

# Using Problem-based Scenarios to Integrate IT in LPSCS Programs

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National Partnership for Careers in LPSCS Conference

11 December 2007 • Las Vegas, NV

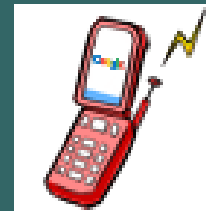
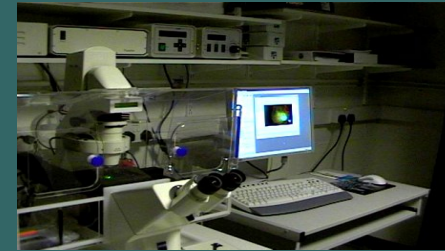
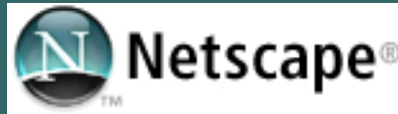


**Virtually all jobs in the information age economy require some level of IT skills.**

*- Building a Digital Workforce*  
National Policy Association







**Access**

**Define**

**Create**

# **INFORMATION**

**Evaluate**

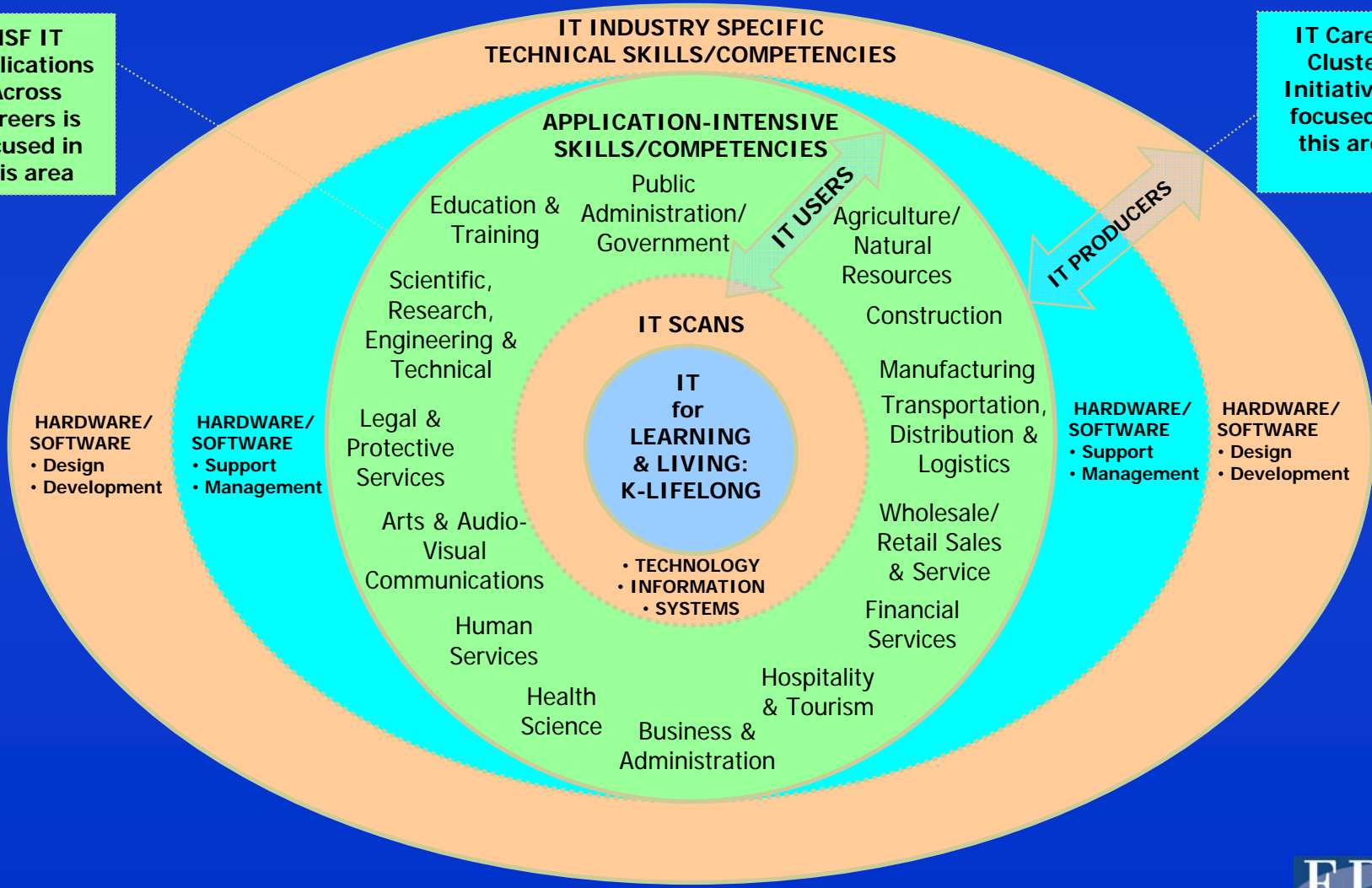
**Integrate**

**Manage**

# Making Sense of IT for Learning, Living, & Working

NSF IT Applications Across Careers is focused in this area

IT Career Cluster Initiative is focused in this area





# IT Across Careers

An integrated approach to teaching IT “core” applications  
*across Career Clusters:*

Agriculture  
Architecture & Construction  
Arts/AV Technology/Communications  
Business Management & Administration

Education & Training  
Finance  
Government & Public Administration  
Health Science

Hospitality & Tourism  
Human Services  
Information Technology  
Law/Public Safety/  
Corrections/Security  
Manufacturing  
Marketing/Sales/Service  
STEM  
Transportation, Distribution,  
& Logistics

# IT Core Applications for . . .

## Communications & Productivity

- ❖ PIM/Productivity
- ❖ Collaborative/Groupware
- ❖ Electronic Mail
- ❖ Internet
- ❖ Writing/Publishing
- ❖ Presentation

## Equipment

- ❖ Computer Operations
- ❖ Computer-Based Equipment

## Analysis

- ❖ Spreadsheet
- ❖ Database
- ❖ Geographic Positioning/Geographic Information Systems (GPS/GIS)

# ITAC Project Resources

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- ❖ *Rubrics to Assess Basic IT User Skills*
- ❖ Customizable Lesson Templates for IT Core Applications
- ❖ Learning Resource Guides
- ❖ Problem-based Scenarios
- ❖ IT in Action Statements
- ❖ Recommended Resources & Readings

Available on the ITAC project website: <http://itac.edc.org>

## Why we got involved with ITAC Project

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- **Scenarios: \$\$Value\$\$ for LPSCS programs of study**
- **Problem-based scenarios = Effective teaching tool to infuse technology into instruction**

# Lessons/Scenarios Offered for Piloting

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- ❖ **Internet**
- ❖ **Writing/Publishing**
- ❖ **Presentation**
- ❖ **Spreadsheet**
- ❖ **Database**
- ❖ **Computer Operations**



## SKAGIT'S APPROACH

- **Courses: Multiple**
- **IT Application: Presentation**
- **Scenarios:**
  - *Parade Route Planning*
  - *Elementary School Fire Prevention Program*
- **How scenarios were chosen**



# *Parade Route Planning*

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You are a lieutenant in a local police department. The Operations Bureau commander has asked you to prepare a briefing for supervising Patrol Division and Traffic Unit sergeants pertaining to traffic control needed for the city's upcoming annual celebration parade.

The briefing should cover the following topic areas:

1. List of departmental objectives that need to be accomplished before, during and after the event
2. Map depicting the city, parade route, and traffic/crowd control points
3. Table, chart, or graph that contains information about required staffing levels
4. List of communications and other special equipment needed
5. List of key personnel and their contact information.

You may wish to consider additional information that you think the Patrol Division or Traffic Unit sergeants may need in order to plan shift assignments for the upcoming celebration.

You will have approximately twenty minutes to give your presentation, which should consist of approximately 12-15 slides beginning with a slide that includes the title of your briefing, your name and the date.

Remember that the presentation is like an outline and does not need to have detailed information regarding the topic. That will be given in the oral part of your presentation and in your handouts. As the Commissioner may want to use this briefing with other groups, write out and save talking points for each slide in the "notes" section. Identify handouts that will support your briefing.

# Skagit Valley Student Example 1

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## **Parade Route Planning**

In this element, the student took the general details of the assignment and modified it to reflect a parade route within his own community. This enabled him to physically examine the route, obtain information from local planning and police/EMS sources, and dialogue with students in a way that made this exercise “contemporary and real” for all of them.

## **IT Skills Achieved ~ Rubric**

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**Used slide template**

**Effective graphics:**

- **Photos, clip art, detailed aerial map, bar graph**

**Comprehensive details & notes**



## *Elementary School Fire Prevention Program*

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You are a firefighter at a rural emergency response agency and have been assigned to organize a fire prevention program for a local elementary school. Part of the program must include an annual presentation on fire safety to each grade level (K-6). In order to engage your audience and be consistent with the knowledge and skill level of each grade, your presentations for the lower grades (K-3) should use less text, more animation, and graphic elements. The presentations for the upper grades (4-6) should include more text and digital photography.

Each presentation should emphasize the basic concepts and include hazards recognition and control, basic fire awareness/life safety information, with an emphasis on a minimum of 3-5 prevention concepts. Your presentation should fill a 30-minute time interval and include approximately 12-15 slides and include time for questions and answers. The Internet has numerous informational resources for specific grade levels. The presentation should also include instructional information on accessing basic fire awareness/life safety resource Web sites. To illustrate content details, add scanned photos or drawings. To enliven the presentation, add at least 3 animations or action buttons. Select your transitions for emphasis. The presentation should be prepared as an automated slide show. In anticipation of reuse, write out talking points in the “notes” sections of the slides. Develop a presentation handout that includes copies of all slides in either notes or handout format.

## **Skagit Valley Student Example 2**

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Students in Fire Science collaborated to create traveling presentation kit to use at local elementary schools.

Used knowledge learned from their classes & applied it to their presentation.

## **IT Skills Achieved ~ Rubric**

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**Very visual presentation:**

- **Photos, clip art, animation, slide transitions, drawing**

**Fonts: varied fonts & position to tell the story**

**Slide notes: Talking cues**

## ***CVSA Information/Research***

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You are a Police Officer/Investigator in the department's Criminal Investigation Unit. In addition to your regular duties as an investigator, you have been charged with exploring the possible procurement of new investigative tools. Your supervisor has heard about investigative technology that uses computer voice stress analysis (CVSA) rather than the more commonly known polygraph technology. She is unsure what computer voice stress equipment is available. However, she has heard that the National Institute for Truth Verification and the Diogenes Company are the industry leaders and would like information about their products.

Based on this discussion with your supervisor, review the product information on each company's Web site and determine the primary differences between the products offered by the two companies, for example: equipment requirements, cost, ease of use, cost and length of training, if recertification is required, etc. Download product brochures if available and save them in a file on your computer. Note if additional information is available by e-mail or phone.

Report your findings to your supervisor.

## **Lessons Learned from ITAC Pilot Experience**

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- ❑ **Select scenario assignment based on class time**
- ❑ **Allow time to prep for assignment**
  - ❑ **a. Content and scope of assignment**
  - ❑ **b. Using the technology**
- ❑ **Have some good examples to show them what you want**
- ❑ **Make tie-in to real world of work :  
OJT training**

## **Student Reaction to Assignment**

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- **Wanted more time and resources**
- **Challenge: concepts & how to be creative**

## **OUR ENDORSEMENT**

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- **Excellent learning opportunity & preparatory tool for their future jobs**
- **Used for student portfolios**
- **Elevates student placement with employers for internships & jobs**
- **Experiential learning**
- **Scenarios can be used in many other different ways**

## **CALL TO ACTION: Let's hear from YOU!**

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- Questions?
- Reactions?
- Comments or Suggestions?
- Are you interested in learning more?
- Would you consider becoming involved, and would you like to know how?

# College Partners

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- Bunker Hill Community College
- Cecil Community College
- Central Piedmont Community College\*
- Fox Valley Technical College
- Holyoke Community College
- Hudson Valley Community College
- Husson College\*
- Kirkwood Community College
- Lansing Community College
- Lorain County Community College
- Morgan Community College
- Northampton Community College
- Northern Essex Community College
- Pennsylvania College of Technology
- Rochester Institute of Technology
- Scottsdale Community College
- Skagit Valley College\*
- Springfield Technical Community College

\* Piloted LPSCS Materials

## CONTACT INFORMATION

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