopting technologies in teaching and learning from the article.

[3 marks]

3. Describe three meaningful way that teachers can use technology in teaching

[3 marks]

4. Explain the difference between Techno-romantics and Technophiles

[2 marks]

SECTION E -ESSAY (40) 20 marks each

Answer 2 questions in this section

1. A) Describe benefits of integrating ICT in teaching and learning

[6 marks]

B) Explain ways for each; how education practitioners can use the following applications in the teaching and learning process;

- i) Microsoft Word ii) Database

[14marks]

2. With the aid of a diagram use TPACK theory to discuss the essential qualities of knowledge required by teachers for technology integration in their classroom.

[14 marks for explanation of domain knowledge and 6 marks for a correct TPACK diagram]

3. Students with learning disabilities benefit from the use of technology in the same ways as other students do. Discuss five further benefits that students with Learning disabilities experience when assistive technology is judiciously selected to meet their specific learning needs, as outlined in their individualized education plans (IEPs).

[20 marks]