

TeachME Professional Development

Advancing STEM and Technology Access for Equity in K-12 Education

1. Which framework provides structured benchmarks for educators to align their efforts with contemporary educational technology goals?

- A. TPACK Framework
 - B. ISTE Standards
 - C. RAT Framework
 - D. T3 Framework
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2. What blended learning model is the following scenario an example of? Mrs. Bonnet's 5th grade class begins with teacher-led instruction, where students grasp the day's math concept. They then transition to a computer station for independent practice using adaptive math software. In small groups, they tackle collaborative projects applying the concept creatively. Lastly, Mrs. Bonnet provides personalized support during teacher-guided practice.

- A. Rotation
 - B. Enriched Virtual
 - C. Flipped Classroom
 - D. A La Carte
-

3. What is the primary purpose of tools like Padlet, Wakelet, Flipboard, and Raindrop.io in education?

- A. To create traditional textbooks
 - B. To enhance classroom management
 - C. To facilitate digital content curation and sharing
 - D. To restrict access to digital resources
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4. Which edtech framework places a strong emphasis on aligning technology use with established principles of effective teaching and pedagogy?

- A. TPACK Framework
 - B. ISTE Standards
 - C. RAT Framework
 - D. Triple E Framework
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5. What is a digital footprint?

- A. Only deliberate online actions
 - B. A trail of data generated by online activities
 - C. A digital identification number
 - D. A type of online currency for classrooms
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6. What is the fundamental concept behind blended learning?

- A. Replacing traditional classroom instruction with online courses
 - B. Eliminating face-to-face instruction entirely
 - C. Combining in-person and digital learning to enhance education
 - D. Focusing solely on remote teacher-led sessions
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7. What does "digital citizenship" refer to?

- A. The use of physical documents
 - B. The promotion of cyberbullying
 - C. The process of acquiring digital skills
 - D. Responsible and appropriate use of technology
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8. What does the RAT Framework stand for, and what is its primary purpose?

- A. Replace, Amplify, Transition; to define technology standards for students, teachers, and administrators
 - B. Replacement, Amplification, Transformation; study and enhance how technology is used for teaching and learning
 - C. Redefine, Adjust, Transform; to evaluate teacher and students digital literacy skills
 - D. Relevant, Advanced, Tactical; to improve educators' teaching methods
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9. In Mr. Olive's science class, students are assigned group projects and use digital platforms like Flip to discuss and share resources. They also communicate through discussion boards and forums. What type of tools are they using?

- A. Content Curation
 - B. Learning Management System
 - C. Gamification
 - D. Collaboration Tools
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10. In the Flipped Classroom model, what is the main purpose of in-person class time? A) Homework assignments B) Lecture delivery C) Collaborative activities and personalized guidance D) Group discussions

- A. Free time to complete the online portions of the class
 - B. Lecture delivery
 - C. Collaborative activities and personalized guidance
 - D. Lecture delivery
-

11. What blended learning model is the following scenario an example of? Mr. Vervet assigned his 5th grade class specific video lectures and readings to review at home as part of their homework. They are encouraged to take notes and write down questions they may have. In class each day, students arrive prepared with questions and engage in a group discussion, followed by problem-solving tasks.

- A. Flex
 - B. Flipped Classroom
 - C. Rotation
 - D. Enriched Virtual
-

12. How does an LMS enhance communication in the educational environment?

- A. By making it harder for students to contact teachers
 - B. By eliminating all communication
 - C. By providing a central hub for communication
 - D. By sending mass emails to families
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13. What does personalized learning, one of the benefits of edtech discussed in the course, entail when harnessed through technology?

- A. Students following a fixed curriculum
 - B. Customized instruction based on individual students' needs and learning styles
 - C. Focusing solely on self-guided playlists
 - D. Minimal student agency
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14. What contributes to an individual's digital footprint?

- A. Personal feelings about technology use in the classroom
 - B. Intentional online activity only
 - C. Face-to-face interactions
 - D. Online actions such as browsing, emailing, and social media activity
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15. What does the Triple E Framework prioritize when assessing technology's impact on education?

- A. Technology's ability to replace traditional tools
 - B. Technology's ability to entertain students
 - C. Technology's alignment with learning objectives
 - D. Technology's adoption of the latest trends
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16. What is blended learning?

- A. A teaching method exclusively conducted online

- B. An approach combining both in-person and online instruction
 - C. A term for all-digital curriculum materials
 - D. A learning style devoid of any technology
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17. Mr. Olive collects various online articles, primary source documents, and multimedia content related to his science lesson. He organizes these resources into a digital collection and shares them with students via Padlet. What type of tool is Mr. Olive using?

- A. Content Curation
 - B. Collaboration Tools
 - C. Learning Management System
 - D. Gamification
-

18. Mrs. Bonnet has a student in her science class who is visually impaired and needs assistance to access digital content. Which technology can Ms. Johnson use to provide auditory access to text, buttons, and online resources for this student?

- A. Speech-to-text software
 - B. Screen reader software
 - C. Text-to-speech software
 - D. Virtual reality tools
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19. What is the significance of teacher training in achieving digital equity?

- A. It's not relevant to digital equity
 - B. It ensures that students always have access to devices
 - C. It empowers educators to use technology effectively
 - D. It's not necessary if students have access to technology
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20. What type of features in an LMS encourage interactive learning?

- A. Text-heavy content
 - B. Video lectures, quizzes, and discussion forums
 - C. Limited engagement options
 - D. No student feedback
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21. What is the essence of gamification in education?

- A. Focusing solely on external rewards
 - B. Eliminating all rewards in education
 - C. Adding game elements to non-game contexts
 - D. Reducing the fun factor in learning
-

22. What blended learning model is the following scenario an example of? Ms. Gelada assigned engaging video lectures and a hyperdoc as homework, encouraging students to take notes and ask questions. During weekly in-person sessions on Wednesdays, students worked on projects, and conducted hands-on experiments guided by Ms. Gelada.

- A. Flipped Classroom
 - B. Rotations
 - C. Flex
 - D. Enriched Virtual
-

23. How is an active digital footprint different from a passive one?

- A. Active footprints result from deliberate choices, while passive footprints occur unknowingly.
 - B. Active footprints are generated by online shopping, while passive footprints are related to gaming.
 - C. Active footprints are left by adults, while passive footprints are created by teenagers.
 - D. Active footprints are left unintentionally, while passive footprints are created intentionally.
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24. Canvas, D2L, and Schoology are examples of:

- A. Learning Management Systems (LMS)
 - B. Video streaming platforms
 - C. Social media networks
 - D. Gaming consoles
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25. What role do teachers play in gamification platforms like Classcraft?

- A. Teachers have no role in Classcraft
 - B. Teachers monitor and guide students within the game
 - C. Teachers only participate as players
 - D. Teachers create avatars but do not interact with students
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26. What is the definition of "educational technology" in K-12 education?

- A. The sole use of digital hardware and software for learning.
 - B. The practice of employing new technologies to make education more expensive.
 - C. The theory of improving educational approaches without implementing new technologies.
 - D. The combined use of digital hardware, software, and educational theory and practice to facilitate learning.
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27. A teacher wants to provide students with various means of representation, engagement, and expression in the classroom. Which educational framework aligns with this goal and often incorporates technology?

- A. Blended Learning Model (BLM)
 - B. Project-Based Learning (PBL)
 - C. Universal Design for Learning (UDL)
 - D. Classroom Behavior Management (CBM)
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28. Ms. Gelada faces the challenge of a student in her social studies class consistently struggling to decode words within assigned articles, leading to a lack of comprehension of the topic. What type of technology can Ms. Gelada employ to support this student?

- A. Virtual reality headsets
 - B. Text-to-Speech (TTS) software
 - C. Video conferencing platforms
 - D. 3D printing tools
-

29. What is the primary goal of using tools like InsertLearning?

- A. To replace traditional textbooks with digital resources
 - B. To encourage students to create video content
 - C. To transform any webpage into an interactive lesson
 - D. To promote physical fitness and wellness in the classroom
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30. What blended learning model is the following scenario an example of? Mr. Drill's ELA class explores course content independently, watching video lectures and reading assigned texts. The online platform records their progress and assessments to help identify areas where students may need additional support. Mr. Drill plays a supportive role, offering guidance and instruction as students require it, rather than adhering to a strict schedule.

- A. Enriched Virtual
 - B. Flex
 - C. Rotations
 - D. Flipped Classroom
-

31. What is NOT an implication of a negative digital footprint for students?

- A. Lower scores on standardized tests
 - B. Impaired relationships
 - C. Jeopardized scholarship opportunities
 - D. Negative effects on college admissions
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32. How are students with disabilities benefiting from technology integration?

- A. They face greater challenges in accessing quality education
 - B. They require specialized design for access
 - C. They lack access to assistive technology tools
 - D. They have access to diverse means to access information and engage in learning
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33. In Mr. Vervet's 5th grade classroom, students are tasked with a complex, real-world problem that requires teamwork, research, and creative solutions. They are encouraged to explore different perspectives and work collaboratively. What educational approach best describes this scenario?

- A. Project-Based Learning (PBL)
 - B. Flipped classroom
 - C. Independent study
 - D. Traditional lecture-based learning
-

34. Why is it important to teach students about digital citizenship? A) To encourage them to become cyberbullies B) To enhance their technical skills C) To help them navigate the digital world responsibly and safely D) To promote excessive technology usage

- A. To encourage them to become cyberbullies
 - B. To enhance their technical skills
 - C. To help them navigate the digital world responsibly and safely
 - D. To promote excessive technology usage
-

35. What is the primary challenge related to the "digital divide"?

- A. The competition between technology providers
 - B. Lack of sustained funding for affordable internet programs
 - C. Inadequate maintenance of digital infrastructure
 - D. Bridging the gap between those with and without access to technology
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36. How do college admissions officers sometimes assess applicants' online presence?

- A. By conducting online searches on social media profiles
 - B. By reviewing applicants' academic transcripts
 - C. By analyzing applicants' financial records
 - D. By asking applicants directly about their online behavior
-

37. What acronym stands for the digital platform that streamlines instructional processes, manages academic courses, and provides a centralized hub for teachers and students in education?

- A. LRS (Learning Resource System)
 - B. CMS (Course Management System)
 - C. DLP (Digital Learning Platform)
 - D. LMS (Learning Management System)
-

38. What is the significance of "access and infrastructure" in the context of digital equity?

- A. Ensuring all students have affordable internet connections
- B. Providing access to sufficient high-speed broadband

- C. Focusing on the availability, affordability, and adoption of technological resources
 - D. Promoting uniformity in access to technological devices
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39. Mr. Drill encounters a situation where a student in his ELA class has difficulty expressing their thoughts in writing due to motor impairments, making it challenging for them to complete assignments and participate in class discussions. What type of technology can Mr. Drill introduce to assist this student effectively?

- A. Virtual reality tools
 - B. Screen reader software
 - C. Speech-to-text software
 - D. Text-to-speech software
-

40. What elements make up the definition of "educational technology"?

- A. Digital hardware, software, and educational theory and practice.
 - B. Digital hardware and gamification
 - C. Educational theory and virtual reality only.
 - D. New technologies for student achievement.
-

41. How do built-in accessibility features in mainstream platforms support inclusivity?

- A. They increase the cost of devices
 - B. They reduce the stigma associated with assistive devices
 - C. They require specialized training
 - D. They create more barriers for students with disabilities
-

42. What benefit of technology in the classroom is highlighted when students have the freedom to choose what and how they learn, fostering deeper understanding and engagement?

- A. a) Increased funding for schools
 - B. Improved teacher-student relationships
 - C. Personalized learning experiences
 - D. Higher standardized test scores
-

43. Which framework combines technological, pedagogical, and content knowledge to integrate technology effectively in education?

- A. TPACK Framework
 - B. ISTE Standards
 - C. T3 Framework
 - D. Triple E Framework
-

44. What are some of the advantages of using technology in the classroom?

- A. Limited access to information and learning materials
 - B. Enhanced engagement and interactive learning
 - C. Reduced access to personal devices
 - D. A decrease in the digital divide
-

45. What is blended learning?

- A. Exclusively in-person teaching
 - B. Purely online instruction
 - C. Only self-paced digital learning
 - D. A mix of online and in-person learning
-

46. Which of the following is not a key component of an effective Learning Management System (LMS)?

- A. Integration with Various Learning Platforms
 - B. Single Login Access
 - C. Access to Facebook and Twitter
 - D. Customization of Lessons and Assessments
-

47. What is one of the primary challenges related to "pedagogical adaptation" in the integration of technology?

- A. Student resistance to using technology
 - B. The need for ongoing teacher training
 - C. The availability of technology in schools
 - D. The reluctance of technology providers to collaborate with educators
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48. Which of the following best describes the concept of "Flipped Learning" in education?

- A. Students take turns teaching each other.
 - B. Traditional teaching methods without technology.
 - C. A method for eliminating homework.
 - D. The role reversal of in-class and at-home learning.
-

49. What is a primary benefit of using technology to extend learning beyond the classroom?

- A. Reducing engagement with the curriculum
 - B. Bridging the gap caused by economic disparities
 - C. Restricting access to diverse learning experiences
 - D. Isolating students from real-world resources
-

50. Which of the following is a key aspect of blended learning?

- A. Isolation of students from technology
 - B. Integration of various technology tools in a traditional classroom
 - C. Reliance solely on online instruction
 - D. A combination of in-person and digital learning experiences
-

51. In Ms. Gelada's class, students earn badges for completing assignments on time and demonstrating positive behavior. She maintains a leaderboard to encourage friendly competition. What type of tool is Gelada using?

- A. Gamification
 - B. Learning Management System
 - C. Content Curation
 - D. Collaboration Tools
-

52. Which of the following best describes blended learning?

- A. Teaching using a single method for all students from blended backgrounds
 - B. Combining traditional classroom teaching with online learning
 - C. Focusing on online learning for half the students and traditional methods for the other half in order to compare results
 - D. Mixing students from different courses in one classroom
-

53. Why is protecting student data privacy essential when using educational technology?

- A. It doesn't matter, as students' data is not at risk
 - B. It helps teachers understand student performance better
 - C. It safeguards against cyber threats and privacy breaches
 - D. It encourages the sharing of student data with third parties
-

54. In a rural school with limited access to qualified teachers, how can technology address the challenge of teacher shortages and improve education? What benefit does technology provide in this scenario?

- A. Encourages competitive teaching methods
 - B. Offers access to experienced teachers through pre-recorded lessons
 - C. Decreases the need for teachers in rural areas
 - D. Reduces the importance of teacher training
-

55. Which framework is focused on technology integration for transformational and transcendent learning, preparing students for future challenges?

- A. Triple E Framework

- B. ISTE Standards
 - C. TPACK Framework
 - D. T3 Framework
-

56. How does educational technology aim to enhance the classroom experience?

- A. By prioritizing gamification in classroom technology.
 - B. By making students passive observers of knowledge.
 - C. By employing new technologies to personalize learning and engage students innovatively.
 - D. By ensuring that all forms of technology are used in all classrooms..
-

57. What do students do during online portions of blended learning?

- A. Attend a different program that focuses on technology
 - B. Physically move to another location
 - C. Become digitally connected through online communities
 - D. Create digital projects in a lab
-

58. What blended learning model is the following scenario an example of? Rosie, a high school junior passionate about zoology, seeks to advance her skills with an AP zoology class. Her school can't offer this course in person due to limited resources, but she found a solution at the virtual high school, which offers AP Zoology online. This allows Rosie to easily fit this specialized course into her schedule alongside her in-person classes.

- A. Flipped Classroom
 - B. A La Carte
 - C. Rotations
 - D. Enriched Virtual
-

59. Which edtech framework's main purpose is to help teachers use technology to enhance student learning experiences?

- A. Triple E Framework
 - B. ISTE Standards
 - C. TPACK Framework
 - D. RAT Framework
-

60. How is technology enhancing students' access to educational content in remote areas?

- A. By switching access to technological resources classroom resources exclusively
 - B. By delivering high-quality content through broadband services
 - C. By providing educational materials in print form
 - D. By reducing competition among technology providers
-

61. What is one major barrier faced by women pursuing STEM careers, despite the high growth and earnings potential in these fields?

- A. Access to mentorship programs
 - B. Gender bias and stereotypes
 - C. Insufficient math skills
 - D. Limited job opportunities
-

62. How does STEM education contribute to social mobility?

- A. By teaching students to invest in innovative strategies such as cryptocurrency
 - B. By narrowing opportunities for traditional STEM students
 - C. By providing skills for upward mobility
 - D. By encouraging certificate programs rather than higher education
-

63. At what educational level do inequities in science and math achievement typically begin, as highlighted by research?

- A. High school
 - B. Middle school
 - C. Elementary school
 - D. Preschool
-

64. How does adopting standards like the Next Generation Science Standards (NGSS) benefit disadvantaged learners in STEM education?

- A. By providing a structured and comprehensive approach
 - B. By emphasizing memorization over critical thinking
 - C. By focusing exclusively on science and engineering practices
 - D. By reducing collaboration opportunities among students
-

65. How does consequential learning benefit disadvantaged students in STEM?

- A. By reinforcing traditional hierarchical structures
 - B. By limiting access to hands-on activities
 - C. By promoting passive learning experiences
 - D. By empowering students to explore meaningful topics
-

66. How can investing in STEM education benefit students from low-income school districts?

- A. By increasing their chances of accessing higher education
 - B. By replacing foundational literacy skills with more applicable skills
 - C. By allowing them to become more resilient due to limited resources
 - D. By reducing their access to traditional technology
-

67. How does socioeconomic status impact access to STEM resources in high-poverty schools?

- A. It leads to excessive availability of advanced STEM coursework
 - B. It results in an overabundance of extracurricular STEM activities
 - C. It has no impact on access to STEM resources because all schools receive the same funding and opportunities
 - D. It causes a shortage of science lab supplies
-

68. How can educators promote increased engagement and comfort among disadvantaged students in STEM classrooms?

- A. By standardizing learning activities to ensure consistency
 - B. By adapting assessments to recognize diverse forms of achievement
 - C. By increasing competition among students to boost performance
 - D. By extending classroom hours to provide extra practice time
-

69. Mr. Filo incorporates diverse examples of indigenous ecological knowledge into the curriculum, highlighting their relevance to current scientific research. What teaching strategy is being effectively implemented?

- A. Universal Design for Learning (UDL)
 - B. Action-Based Learning
 - C. Cultural Competency
 - D. Stereotype threat and bias
-

70. What is a significant consequence of the shortage of teachers with STEM-specific degrees in high-poverty schools?

- A. Increased self-teaching of STEM coursework which enhances 21st century skills B
 - B. Higher student engagement in all non-STEM subjects
 - C. Enhanced professional development opportunities for teachers in other subject areas
 - D. Lower academic achievement in math and science
-

71. In schools with high levels of poverty, what is a common challenge reported by teachers that affects the quality of STEM education?

- A. Lack of qualified STEM teachers
 - B. Insufficient amount of time to teach STEM subjects
 - C. Limited access to teaching materials
 - D. Overcrowded classrooms
-

72. What is a significant challenge faced by students from low-income students in accessing quality STEM education?

- A. Lack of parental involvement in STEM activities
 - B. Excessive focus on extracurricular activities
 - C. Limited availability of advanced STEM coursework
 - D. Overemphasis on non-STEM subjects in curriculum
-

73. How does STEM education prepare students for addressing global challenges?

- A. By equipping them with skills to tackle complex challenges
 - B. By teaching students to ignore scientific evidence so they can enhance their personal opinions
 - C. By limiting exposure to real-world conflicts in order to focus on positive progress
 - D. By narrowing their understanding of irrelevant societal issues
-

74. During a physics class, Ms. Suet reframes a student's misconception about electrical circuits into a positive learning opportunity, highlighting the importance of trial and error in scientific inquiry. What teaching strategy is being effectively implemented?

- A. Authentic, hands-on learning
 - B. Microaggression intervention
 - C. Reinforcing stereotypes through educational content
 - D. Decriminalizing classrooms
-

75. Mrs. Kifli adopts project-based learning (PBL) for her STEM classroom, to engage students in solving real-world problems. This method is effective in promoting which educational principle?

- A. Student-centered pedagogy
 - B. High expectations for all
 - C. Universal Design for Learning (UDL)
 - D. Microaggression intervention
-

76. How can high-quality STEM education impact students from disadvantaged backgrounds?

- A. It enhances learning across all subjects.
 - B. It provides opportunities that encourage pursuit of STEM careers.
 - C. It encourages active participation in social and community life.
 - D. It equalizes innovation and economic growth for all students.
-

77. Summarize how hands-on, experiential learning benefits disadvantaged students in STEM.

- A. By promoting passive learning experiences
 - B. By limiting access to scientific equipment, when increases innovation
 - C. By teaching students that mistakes are unacceptable and must always be avoided
 - D. By engaging students in practical applications of STEM concepts
-

78. How does nurturing a diverse group of STEM professionals from low-income school districts contribute to problem-solving?

- A. By incorporating a variety of experiences for comprehensive solutions
 - B. By limiting perspectives and experiences in solution development
 - C. By ensuring that only privileged communities benefit from solutions
 - D. By narrowing the scope of innovation and creativity
-

79. What is a critical aspect of teacher agency in fostering equity in STEM education?

- A. Maintaining traditional power dynamics in the classroom
 - B. Disregarding students' cultural backgrounds
 - C. Shaping classroom climate and policies
 - D. Limiting students' access to educational resources
-

80. What challenge do students with disabilities commonly face in STEM education?

- A. Inadequate access to specialized learning materials
 - B. Excessive prerequisite requirements
 - C. They are penalized for using assistive technologies like calculators, screen readers, or magnifiers.
 - D. Limited options for extracurricular STEM activities
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