

Integrating ABE Technology Standards to Daily Instruction

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Ronald Allan Cruz, M.Ed.
Coordinator
CARIBE Refugee Program
Hillsborough County Public Schools
Adult Education

Statewide Trainer/Facilitator
for ABE, GED & ESOL
Florida IPDAE



- I. Webinar Objectives
- II. Why technology?
- III. A Review of WIOA and IET+S
- IV. The Changing Labor Market and Classroom
- V. The CCRS Digital Literacy (Technology) Standards
- VI. Integrating the Technology Standards to Various Subject Areas
- VII. Some Guiding Principles in the Use of Technology in the Classroom
- VIII. What's New?
- IX. Technology Resources from the IPDAE Website
- X. Summary and Evaluation

Why is it important to incorporate digital literacy or technology in today's adult education classrooms?



The final Workforce Innovation and Opportunity Act regulations released in July 2016 provide both **assurance and incentives** for adult education, workforce development, and postsecondary education partners to design and implement a key strategy in career pathways: Integrated Education and Training (IET).

IET is a promising practice based in **adult learning theory**. Through IET programs, participants seek goal-oriented, relevant, practical knowledge. The opportunity costs of education for individuals with family and work responsibilities can be offset by offering education that truly leads to educational and economic mobility.

Center for Law and Social Policy (2013). Integrated Education and Training: Model Programs for Building Career Pathways for Participants at Every Skill Level. Washington, DC.

Defining IET

INTEGRATED EDUCATION & TRAINING

"...a service approach that provides adult education and literacy activities concurrently and contextually with workforce preparation activities and workforce training for a specific occupation or occupational cluster for the purpose of educational and career advancement." (Final WIOA regulations at 34 CFR §463.35).

Adult Education & Literacy

"... programs, activities, and services that include: (a) adult education; (b) literacy; (c) workplace adult education and literacy activities; (d) family literacy activities; (e) English language acquisition activities; (f) integrated English literacy and civics education; (g) workforce preparation activities; or (h) integrated education and training" (34 CFR §463.30).

Workforce Preparation

"Activities, programs, or services designed to help an individual acquire a combination of basic academic skills, critical thinking skills, digital literacy skills, and self-management skills, including competencies in: (a) utilizing resources; (b) using information; (c) working with others; (d) understanding systems; (e) skills necessary for successful transition into and completion of postsecondary education or training, or employment; and (f) other employability skills..." (34 CFR §463.34).

Workforce Training

"may include:
(i) occupational skill training...;
(ii) on-the-job training;
(iii) incumbent worker training...; (iv) programs that combine workplace training with related instruction...;
(v) training programs operated by the private sector;
(vi) skill upgrading and retraining; (vii) entrepreneurial training;
(viii) transitional jobs...;
(ix) job readiness training provided in combination with services... (i) through (viii);
(x) adult education and literacy activities, including activities of English language acquisition and integrated education and training programs, provided concurrently or in combination with services described in any of clauses (i) through (viii); and
(xi) customized training conducted with a commitment by an employer or group of employers to employ an individual upon successful completion of the training."

(WIOA Section 134(c)(3)(D), P.L. 113-128)

- Advances in technology has changed current and future demands of the labor market.



- The cost of creating and maintaining a technology-rich classroom has dramatically decreased.
- Cloud storage and back up has made it easier and more secure for students and teachers to save almost all types of data.
- Information, expertise, education and training has become virtually accessible in any device.



- Technology such as cloud collaborations, online communities, smart media applications, social media, open source media, 3-D printing, and virtual reality has changed how students interact with content, making it more engaging, personalized and truly hands on.
- Cloud sharing and computing has made teacher collaborations more convenient and efficient.
- Technology has shifted to a competency-based learning model which ensures every student learns the necessary basic skills in order to succeed.



How will adult educators address the digital literacy (technology) needs of adult learners in today's changing society, classroom and workplace? And to what extent?

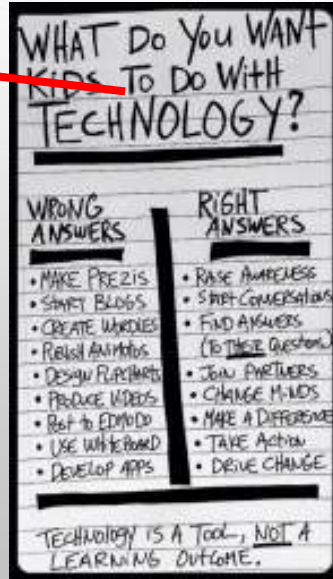


Computer skills have become essential in today's world. Students use a variety of technology tools such as calculators, cell phones, and computers for multiple uses; communicate with friends and family, apply for work, classroom instruction, testing, and in the workplace. **Technology standards are integrated in the instruction to demonstrate proficiency in the mathematics, science, social studies, reading and language arts standards.**



- TN.ABE.01** Develop basic keyboarding skills.
- TN.ABE.02** Produce a variety of documents such as research papers, resumes, charts, and tables using word processing programs.
- TN.ABE.03** Use Internet search engines such as Google, Bing, or Yahoo to collect data and information.
- TN.ABE.04** Practice safe, legal, and responsible sharing of information, data, and opinions online.

Take a moment to think of some simple ways to integrate these standards into the teaching of any core subject area such as Language Arts, Science, Social Studies and Mathematics. Use the comment button to share your answers.



- Focus on pedagogy, not technology.
- Set expectations clearly.
- Choose high-quality over high-tech.
- More technology requires more organization.
- Accommodate before you innovate.



- Appeal to multiple styles of learning.
- Don't let technology make you mechanical.
- Use technology to teach, not entertain.
- To legitimize, you need to personalize.
- Prepare for technology to fail.



The Northstar Digital Literacy Project defines basic skills needed to perform tasks on computers and online.



Modules

- Basic Computer Use
- Internet
- Windows Operating System
- Mac OS
- Email
- Microsoft Word
- Social Media
- Microsoft Excel
- Microsoft PowerPoint
- Information Literacy



<https://www.mathlearningcenter.org/home>



Open Web App
Apple App Store
Chrome Store

Fractions

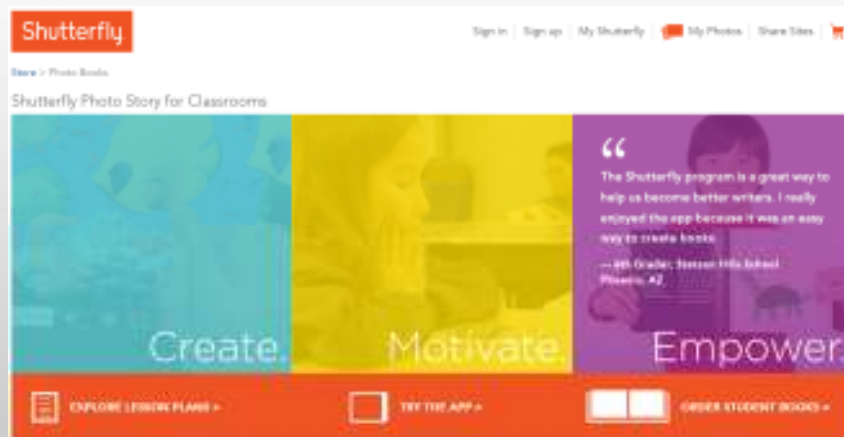
The Fractions app lets students use a bar or circle to represent, compare, and perform operations with fractions with denominators from 1 to 100. Choose the fraction model and number of equal parts. Use a color to select specific parts to show a fraction of the whole.



Open Web App
Apple App Store
Windows Store
Chrome Store

Math Vocabulary Cards

Math Vocabulary Cards help students deepen their conceptual understanding of key terms in mathematics. Each card features three sections: a math term, a representative example or model, and a concise definition.



https://www.shutterfly.com/photostoryclassroom/?esch=1#lesson_plans

Microsoft Photo Story 3 for Windows XP

Select Language: English

Download

Bring your digital photos to life.

Details

Version:	3.0	Date Published:	9/16/2009
File Name:	PhotoStory.exe	File Size:	3.3 MB

Create slideshows using your digital photos. With a simple click, you can touch-up, crop, or rotate pictures. Add stunning special effects, soundtracks, and your own voice narration to your photo stories. They'll personalize them with titles and captions. And the easy make-it-easy-to-share your photo stories in an e-mail. Watch them on your TV, a computer, or a Windows Mobile device.

<https://www.microsoft.com/en-us/download/details.aspx?id=11132>

Virtual Experiments

<https://www.reading.ac.uk/virtualexperiments/ves/preloader-photosynthesis-full.html>

Measuring the Rate of Photosynthesis of Elodea

Bubbles are given off by the plant through Photosynthesis. By measuring the rate at which the bubbles are produced it is possible to tell how fast the plant is photosynthesizing.

The bubble rate can be measured in two ways:

1. Using a beat per minute (BPM) monitor. Click the "New" on press monitor when both BPM monitor, the test the number of bubbles produced every minute.
2. Using a counter with a clock. Count the number of bubbles that come out in a set period of time.

When you are satisfied you have a suitable sample, click the "Load" button to move the plant to a suitable station and start a virtual experiment.

Glencoe Virtual Lab

http://www.glencoe.com/sites/common_assets/science/virtual_labs/E16/E16.html



iCivics - <https://quest.icivics.org/our-story>

iCivics teaches students how government works by having them experience it directly. Through our games, the player steps into any role – a judge, a member of Congress, a community activist fighting for local change, even the President of the United States – and does the job they do. Educational video games allow for concepts to happen to us. They convey information while teaching skills for effective civic engagement.





BY EDUCATORS FOR EDUCATORS

IPDAE Grab and Go Videos



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The Geoboard Resource

Using The Algebra Tile Web App

Using The Number Line

This video will show you how to use a number line as an instructional tool. The number line can be used to teach different concepts to students such as addition, subtraction, multiplication, and division of real numbers. This video provides teachers with a strategy to help struggling adult students and give them a deeper understanding of the number line and the properties of real numbers. This video will model how to teach multiplication of fractions by a whole number using a number line.

Featuring: Ronald Cook







BY EDUCATORS FOR EDUCATORS

IPDAE Lesson Plans



LESSONS

Free lesson plans designed for Reasoning through Language Arts, Mathematics, Science and Social Studies.

MATHEMATICS

- Algebra: Prealgebra
- Algebra: Beginning Algebra
- Determining Surface Area and Volume
- Speeding Along
(CCSS.Math.Content.8.EE.1)
- The Consumer Price Index
- Using Nets for Finding Surface Area
(Measurement Targets D.4.A, D.4.B, Q.3.A, Q.3.b, Q.3.c)
- Which Cell Phone Plan Should I Choose
- Can You Translate This for Me?
(CCRN.ABE.6.3.1)
- Cartography and Math
(CCRN.ABE.4.3.2)
- Is It the Same? Equivalent Fractions
(CCRN.ABE.5.3.2)
- It's a Bargain!
(CCRN.ABE.1.3.4)
- It's All in the Game: Fractions
(CCRN.ABE.5.3.4)
- KNRG: A Problem Solving Strategy
(CCRN.1)
- Make That Shelf!
(CCRN.8.1.1)
- Order By Size
(CCRN.ABE.3.3.1)

<http://www.floridaipdae.org>

WEBINARS

View our recorded webinars that provide information and training on various topics.

- Integrating New Curriculum Frameworks into Existing Classroom Settings: Workforce Preparation and Digital Literacy
(Presented on 1/11/2017)
- Making Thinking Visible in the Math Classroom
(Presented on 11/16/2016)
- Interpreting Inferences from Textual Evidence
(Presented on 11/09/2016)
- GED® Calculator Prohibited Indicators Part 2
(Presented on 11/03/2016)
- GED® Calculator Prohibited Indicators Part 1
(Presented on 10/26/2016)
- Team Teaching within Adult Education
(Presented on 10/12/2016)
- GED® - Read Like a Historian
(Presented on 10/6/2016)
- Connecting Math to Life Beyond the Classroom
(Presented on 9/28/2016)

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RESOURCES

GED® & AHS - Lessons

Beginning Algebra

Lesson 13: Formulas and Problem Solving

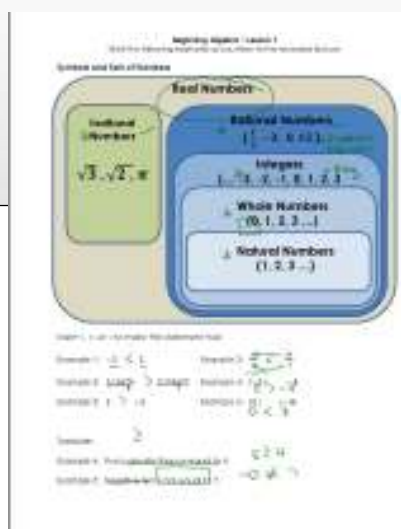
- Lesson 13.1 Formula
- Lesson 13.2 Solving Equations
- Lesson 13.3 Review

Lesson 14: Solving Linear Inequalities - Part 1

- Lesson 14.1 Formula
- Lesson 14.2 Solving Inequalities
- Lesson 14.3 Review

Lesson 15: Solving Linear Inequalities - Part 2

- Lesson 15.1 Formula
- Lesson 15.2 Solving Inequalities
- Lesson 15.3 Review



<http://www.floridaipdae.org>

The screenshot displays the ipdae E-Trainings interface. At the top, the ipdae logo is on the left, and 'E-Trainings' is on the right. The main content area shows a presentation slide titled 'Instruction has to move...'. The slide compares two teaching approaches:

- FROM a survey approach to teaching math too:**
 - 1. Introduce a skill, teach on the following week, then drill
 - 2. Provide students with the formula
 - 3. Review a few sample problems from the textbook
 - 4. Have students complete a few problems on their own
 - 5. Move to the next skill on Monday
- TO a conceptual approach through...**
 - 1. Using schema to organize new knowledge
 - 2. Developing unit around concepts
 - 3. Providing schema based on student prior knowledge
 - 4. Relating knowledge with concepts in context

A green arrow points from the 'FROM' approach to the 'TO' approach. The interface also features a sidebar menu with a list of topics, including '1. Math', '2. Fractions', '3. Geometry', '4. Linear Algebra', '5. Data Science', '6. Probability', '7. Statistics', '8. Discrete Math', '9. Combinatorics', '10. Graph Theory', '11. Game Theory', '12. Cryptography', '13. Bioinformatics', '14. Robotics', '15. Artificial Intelligence', '16. Quantum Computing', '17. Nanotechnology', '18. Space Exploration', '19. Environmental Science', '20. Social Science', '21. Humanities', '22. Arts', '23. Music', '24. Sports', '25. Health', '26. Agriculture', '27. Industry', '28. Transportation', '29. Energy', '30. Materials', '31. Chemistry', '32. Physics', '33. Earth Science', '34. Planetary Science', '35. Cosmology', '36. Astrophysics', '37. Particle Physics', '38. Neuroscience', '39. Psychology', '40. Sociology', '41. Anthropology', '42. Linguistics', '43. History', '44. Geography', '45. Environmental Studies', '46. Interdisciplinary Studies', '47. Emerging Fields', '48. Future Trends', '49. Global Issues', '50. Ethics', '51. Law', '52. Medicine', '53. Dentistry', '54. Veterinary Medicine', '55. Agriculture', '56. Forestry', '57. Fisheries', '58. Aquaculture', '59. Horticulture', '60. Animal Husbandry', '61. Food Science', '62. Food Safety', '63. Food Security', '64. Food Systems', '65. Food Policy', '66. Food Culture', '67. Food Innovation', '68. Food Entrepreneurship', '69. Food Marketing', '70. Food Distribution', '71. Food Waste', '72. Food Packaging', '73. Food Preservation', '74. Food Processing', '75. Food Production', '76. Food Consumption', '77. Food Perception', '78. Food Preference', '79. Food Behavior', '80. Food Choice', '81. Food Access', '82. Food Affordability', '83. Food Availability', '84. Food Quality', '85. Food Safety', '86. Food Security', '87. Food Systems', '88. Food Policy', '89. Food Culture', '90. Food Innovation', '91. 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Key ideas to remember:

- Set rules and procedures before, during and after the use of technology.
- Allow students to share technology tools to promote collaboration and bridge gaps in digital literacy for some students.
- Establish a time limit on the use of technology.
- Require a product or evidence for the use of technology.
- Focus students on the content standard during the technology activity.
- Monitor students while they use technology. Provide guidance and feedback.

IPDAE would like to know what you think!

<https://www.surveymonkey.com/r/FMHGZ5M>



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Thank you for your participation!