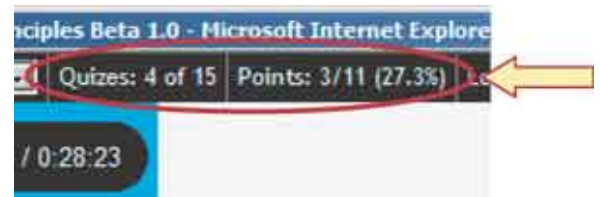


### Web Based Education – A New Paradigm (Part 2) by Rick Saindon

**Part 1** of this technology series was an overview of the current continuing education challenges facing our industry. It identified the inability of contemporary educational institutions and training providers to meet the growing demands for maintaining a production quality workforce, in response to the explosion of knowledge. With shorter turn-around cycles on new products, techniques and technologies, our professionals need to re-tool their knowledge and skills in ever-shorter time periods. WTCA has developed an alternative to meet these demands: our new “Just in Time” web based training system.

Part 1 summarized the major features of this new web based training approach including PowerPoint® based content creation, efficient multi-media streaming, integrated quizzes and exams, student/instructor interaction, and student support functions. We identified the major benefits of this approach to include rapid course creation, travel cost savings, student flexibility, accountability to corporate training coordinators, diverse learning styles, and extending the reach of the best instructors. Part 2, below, will explore the integrated quiz/exam feature in more detail.

The new web training system uses an integrated database driven quiz and exam engine to analyze student progress and apply quality process improvements to our training platform. Each of our courses is divided into multiple discreet sections. At any point within each section, we can inject a series of quiz questions to test student knowledge. The quiz process also helps us determine how effective the section has been to disseminate knowledge, and for us to evaluate our work. When the student first encounters and answers each quiz question, we permanently retain their first answer in the database to grade our effectiveness. However, we allow the student to re-answer each question multiple times (in a second answer field). The number of attempts for the student to answer correctly is also retained for analysis. The status of the student's progress is provided in various places throughout the system.

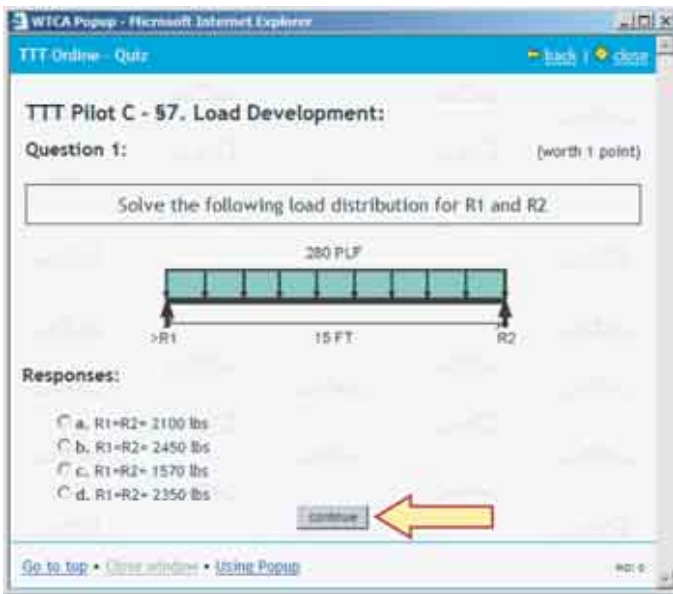


As they re-enter a training section, a series of quiz questions will display their status in detail. See below:

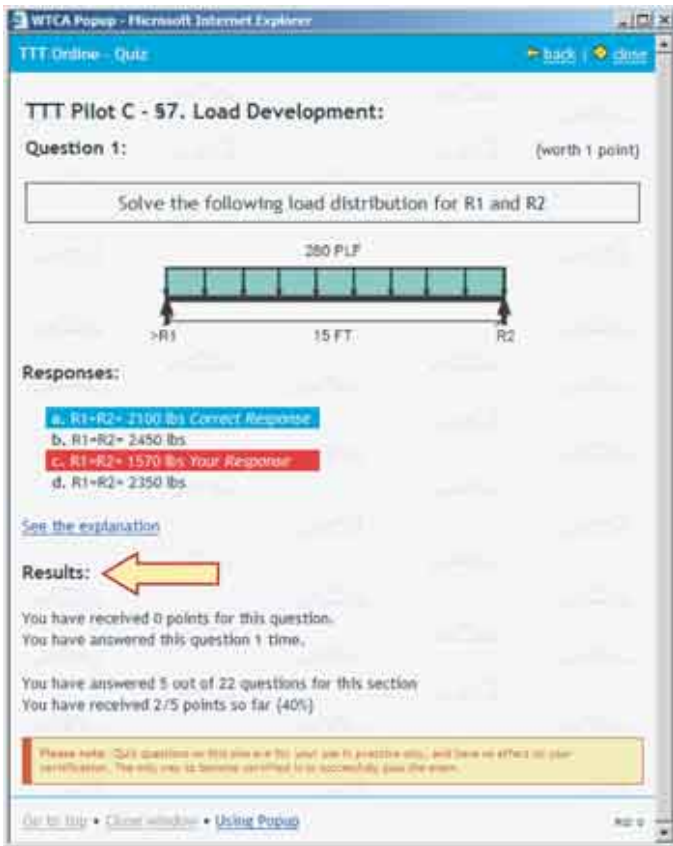


When the student selects a question to answer, a separate browser pop-up window appears (as shown below). It contains the following information:

- The Course—Section names
- The question number (sequential within the section)
- How many points this question is (worth n points)
- It may also include links to additional information:
  - Play a video>
  - Run an animation
  - Links to a web page
  - Demo a screen CAM video, with audio
- The actual question to be answered (shown in the box)
- A possible diagram, image, or picture

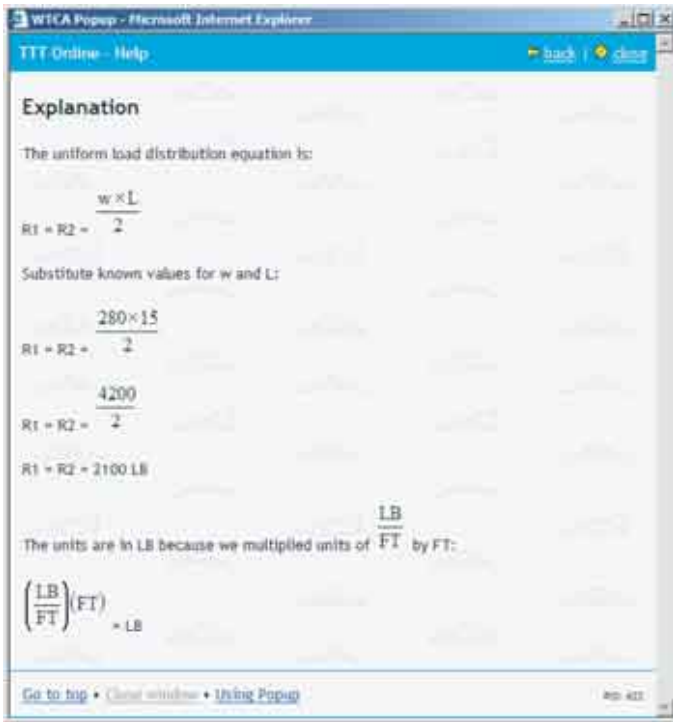


When the student has selected their answer, they click the “continue” button, and the next window pops-up, to include:



- The same information (as above)
- The multiple choice Responses, now show:
  - Which response is correct, in blue, and
  - If the answer selected is not correct, in red
- If this is a complex question, it could include a “See the explanation” link to provide details on how the answer is derived
- The number of points received for this answer
- How many times you have attempted to answer this question
- How many of the total questions for this section you have answered, so far
- The total number of points earned for this section, of the total possible (for questions answered, so far)
- The “Please note:” indicates the need to get full credit by taking the Proctored Certification Exam

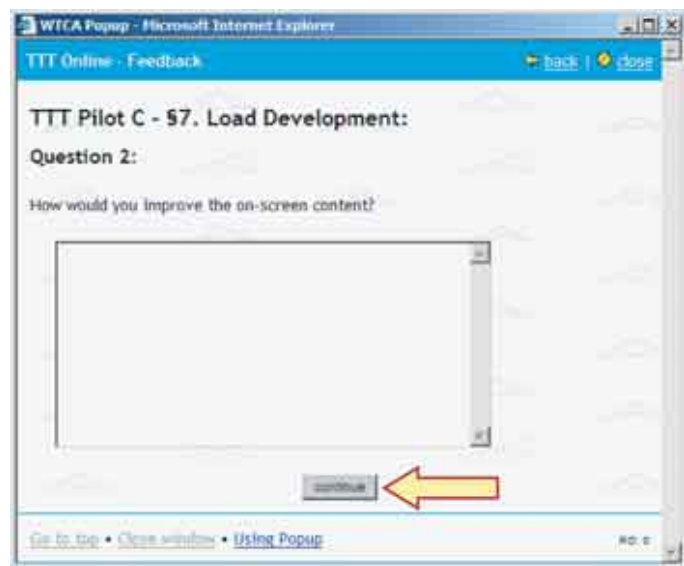
The following is a sample “See the explanation” popup window:



- This window could also contain any form of information, video, link, or animation to explain to the student, how the answer should be derived.
- As you can see, this example demonstrates the use of equation objects to explain mathematical equation steps.

The end of the section can optionally include a section exam, with a chained series of consecutive questions. These questions can be presented in several formats: essay form (or freeform text), True/False, Yes/No, or answer on a scale from 1-10. We currently use the section end exam to present our beta users with a series of feedback questions, to help us process-improve the web training system.

See a few sample feedback questions below.



Our primary goal is to provide an effective alternative to the traditional classroom learning experience. To do this, we needed to directly engage the student often. By retaining the students' quiz results in our database, we provide a tremendous opportunity to:

- Assist the student during the training process by identifying individual learning "blind-spots."
- Continuously evaluate and improve our training platform, both in content and delivery. (Learning difficulties that are common to all students should fall on the platform not the individual student.)
- Provide accountability for the student and to offset a natural tendency to procrastinate.
- Help instructors track the progress of their students, to jump in when needed to assist the learning process, and make corrections.
- Allow corporate training coordinators the ability to balance student work load priorities to maximize the learning/training experience.

Look for Part 3 of this series in November, where we will explain how students maintain a direct link with their instructor, and how corporate training coordinators maintain accountability and motivation for their students, using the quiz question data we covered above.

Part 4 will reveal the various student and customer service support functions built into the system.

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